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THE MOTOR CYCLE

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Largest Circulation.

Founded 1903.

No. 432. Vol. 9.

THURSDAY, JULY 6th, 1911.

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Published Weekly.

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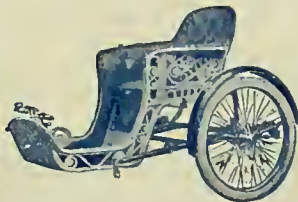
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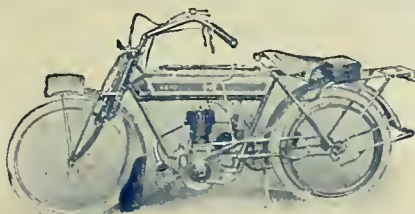
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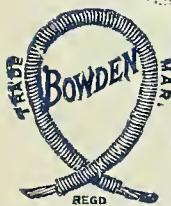
to take extra space in which to advertise our successes. At time of sending in "copy" for this advertisement we did not know the result of either Senior or Junior T.T. Race. But who ever won in either or both, was assuredly

Bowden
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They all were!

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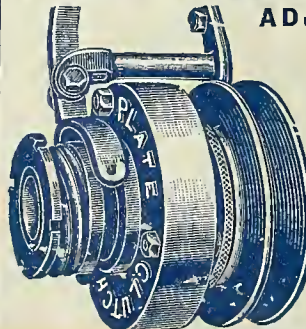
Dear Sir,
You ask me to let you know how I found the "Economiser." I think it is just splendid, with a jet bored out to give me the same power and take the same amount of air as the "Economiser." I do 60 miles per gallon on my 31 h.p. Triumph motor cycle. With the "Economiser" I do 90 miles per gallon, that is to say, I use two-thirds of the petrol or get 50% more miles per gallon. The machine runs perfectly with it, and as proof of this I was **Second** in the Cambridge University Motor Cycle Club Speed Trial, and **First** in their Hill Climb, although I had the second smallest engine in the Class, and was carrying 34 lbs. more weight than anyone else, I was First on Time and on Formula. You may use this letter as you like.

(Original at office.)

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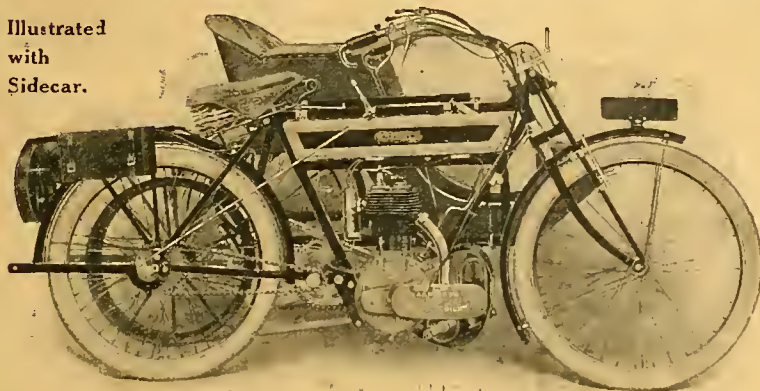
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85 mm. × 88 mm. M.O.
valves. Bosch Magneto with
Handlebar cut-out. B. & B.
Carburettor with Handlebar
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SETS OF PARTS FOR THE ABOVE—to fit any Standard Machine, 8 Guineas.

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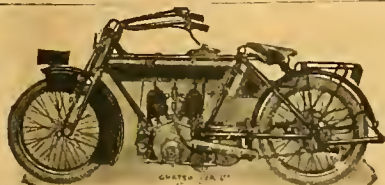
In the Belfast M.C.C. Run for "Jappa" Cup on Coronation Day (in pouring rain) two novices, Barbour and Holmes, on Kerry Abingdons' completed the double journey (165 miles) both making Non-stop Runs.

KERRY-ABINGDONS.

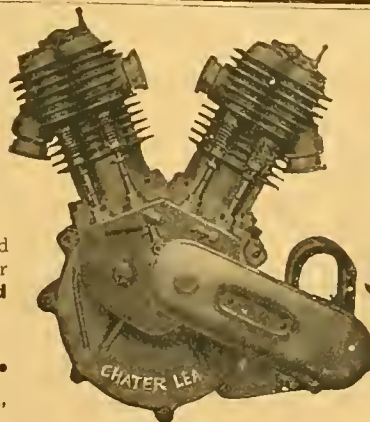
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Unique Sidecar Success.



*This is the
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8 h.p. twin
for sidecars
or runabouts,
as used in
all the Trials.*

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4 started: all non-stops.

This splendid performance was the outstanding feature of the event, and, following on the many successes in recent trials, proves conclusively that for sidecar work on the road **the** machine is the

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This is the machine specially constructed for sidecar work; distinctive in design, with 8 h.p. Chater Lea engine, multiple disc clutch, three-speed gear box, chain drive, handle starting, etc., and, in common with everything bearing the Chater Lea trade mark, perfect in material and workmanship. The No. 7 is a sidecar machine, not a compromise; it **will** give private owners entire satisfaction, will take a sidecar anywhere, and is the ideal machine for sociable touring over hill and dale.

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WRITE for new descriptive booklet.

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Golden Lane, London.

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The "Minerva" Double-breasted Waterproof Suit.

Of stout double texture material, deep storm collar, with button-up tab. Sleeves with outside straps, and fitted inside with expanding wind cuffs. All seams sewn, taped, and cemented. Complete, with overalls to match.

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Waterproof Leggings.

NOTE.--There is no opening in front to let in wind or rain; ample protection is provided where it is most needed.

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—In fawn colour.

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Of stout double texture material, deep storm collar with button-up tab. Sleeves with outside straps, and fitted inside with expanding wind cuffs. All seams sewn, taped, and cemented.

Complete, with overalls to match.

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What 'Motor Cycling' says about Gamage's

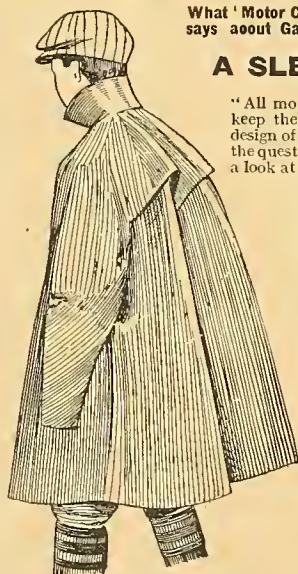
PONCHOS.

A SLEEVED PONCHO.

"All motor cyclists appreciate a coat that will keep them dry, and as so much depends on the design of the cut, putting aside for the moment the question of material, it is worth while to take a look at Gamages Poncho for touring motor cyclists. It has a short cut at the neck secured by one or two buttons, after which the breast is in one piece, as in the case of an umbrella coat. As can be seen from the illustration, the collar buttons up well round the neck, and substantial ventilators are situated in the back, yet this design does not let the water in, as guard flaps are fitted. The sleeves are provided with cuffs that are really wind-tight, and the length can be made to cover as much of the rider's knees as he desires. The best way to test the coat for this is to try it on when sitting on a chair as one would do on a motor cycle, when the amount of protection needed can be easily gauged."

Prices—18/11

25/6, 31/6, 36/6.



The "Moto" Frieze Cycling Jackets. Fitted with the "TRIPCOL" COLLAR.

Double-breasted. Lined throughout body and sleeves with leather or fleece.

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| No. 1. Grey Frieze, lined Fleece (Fig. 1) .. 21/9 | No. 5. Grey Frieze, Superior quality, lined detachable Leather (Fig. 2) 40/- |
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Fig. 1.

Fig. 2.



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LONDON E.C.

THE MOTOR CYCLE

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ADDRESS: 20, TUDOR STREET, LONDON, E.C.

What the Junior Tourist Trophy Race has taught us.

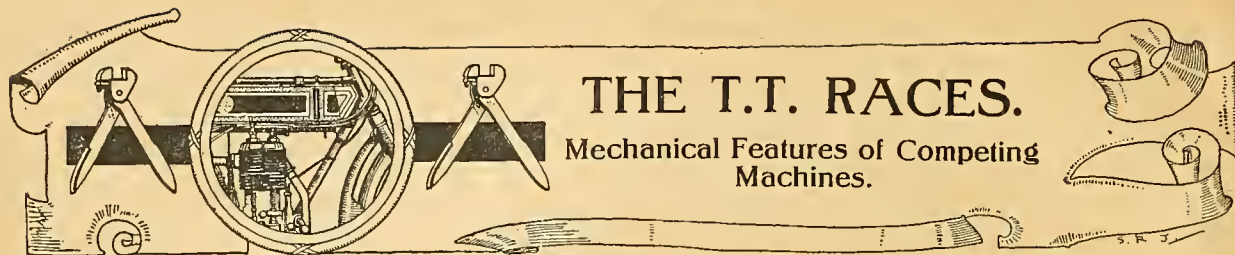
THE Junior Tourist Trophy Race, which was brought to a conclusion last week, has taught several useful lessons to motor cycle makers and users. When the details of the event were first discussed it was intended to allow pedalling gears on the assumption that machines with such small engines could not reasonably be expected to propel their riders up the mountain road unless some exterior aid were forthcoming. This suggestion met with strong opposition on the part of the writer, who, though he knew that some exterior aid was necessary for the engine, was convinced that such outside assistance should be mechanical, and emphatically not human.

After a hard fight the day was won, and no pedals were allowed in either of the T.T. races, and with what result? The dearest dream of all those who have had the development of the motor cycle at heart has been at last realised—almost every machine in the Junior event was fitted with a change-speed gear, and there were but four single-gear motor cycles in the whole list of entrants. The race, therefore, has shown up the reliability of change-speed gears in general and one make in particular, as the first four machines to finish were fitted with this form of gear. It is true that certain gears gave trouble, but this is a good thing for the manufacturers of them, as they can now readily locate the cause and remedy it without delay. Not one of the single-gear machines came in for a place, and in consequence this state of affairs is exceedingly gratifying to us who for so many years have advocated the use of change-speed gears on motor bicycles. These devices are by no means a

new idea, as the older of our readers are aware, and several were described in issues which appeared during our first year of publication. But they have been admittedly a long time reaching their present stage, for the simple reason that there has been little opportunity for them to have been tested to destruction. Just as when years ago passenger machines of the lightest and raciest description with single gears were entered for and were successful in competitions, and it became desirable to frame rules so that change-speed gears literally *had* to be fitted, so has it come about that their compulsory use in competition has brought out a very marked improvement. We are yet far from perfection, but we are approaching it. Another lesson learned has been that now the gears have proved themselves to be satisfactory for racing purposes, engine sizes may safely be reduced in next year's Junior Race, if the authorities see fit, and so little by little the really efficient go-anywhere lightweight will be evolved. The thanks, therefore, of those enthusiasts who follow the pastime closely are due to the A.C.U., whose officials, in spite of opposition, chose the more difficult course, and thus brought the modern machine one step nearer development.

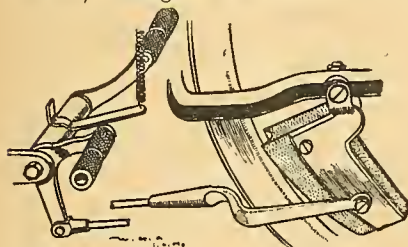
It is more than interesting to note that with one exception the first nine men to finish rode twin-cylinder machines. Therefore the allowance of 40 c.c. larger capacity is still too great to allow the two types of engine to compete on level terms. The one single-cylinder which was second in the race was ridden by a man of great experience and skill, and is therefore the exception which proves the rule.

The advantages of chain transmission are at times undeniable, but that the first four machines were belt driven is a fact which must not be overlooked.



Premier.

Outwardly only the larger filler caps to the petrol and oil tanks and a foot brake that can be worked by either foot (this is shown in the first of the accompanying sketches) distinguish the Premier T.T.

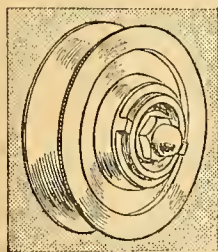


The double pedal brake used on the Premier.

models from the ordinary standard machine, but inside the engine a few modifications have been made with a view to lightening the reciprocating parts. This has been done most notably in the piston, which has been considerably pierced in the walls, and the weight has been brought down to a very low figure indeed. As will be seen, only a single piston ring is used, and the gudgeon is drilled right through. The head is strengthened by the addition of a thin web, which also serves to make the walls more rigid. The Premiers are fitted with Armstrong gears.

N.S.U. Development.

The Junior N.S.U.'s are quite new models, which will no doubt be standardised for next season. The single-cylinder engine has a bore and stroke of 69.8 mm. by 78 mm., giving a total cubic capacity of 299 mm. The inlet valve is operated as in the single-cylinder $3\frac{1}{2}$ h.p. motor, by a long pull-rod driven from the underside of the exhaust camshaft. The valves

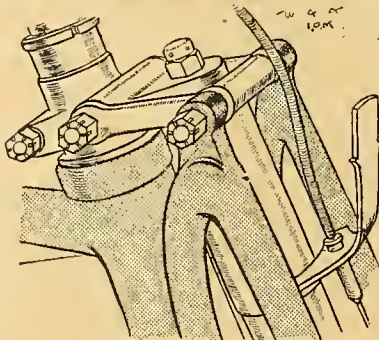


The N.S.U. adjustable pulley fitted to the Junior machines.

are well on the large size, and made of nickel steel. The frame is looped, and a prominent feature is the large external contracting band brake on the right-hand side of the rear wheel. An adjustable pulley of very neat and simple design is employed, and this is illustrated in the subjoined sketch. The outer flange, which is milled at the edge, runs on a thread, and is locked in any position by a small locking ring. One of the best features of the pulley is its compactness and the absence of any overhang.

The exhaust valve, instead of having the usual plate and cotter to secure the spring, has its stem threaded at the end, and on this is screwed a shoulder piece and lock-nut, which, in addition to forming a spring washer, performs also the function of an adjustable tappet, and at the same time provides a valve foot, which on account of its large surface should stand any amount of wear without showing signs of hammering down.

Another interesting point is the belt fastener, which employs a stout gun-metal bush instead of the usual steel one. The fastener plates also obtain a better grip of the belt by bending the lower part of each, so that it has a tongue which engages with the transverse grooves moulded on the lower surface of the belt.

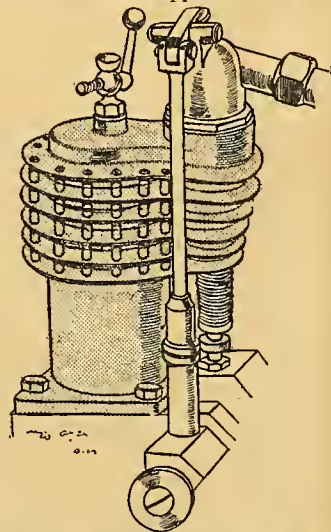


The new Rudge spring fork. This is at present being used on the T.T. models, and will in future become standard practice.

M.R. Twin.

For all the tininess of its cylinders, the little M.R. twin has as healthy a bark and as strong a pull as many an engine of greater capacity, and no doubt a good deal of this is due to the use of mechanical inlet valves. These are quite a new

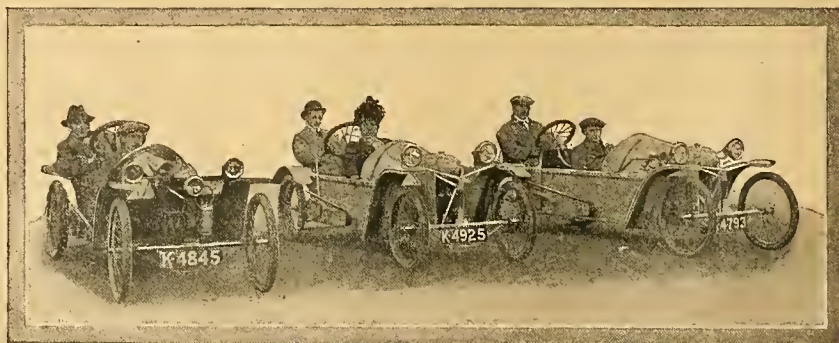
introduction for the M.R., and we therefore append a rough sketch indicating how the arrangement is carried out. The great strength of the valve tappet guides will be noted. The tiny little cams with which the overhead rockers are driven are held in a small box applied to the outside



M.R. overhead inlet valve mechanism, and special cooling arrangement of cylinders.

of the crankshaft, which also forms the cover of an extension of the exhaust camshaft. It will be seen that in order to gain additional cooling surface the radiating flanges are cross-pinned with thin brass tubes clinched over top and bottom. No doubt this is necessary, for when the Armstrong gear is put into the lowest ratio the little M.R. engine literally hums like a bee, and its revolutions per minute must be something enormous.

A TEAM OF BEDELIAS.



A group of runabouts, taken outside the Punch Bowl Hotel—a popular resort of Liverpool motor cyclists.

JULY QUARTERLY TRIAL.

THE A.C.U. Northern Centre July Quarterly Trial will be held on July 22nd. A map of the course was published last week (see page 663). The following description of the route will be of interest to competitors as well as spectators and readers, who will rely on these pages for an account of the performances.

The start will be made in Newcastle, and the route then skirts the town till the Newcastle-Carlisle road is reached and followed for five miles to Heddon on the Wall, and on from there to Corbridge, where a left turn down a sharp incline over the Tyne bridge brings the traveller on to the Hexham Road. On reaching Hexham the Tyne is again crossed, and four miles further on is Brunton Bank. This hill has a blind turn to the right at the bottom and is about a mile long, with a fairly severe gradient, but it should be taken by a touring mount in good trim. Four miles further on a turn to the left is taken, and the Roman road is followed for twenty-three miles as far as Elshaw Bridge, over the River Reed. A sharp turn to the right is here taken, and, after passing through

Otterburn and Elsdon, and taking a turn to the left, an undulating road is followed through Thropton to Rothbury. Some four miles from this place the return route is crossed between Whittingham Station and Longframlington. The road is very hilly to Alnwick, and some beautiful views are obtained in passing Two hills, namely, Lakeside Hill and Corby Bank, are specially severe on this stretch. On arrival at Alnwick luncheon will be partaken, after which the road for Ilderton Station through Eglingham is followed, and thence, on turning sharply to the left at Ilderton Station, which marks the most northern point of the route, the road continues almost in a direct line in a south-easterly direction past Whittingham Station, through Longframlington, Longhorsley, Morpeth, Stannington, and Gosforth, back to Newcastle.

This last section of the road is forty-two miles long and offers no gradients of special severity. The distance covered before lunch will be $74\frac{1}{2}$ miles, and after lunch $55\frac{1}{2}$ miles, making in all a total distance of 130 miles.



AN AMERICAN CROWD.—The photograph, taken at the start of a motor cycle race in the States, gives a good idea of the vast number of spectators present on such occasions. It should be noted, however, that the tracks are usually small and the riders always in view.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Overheating.

? I shall be glad if you can tell me why my engine overheats. It gets plenty of oil and a good draught. Machine is rather heavy for a 5 h.p. air-cooled engine, but the country is flat, and it pulls up in about ten miles, only to start again in a few minutes.—C.W.R.

We should recommend you to take the cylinder heads off and remove all carbon deposit. Carefully choose your brand of lubricating oil. Look after your valves and see that the valve springs are sufficiently strong.

Timing of Magneto.

? Since the magneto of my 5 h.p. twin Rex has come back from the makers the engine runs splendidly from cold, but only fully retarded. If advanced, it runs very sluggishly and badly, but when retarded runs well again, and only runs in the fully retarded position. After about six miles the engine overheats. It is well oiled. The magneto has not been touched since it came from the makers. Is the carburetter or magneto at fault with regard to the overheating?—R.S.T.

We should be inclined to think that the magneto timing has been set wrongly. Set the magneto, when it is fully retarded, with the points about to break and No. 1 piston at the top of its stroke.

Condenser Trouble.

? With accumulator ignition and make and break contact I find the platinum points get pitted rather badly after a few miles' running. Do you think the condenser causes the bad sparking which takes place, and, if so, what should I do? Would it be an improvement to make the coil into a trembler, and, if so, would it be a very difficult job? About how many miles to the gallon should a 3 h.p. cycle run? Which is the best method of repairing a cracked celluloid accumulator?—J.A.H.

The trouble is due to the condenser in your coil not working properly. Every coil has one. Under the circumstances, it would be best to get the coil overhauled by an electrical firm. It would not be advisable to convert the coil to a trembler, as it would detract from the efficiency of the engine. The machine should run about ninety miles to the gallon. You can obtain a suitable repair outfit from any motor depot.

Faulty Coil.

? Will you advise me in the following difficulty? My machine has dry ignition with plain make and break, and the tip of the contact blade soon gets pitted, and both points get sooty, though the tip on the screw does not wear. I have had two new genuine platinum tips put on the blade, but they still pit and soot. A new special plain coil has not made any improvement. Is it possible that the ignition cam, which is flat-nosed and not sharp like the old Minerva cam, could cause pitting and sooting through too long a contact, or could the tip on the blade, being of softer material than that on the screw, cause it to pit and soot? My wiring is in good order, and I have changed the direction of current without improvement.—H.S.

We do not think there is any doubt that the trouble is due to the coil, the condenser of which is at fault. It is quite possible that in buying another coil you have one which is also at fault as regards the condenser. We should therefore re-

commend you to communicate with the firm from whom you bought it. We do not think the cam would affect the pitting. We cannot really see how the trouble can be due to any other cause than the condenser.

Double Firing.

? Recently my 3½ h.p. Phelon and Moore has started a most extraordinary firing; I call it double firing, or firing exactly like a twin. It will keep at it for miles when running easy, but when I come to a hill with sidcar it fires regularly, and as soon as I reach the top and pick up speed it starts again. I have tried every means of curing this trouble I can think of. Can you help me in any way?—IK 479.

We are inclined to think that the machine suffers from misfiring, due to the exhaust valve either sticking in its guide or not having a sufficiently strong spring. There is also a possibility that the high-tension carbon brush in the magneto may not be making proper contact, but we think the trouble is more likely to be due to the valves.



Off to business in Madras. A Durkopp and F.N. in the East. Riders, J. A. MacGill and A. C. Hanbury.

Oiling a new Mount.

? I have recently purchased a new 2 h.p. Humber lightweight 1910 model. (1.) What amount of oil should I give it? (2.) Should the oil tap be turned off when running? I seem to lose a lot, as the engine casing is always thick with it after a run. (3.) Should there be any play on the shaft of the engine? When I pull the pulley out, there is about an eighth of an inch.—C.C.H.

When the machine is new give half a pumpful every five miles. The oil tap should be turned off as soon as the charge has been given, otherwise the oil is likely to run into the engine. A little bit of end play does not matter, but there should be up and down play of the engine shaft.

A Lubrication Difficulty.

? I am riding a four-cylinder motor cycle, and have had trouble with the piston rings being seized into the grooves with carbon after every 200 or 300 miles. The makers tell me that it is my own fault from over-lubrication. This, I know, is not the case. The oils used have been Vacuum, Price's, and the oil recommended by the makers. The front piston ring gives no trouble, and the others start seizing on the exhaust side, and always the top ring first. Can you tell me what is the probable cause? There is always a carbon deposit on the exhaust side of the pistons below the rings.—P.C.A.

We should be inclined to think that the trouble is due to excessive overheating through over driving or inefficient cooling, and the fact that the front piston gives no trouble further substantiates our theory, as this, of course, gets the maximum amount of draught, and, at the same time, shields the others. If there are no holes drilled in the piston, it would be worth while trying a couple, or better still an oil groove turned in the piston to ensure a film of oil reaching the piston rings at all times. You could then cut down the quantity of lubricant without fear of the piston running dry. If you give this experiment a trial we shall be interested to hear what the result has been.

Too Much Air.

? My 1909 7-9 h.p. motor cycle and sidecar with automatic carburetter does not give good results. The machine starts easily with all main air supply closed, and I have to keep it closed when running. Sometimes, when cold, the engine starts, runs about half a minute, and stops. After doing this two or three times it goes off well. I might add that the machine runs better on low gear than on high, the mistfiring occurring at slow speeds on high gear. Can you help me?—O.B.

We think the trouble with the carburetter can be quite well cured by a small adjustment. You should find an adjusting screw at the side of the carburetter, which will cut out one of the air holes. You might try adjusting this, or, if you cannot get any satisfaction, take the whole carburetter down and scrupulously clean it. The fault is due either to too much air or to too little petrol.

Causes of Knocking.

? Granted: (1) That an engine begins to knock when ascending a hill with extra air one-half and throttle one-third open; (2) that the knock ceases if the air is gradually closed and the throttle untouched; (3) that this result is caused by enriching the mixture—then why should not the knocking cease if the extra air is left one-half open and the throttle is gradually opened to one-half or two-thirds? Would not this operation enrich the mixture just as effectively as in the former case? And yet the knocking becomes very much worse. Hence is knocking really stopped by enriching the mixture, as stated in the textbooks? May it not be that the total volume of mixture drawn into the cylinder is diminished, and that consequently the charge is fired while under less pressure? This would tally with the fact that knocking is stopped by retarding the spark.—H.B.J.

The knocking that you experience with your machine is a trouble which is rather difficult to explain, and has puzzled quite a considerable number of people. In the first place, knocking

only occurs when the ignition is really too far advanced, remembering, of course, that there is a certain amount of automatic advance on a magneto independent of the situation of the advance lever. Moreover, the exact point at which the mixture ignites can be altered according to whether it is very weak or very rich, so that with a weak mixture the knock often occurs rather earlier than it otherwise should. Undoubtedly the best way to stop it is to obtain a rich mixture by closing the extra air, but it can also be stopped on occasions by opening the throttle extremely wide and leaving the air lever in the same position. There are many occasions, however, in which opening the throttle somewhat merely increases the knock, and this is mainly due to the fact that the engine is already going too slow, and that it takes a considerable movement on the part of the throttle to enrich the mixture in a corresponding manner to that effected by a comparatively small movement on the part of the air lever. We do not think you will find that any alteration in pressure due to the amount of throttle opening will have much effect on the ignition point, but it is undoubtedly true that, other things being equal, an increase of volume raises compression, and knocking is thereby increased.

READER'S REPLY.

Carburetter Adjustment for Sidecar Use.

With reference to your reply in the issue of June 15th to "A.B.M." I had the same trouble with my 1910 Triumph and sidecar. The remedy is to raise petrol level, when machine will be all right. It only occurs on a stiff hill, and is caused by carburetter running dry owing to low gear and riding all out, which you have to do with sidecar. I found out by trying a hill on which I had come to a standstill a second time and raising needle valve, when machine went up splendidly.—A. WARD.

EXPERIENCES WANTED.

"O.E." (Edinburgh) Motor cycling in Holland.

"C.T." (Germany). Motor cycling in Berlin, Leipzig, or Dresden.



"SCOTTSMEN" AT THE CAPE.

A group of seven riders (all on 1911 Scotts except the one with a Lowen sidecar attached). This group includes all the Scott riders in the Western Province.

CURRENT CHAT

SPECIAL FEATURES.

THE INTERNATIONAL MOTOR CYCLE TOURIST TROPHY RACES.

Complete and Graphic Description of the Isle of Man Events.

A NEW INFINITELY VARIABLE GEAR

Police Traps.

Between Newcastle (Staffs) and Trent-ham.

B.A.R.C. Meeting at Brooklands.

Included in the comprehensive racing programme arranged by the B.A.R.C. at Brooklands on July 20th are two motor cycle handicap events, for all classes of machines. Entries close at noon on July 8th.

One Thousand Miles without Opening the Toolbag.

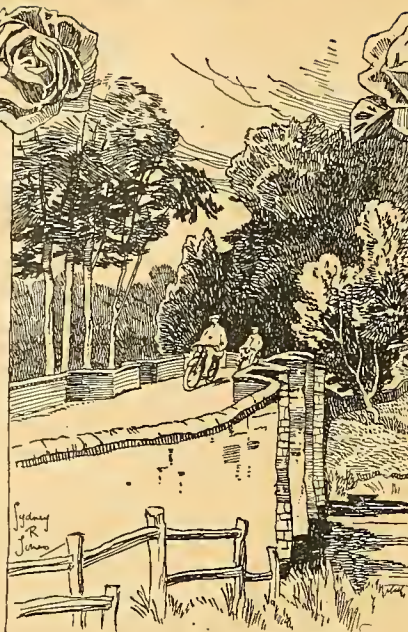
The above trial, which has been postponed owing to the illness of the rider, W. Pratt, will take place from July 10th to the 15th. It will be remembered that we published a paragraph in these columns on May 11th to the effect that Pratt would try and cover the whole of the 1,000 miles without opening the toolbag. On July 15th the rider and others will journey to Brooklands, where they will witness the international motor cycle races between C. R. Collier (Matchless) and Jake de Rosier (Indian), and then continue on to the R.A.C. premises in Pall Mall, where the trial will conclude.

The Gritting of Streets.

A very sensible letter has been addressed by the secretary of the Roads Improvement Association to the various local authorities in the Metropolis, enclosing a memorandum containing recommendations for the gritting of the streets of the metropolis. Motor cyclists, and indeed all users of rubber-tired vehicles, are well aware of the destructive effects of the large pieces of flint which are now used, and which are of little use as a preventive of slipping until they have been crushed by heavy traffic. It has now been urged that gritting material should not exceed a gauge of $\frac{3}{16}$ in., and it is claimed that this gauge would prove both more efficient in providing traffic with a foothold and more economical, as bulk for bulk it would cover a considerably extended area.

Manx Jury's Rider at Inquest on V. J. Surridge.

At the inquest on the body of poor Surridge, held at the Glen Helen Hotel on Tuesday of last week, a verdict of "Accidental death" was read out by the Coroner, who expressed the sympathy of the jury with the relatives of the deceased. The Auto Cycle Union, through its legal adviser, also tendered the deepest sympathy with the relatives, and spoke on behalf of all the competitors who were present in the island.



The jury agreed with the verdict, but recommended that the A.C.U. should shorten the course on any future occasion, and stated that the reason for coming to that opinion was the number of bends on the course and the difficulty competitors had in remembering them all.

The Coroner and the legal representative of the A.C.U. then pointed out that the length and nature of the course had nothing to do with the accident, as the point where it occurred was part of the old or shorter course. The Coroner mentioned that, although the jury had the right to express an opinion of that kind, it formed no part of the verdict. Red banners were at each awkward turning, and competitors were warned by them.

Judging by local reports, there was some jealousy this year in Peel and district because the new course embraced Douglas and neglected the Western portion of the island, and this may have had something to do with the jury's rider.

TIME TO LIGHT LAMPS.

July 6th	...	...	9.16 p.m.
" 8th	...	...	9.15 p.m.
" 10th	...	...	9.13 p.m.
" 12th	...	...	9.11 p.m.

An Amazing Theft.

The Harry Smith gold cup for the M.C.C. Brooklands meeting on July 8th has been stolen from the Holborn Viaduct premises of the Rover Co. The window was smashed about one o'clock in the morning and the cup taken.

The Motor Cycle in Italy.

A correspondent in Italy has forwarded us some interesting opinions upon the progress of motor cycling in Italy, and the great boom which the Turin Exhibition will make as regards English touring machines. The exhibition gives British manufacturers a long desired opportunity of collectively exhibiting their latest models, of which hitherto much has been heard but little seen. The sport has for several years suffered from neglect, due, we understand, entirely to the use of powerful machines without clutches or variable gears, and, therefore, so unsuited for Italian roads. Now that motor cyclists in Italy can be introduced to the latest free-engine models, equipped with variable speed gear, there will be a striking revival in the popularity of the pastime. The Italian roads need extra heavy tyres and complete control of air intakes, and in the case of two-speed machines ample provision for extra air because of the intense heat and intense cold which have to be encountered all over Northern Italy. So far the only machines really known in Italy are the Triumph, although our correspondent adds that the B.S.A. mounts have recently been noticed.



Competitors in the Middlesbrough M.C.C. 200 Miles Reliability Trial, on June 23th. Checking in at Harrogate.

SUCCESS

after success crowns the efforts of the

BAT
BEST AFTER TESTS
MOTOR CYCLE

We cannot too strongly emphasize the fact that the British-built Bat succeeds not merely in speed events, not only in tests of regularity, but in *all* tests and not occasionally only, but continually. The following are some more of the results to hand at the time of going to press.

TEAM TRIALS.---M.C.C. Team Trials, June 7th, 1911.
BATS GAINED 3 SILVER MEDALS.

HILL-CLIMB.---Oxford University M.C.C. Hill-climb, Irondown Hill,
Deddington, Passenger Class—
BAT & SIDE-CAR—FIRST.

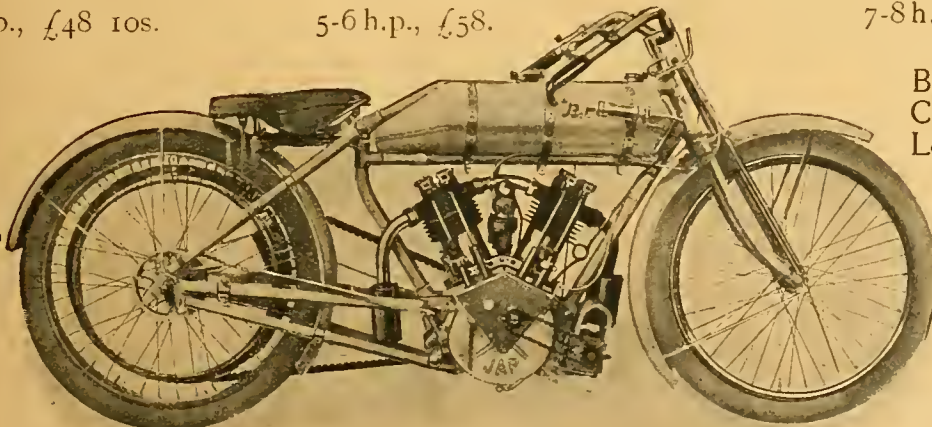
Have a British-built Bat, with Bat-J.A.P. Engine, Bat Spring Forks and Spring Frame. Protected Magneto, Automatic Lubrication, etc., etc.

3½-4 h.p., £48 10s.

5-6 h.p., £58.

7-8 h.p., £60.

The Book
of the Bat
Free on request



Bat Manufg.
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S. & H.

HUNTS Ltd.

THE CITY AND WEST END MOTOR HOUSE,

117

THE HARTFORD ROUGH RIDER GRIPS.

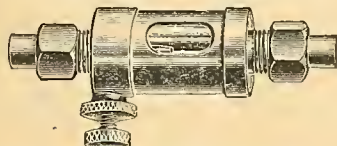


The ideal grip for motor cycles. Made of stout duted rubber. Only half the handle is fixed to the rigid bar, the end remaining free. This gives a grip which completely absorbs the slightest vibration and for long non-stop runs will be found a perfect boon.

Size $\frac{1}{2}$ in. or 1 in. Price per pair, 4s.

Postage 3d.

THE HUNT DRIP FEED LUBRICATOR.



For inserting in existing oil pipe. Adjustable to any number of drips. Oil can be forced through by pump if desired.

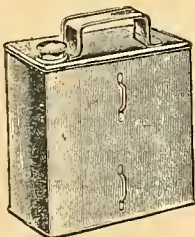
Price (plated) 5/6, postage 2d.

SPARE PETROL CAN.

Neat and compact. Designed with metal loops for strapping to carrier. Enamelled green with brass stopper.

1 gall size each 3/-
 $\frac{1}{2}$ " " 1/9

Postage 5d.



THE HUNT MAGNETO AND ENGINE PROTECTOR.

For fixing in front of engine, and thereby protecting engine and magneto from mud and dirt. In solid leather, both sides enamelled black.

Price 4s. 6d. Postage 4d.



THE HUNT HELLESEN DRY CELL.

No corroding terminals. No acid. No charging. Always ready, clean, and dry. The "Flash." Height $6\frac{1}{2} \times 4\frac{1}{2} \times 2\frac{1}{2}$ in. Approx. mileage, with single-cylinder engine, 1500. Price 6/6. The "Flight" ditto. Height $5\frac{1}{2} \times 5\frac{1}{2} \times 2\frac{1}{2}$ in. Price 6/6. The "Midget" emergency ditto. Height $5\frac{1}{2} \times 4\frac{1}{2} \times 1\frac{1}{2}$ in. Will run approx. 300 miles. Price 4/4. Postage 6d. extra.



MOTOR CYCLISTS' CONVEX LENS MIRRORS.

Enables the rider to see what is behind him, and, what is more important, the police trap.

Fitted on handle bar. Made so that it can be adjusted to any angle, with ball-joint. Adjustable in height.

For attaching to handle-bars.

Price, plated.

No. 1. s. d.

3in. lens.. 4 11

No. 2.

4in. lens.. 5 11

Made so that it can be adjusted to any angle, with ball-joint. Adjustable in height.

Postage 4d.



THE "HUNT" REGD. COAT.



This coat is essentially a storm one. From the collar, where the opening is started under a watertight pocket, to the bottom the fastening is cut on a curve, so as to fall perpendicularly and down the side of the wearer when riding. This excludes the severest head storm, and gives the user a coat the equal of the sleeved poncho without its disadvantages. Pockets are placed not on the hips, where but little can be carried, and with inconvenience, but on the chest. The large one is pleated, and takes Bartholomew's lin. scale motor map, and has a small cash pocket within. On the other side is a smaller pocket, suitable for a "vest" screw-hammer and minor tools. The contest and trials rider will find this coat a boon, for by means of the push buttons used it can be fastened and adjusted while riding, notwithstanding the thickest gloves being worn.

Manufactured of Double Texture Paramatta, thoroughly waterproof, fitted with collar, wind and rainproof sleeves, ventilated under arms. Best guaranteed proofing. Length 36in. Stocked to fit chest 40in., 42in., 44in. (outside measurement).

PRICE, quality No. 1. 40/-
" " " " 2. 25/-

The Hunt North Road Overalls, suitable for wearing with the above coat.



Manufactured of Double Texture Paramatta, thoroughly waterproof.

PRICE, quality No. 1. 24/- per pair.
" " " " 2. 16/6
" " " " 3. 13/6

The H.S. All-rubber Goggles, including one set each of smoked and plain glasses.

Price 1/9. Postage 2d.



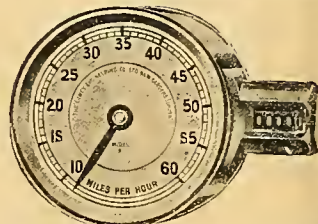
THE HUNT MOTOR CYCLE FOOTRESTS.



Price per pair, 8/6.

Postage 4d.

THE COWEY SPEED INDICATOR AND MILEAGE RECORDER (Guaranteed).



attached by any motorist, and once fitted requires attention or adjustment whatever. It will continue to render good service as long as it is attached to a cycle, for it is constructed throughout of the best and most suitable materials by expert British mechanics at Kew Gardens.

Price, in Nickel, 84/-, carriage paid.

Register speed up to 60 miles per hour. Mileage recorder up to 1000 miles. Then automatic starts again. The indicator can be easily attached by any motorist, and once fitted requires attention or adjustment whatever. It will continue to render good service as long as it is attached to a cycle, for it is constructed throughout of the best and most suitable materials by expert British mechanics at Kew Gardens.

THE EXCELSIOR WATCH AND HOLD.



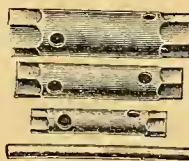
Weather and dust-proof. Watch guaranteed stand vibration. Car wound and adjusted without removing from case or handle-bar. attaching to the handle-bar.

Price 5s. 6d. Postage 4d.

SPECIALLY PREPARED REPAIR BANDS.

For use on outside of cover after same has burst or been gashed. The outside edges are tucked inside rim, i.e., between rim and cover.

Price 1/-, postage 2d.



Motor Cycle Box Spanners. Containing six sizes, 1/2 tonny. English manufacture. Guaranteed.

Sizes 2, 3, 4, 5, 6, 7. Price 2/6 set, postage 4d.



THE AUXILIARY AIR INLET. Fits on inlet pipe. Gives a range of mixture. Useful hot day.

Price 3/6, postage 2d.

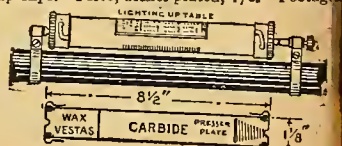
The Hunt Valve Spring Remover.

By means of the compound action the stoutest spring is easily raised by a slight turn of the winged nut, leaving both hands free.



Price, 2/6 post free.

PATENT CARBIDE AND WAX VESTA CARRIER. With lighting-up table. Will take two carbide. Fastened to frame with the ordinary pump clips. Price, nickel-plated, 1/6. Postage 4d.



Long Acre, LONDON, W.C.

RELIABLE ACCESSORIES AT
London's Lowest Prices.



THE HUNT ACETYLENE LENS MIRROR HEAD LAMP.

English manufacture. Width of front 4 1/4 in. Mirror 3 1/2 in. Weight 30 ozs., solid Brass or Nickel-plated. Copper riveted, powerful lens mirror, will throw a beam of light 150 yards, fitted with Bray's burner. Price complete, with generator, 19/11. Postage 6d.

Strong Tubular Carrier.

Size, 21 x 8 in.



Can be supplied to fit D or oval stays, with or without dropped ends. Price complete with straps, 6/6. Postage 6d.



THE HUNT MAGNETO COVER.

Manufactured of best patent leather, far superior to rubber as it does not crack or perish. Will fit all types of magnetos.

Price 2/3. Postage 2d. extra. Protects the magneto from dust, dirt, rain, etc.



THE HUNT DRAWER BAG.

Drawer Bag occupies a space underneath the carrier. Fastens with three stout straps on rail and ring lock on flap. Made of best leather. Drawer is lined with flaxite, and is strong and durable. Tools and spares are most accessible here. The drawer is provided with a stop to prevent it pulled out altogether.



THE HUNT SIDE-CARRIER BAG.

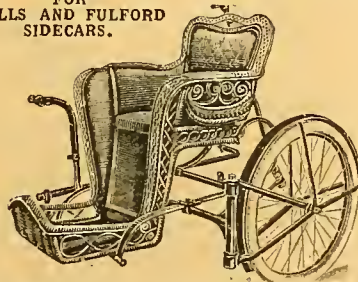
Two sizes. No. 1, 9 1/2 x 5 x 3 1/2 ins., price, 7/-. No. 2, 8 x 4 1/2 x 3 1/2 ins., Price 5/-. Postage 4d. is a strong bag specially designed to meet the requirements of the rider who prefers to carry his tools on the side, and use the carrier top for larger bags, complete, compact, and very accessible. Selected flaxite, lined flaxite, hand-sewn. It has end pockets and petrol cans, and is attached by metal clips.

THE SERPENTINE HORN.

An entirely new model, loud and penetrating. Gives off a deep, loud, lasting note, and can be heard from a great distance. Fitted with best rubber bulb and plated dust cover. Length, 11 in. Price 11/6. Postage 4d.



LONDON AGENTS FOR MILLS AND FULFORD SIDECARS.



A full range of 1911 Models now on view, stocked to fit all makes of machines. Immediate delivery. Prices from £8 6s. 0d.



THE HUNT BELT DRILL.

(Not Punch).

Drills a clean hole.

Very easy to manipulate.

Price 1/6, postage 1d.

Stocked to suit belts 1 1/2 in., 2 in., 2 1/2 in.

THE HUNT TOP TUBE GENERATOR BRACKET.

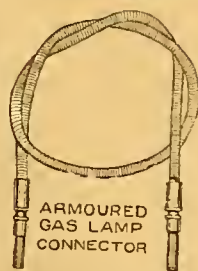
Supplies a long-felt want.

Adjustable to fit all standard tubes. Price (plated) 2/6, postage 2d.



DOUBLE MOTOR CYCLE LAMP BRACKET.

Suitable for two Lamps, or one Lamp and Generator. Sizes, 1 1/2 in. and 2 in. clips. Price, 4s. Postage 3d.



ARMOURD GAS LAMP CONNECTOR

THE HUNT ARMOURD LAMP CONNECTION. Will not break or perish. Supplies a long-felt want.

Price 1/- Postage 2d.

THE NEW MODEL MUD PROTECTOR.

With Side Wings.

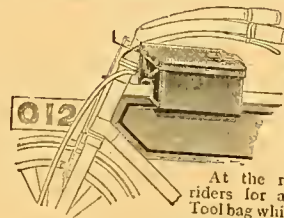
Manufactured of best patent leather, strengthened with iron supports. It is attached by means of thumb screws to front mudguard, and can be fitted to any make of machine in one minute; protects both rider and motor from all dust and mud thrown up by the front wheel.

Price 5/- Postage 4d. extra.



BELT REMOVER AND PUNCH.

Made for all size belts. Price 2/-. Postage 2d.

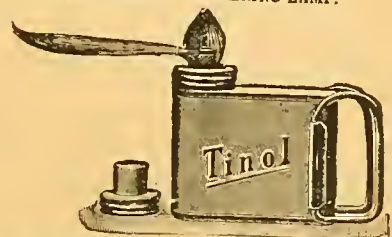


THE HUNT RELIABILITY TOOL BAG.

Fits on tank top, over top rail of frame. Size: 7 1/2 x 4 1/2 x 6 ins. Price, with tool roll, 8/8, postage 4d.

At the request of many riders for a very accessible Tool bag which can be reached while seated on cycle, we have designed this pattern. The rider can open it, take out contents, and fasten it while riding, and its extreme usefulness in this connection has been proved in use in the Reliability Trials. Best leather, lined flaxite, metal fastenings to frame, and inside is a toolroll, which can be rolled up and secured complete to prevent rattling.

THE "TINOL" SOLDERING LAMP.



This handy appliance should be in every workshop. The "Tinol" Pocket Soldering Lamp supplies a long-felt want for a small, neat, and portable blow-lamp. It is an excellently contrived, nickel-plated lamp, without valves or parts liable to get out of order. It is thoroughly reliable, and explosions are impossible. The dimensions of the body of the lamp are 3 x 2 1/2 x 1 1/2 in. For use with methylated spirit. The lamp burns very quietly, and produces a flame of intense heat from 4 to 5 inches long. It may be carried with absolute safety in the breast-pocket ready for use. Price of lamp only 1/6, postage 2d.



"TINOL" SOLDERING PASTE

For use with the "Tinol" lamp. By the use of "Tinol" Paste Solder all metals, with the exception of aluminium, can be soldered or tinned without any previous cleaning or preparation, and without the assistance of a flux.

Price per tin, 6d. and 1/-, postage 1d.

THE 'PATCH-QUICK' REPAIR OUTFIT.

Motor cyclists will find this equipment a boon and a blessing, and will save themselves much leg-aching and heart-breaking by being able to repair their worst punctures, etc., within five minutes.



Price 3/-. post free.

THE HUNT SPARE BELT & TUBE CASE.

Holds spare belt in the outer compartment, and spare inner tube in the centre space. Size: 9 1/2 x 3 1/2 ins. Price 7/-. Postage 4d. Spare tube case only 3/1, postage 3d.

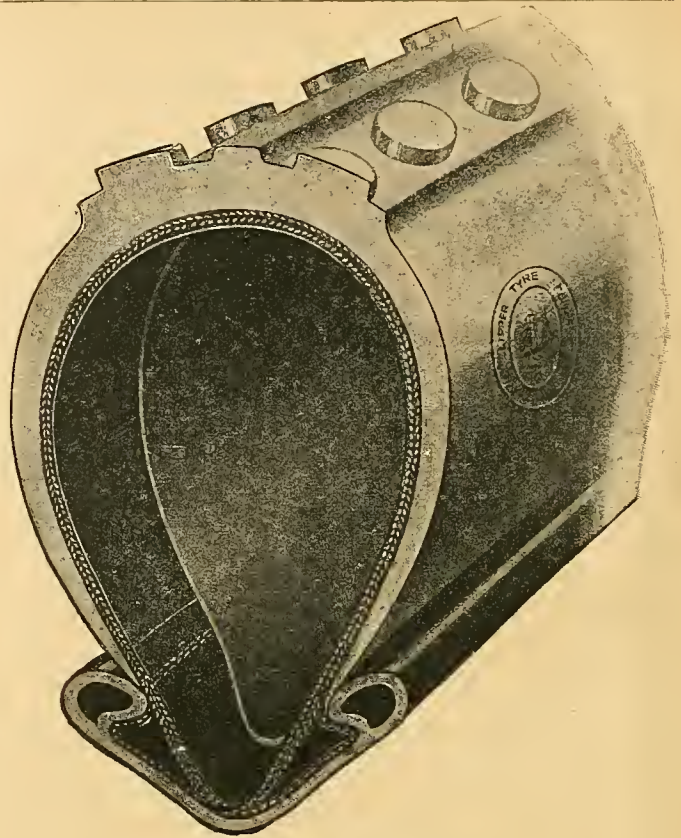


The Newest : : : Rubber-Studded Motor Cycle Tyre.

It's galling to be stopped by tyre trouble at any time; it's demeaning when the stoppage occurs in a busy street, and a crowd of curious children of all ages surround the rider.

Prevent this humiliation by fitting **THE CLIPPER RUBBER-STUDED TYRE**, which any experienced motor cyclist will allow is a first-class article, and exceptional value for the money.

The cover design is a good one, preventing slips and skids; and the thickness of the tread—shaped out of real rubber—protects the inner tube from the mishaps that lead to annoying breakdowns.



"Clipper" Rubber-Studded Motor Cycle Tyre.

Price of Tyre - - - £1 16 8

Price of Cover - - - £1 6 8

Price of Tube - - - 10 0

(26 × 2½ Beaded Edge.)



For best Motor Cycle Accessories,
ask for "CLIPPER" BRAND.

THE CLIPPER TYRE CO., LTD.,
52 - 60, STEELHOUSE LANE. BIRMINGHAM.
LONDON—18, Chiswell St. Finsbury Square, E.C. COVENTRY—A'ama St.



THE JUNIOR T.T. RACE.

Preliminaries.

AT 10 a.m. on Thursday the competitors in the Junior Race repaired to "Woodlands"—the start and finishing point of both races. For this purpose the place is not nearly so good as St. John's has been on previous occasions, as there is no nice open space in front, and the view is almost as restricted. The timekeepers and their assistants had a comfortable wooden shed built for them, but members of the press had to occupy a room in an unfinished cottage, which commanded a good view of the scoring board, but gave a very limited glimpse of the course. The position of the start was about one and a half miles from Douglas, and was just above the steep slope leading down to Quarter Bridge. Just after 10 a.m. the men were marshalled in more or less numerical order along a side turning known as Selbourne Road, and each machine was then examined to see if it complied with the regulations. Every machine was found to be in order except one of the N.S.U.'s, which had the end of the silencer taken out, and this was immediately ordered to be replaced. A heavy downfall of rain, which began just after lunch and continued till late in the evening, gave poor promise of a fine day on the morrow.

At six o'clock the same evening there was a meeting of marshals and competitors at the Sefton Hotel, at which the competitors were advised to express their views, and the necessary instructions were issued to the officials.

The marshals were instructed to keep under observation each machine as it drew up for replenishment, and to enforce the rule that only one attendant was allowed, who should only assist in the replenishment of the machine, all adjustments, repairs, or tyre changes to be done by the rider.

The Day of the Race.

It was, indeed, a pleasure to observe that the sun was shining brilliantly at breakfast time. An hour later at Woodlands, whither all concerned were to be found at 9 a.m., a rather cool and fairly strong south-westerly wind was blowing. Clouds, however, hung over Snaefell and South Barrule, but they eventually cleared away. The first

incident was the departure of the two judges, Messrs. A. Sharp and H. P. E. Harding, in company with Mr. C. Hughes Game, the chairman of the Highway Board, in a car, who went to see that the officials were at their posts. Next the depots were arranged in an excellent manner—in groups—so that all riders of one particular make had their stores placed next to one another. The machines were drawn up on either side of Selbourne Road, and when the time for the start approached the men were brought up by different marshals in their proper order. The start was in the hands of Mr. J. R. Nisbet, who was aided by Mr. R. D. F. Paul, while the two timekeepers, Messrs. F. Straight and C. P. Glazebrook, stood ready with watches in hand. There was a fair gathering of spectators at the start, but a still more numerous throng may be seen on Monday. All waited in silent ex-



Examining the machines at Woodlands, Douglas, on Thursday last. Mr. J. W. G. Brooker is measuring the tyres, while Mr. V. Hart takes the dimensions of the mudguards.

pectation as the minutes fled by, when at last ten o'clock came round, and punctually to the second the first man, Hugh Gibson (New Hudson), was given the word to go. He got away in good form, changing up as he disappeared from view. Haslam (Zenith Gradua) made an excellent start, his gear giving his machine splendid acceleration, though the engine was rather noisy. Gassert (N.S.U.) got away well, but dropped an oil tin off his machine as soon as he was in the saddle. Sain (Alcyon) started with some

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difficulty with his stand down. Colver (Enfield) started easily on his high gear, Canale (Alcyon) had some difficulty in starting, and then stopped again farther down the road.

H. R. Fowler (New Hudson) made a good start, but Johnson (Humber) was not so fortunate. Bolton (Martin), Wright (Humber), Dixon (New Hudson), H. A. Collier (Matchless), Alexander (Rex), Evans (Humber), whose acceleration was remarkable, Douglas (Douglas), Martin (Martin), Slatter (Alcyon), who did better than his Gallic confrères, Weatherilt (Zenith), whose machine also showed splendid powers of acceleration, Fenn (Humber), Brown (Manx Humber rider), Kichham (Douglas), and Cox (Forward), all got away without incident. Drechsler (N.S.U.) missed fire at first. Corke (A.J.S.), Boldt (N.S.U.), and Wilberforce (Douglas) all started well, but Fletcher (Douglas) was not quite so quick in getting away, and he mounted on the right-hand side of his machine. C. R. Collier (Matchless) started amid the cheers of the crowd, who have now learned to respect his capabilities. Stevens (A.J.S.) and Grange (Humber) got away without trouble, but Bell's M.R. suffered misfiring. Greaves (Enfield), Griffith (M.R.), and Sirett (N.S.U.) started without difficulty. The non-starters were H. Heaton (N.S.U.), who smashed up his machine at the last moment, Stanley (2 h.p. Singer), who arrived too late to practise, and S. T. Tessier (2½ h.p. Bat).

Notable Spectators.

An interested spectator of the start was His Excellency Lord Raglan, the Lieutenant-Governor of the island, who afterwards watched the whole of the race from the time-keepers' box. Shortly after his arrival from the inspection of the course, Mr. Hughes Game informed us that the road was in splendid condition on the whole, though there was a small amount of greasy mud in some places under the trees.

A short wait, and a telephone message was received that Martin broke his valve lifter, and at Ballaghy his control wires came adrift and forced him to retire. Next the telephone announced that Gibson and Colver were the first men to pass Ramsey.

Bolton, another Martin rider, had to withdraw at Sulby owing to a broken frame. In this, the first lap, Drechsler and Alexander had to dismount on Snaefell. It was evident, even in this early period in the race, that Ballacrairie corner and Ballig Bridge presented no terrors to the competitors on this occasion, as the machines were naturally not so fast as those competing in the Senior Race. The wind was in favour of the men ascending Creg Willey's Hill, but against them on their way up the mountain road.

After nearly an hour Gibson was the first to pass the starting point, having gained a good deal on Colver, who had started after him. Wright (Humber) stopped to wire up his broken change-speed controlling rod. Boldt (N.S.U.) had had a tumble, and in falling lost a good deal of petrol, so he stopped to fill up. The first six at the end of the first lap were:

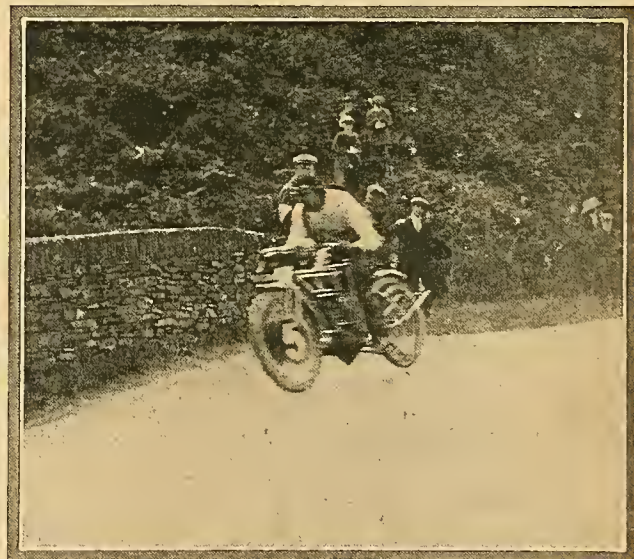
W. W. Douglas (2½ h.p. Douglas) passing Kirk Michael.

			m.	s.
1.	P. Weatherilt (2½ Zenith) ...	...	54	0
2.	P. J. Evans (2½ Humber) ...	...	55	0
3.	H. Gibson (2½ New Hudson) ...	...	56	26
4.	H. V. Colver (2½ Enfield) ...	...	55	55
5.	H. A. Collier (2 Matchless) ...	...	56	11
6.	J. F. Sirett (2½ N.S.U.) ...	...	56	14

In the next lap Gibson and Sirett were absentees, and of these the former suffered a broken big end ball bearing and the latter was reported to have magneto trouble. Sain and Canale, the two Alcyon men, were missing, while Griffith had engine trouble and retired at Ramsey. Bell had overheating troubles, fell off more than once, and was very late. Colver, who forged to the front before Creg Willey in the next lap, sheared his counter-shaft small



Between Creg Willey's Hill and Kirk Michael.



K. Gassert (N.S.U.) leaping Ballig Bridge.

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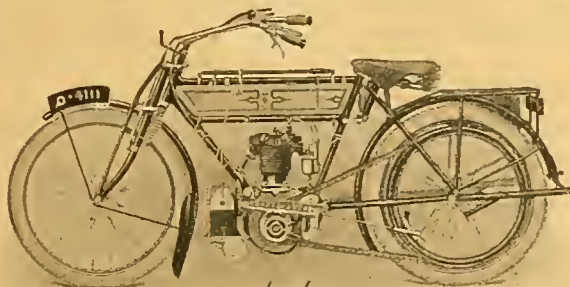
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Dear Sirs, 7th June, 1911.

It may interest you to know that in the Reliability Trials, held on Sunday June 4th last, under the auspices of the Bombay Motor & Autocycle Club, a Twin-cylinder, 6 h.p. N.S.U. ridden by Mr. J. Smith, Chief Engineer of the local branch of the Vacuum Oil Co., was the only machine to cover the entire course of the Trials, 130 miles, in an absolutely non-stop run.

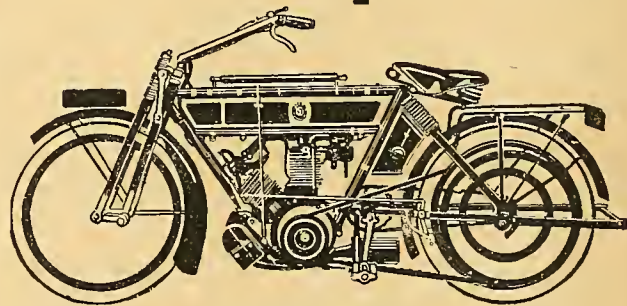
The night before the trial it rained heavily and the entire length of the road outside of Bombay was in a very bad state, which makes the performance of the machine all the more creditable.

It is always at the top you find N.S.U. machines, because they have no superior in steady, powerful running, and qualities of endurance. In the recent London-Edinburgh Trials they gained TWO GOLD MEDALS, whilst the TRIUMPH CUP fell also to one of these famous mounts.

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A.J.W.

The International Motor Cycle Tourist Trophy Races.—

sprocket near Keppel Gate, and had to withdraw, while another incident was the loss by Boldt (N.S.U.) of one of the inlet valve tappets of his engine, so that he continued to drive with one valve working mechanically and the other automatically. A quarter-mile beyond Sulby Bridge Rem Fowler ran over a stone which pitched him off, injuring his knee and breaking his carburettor control, which he repaired with wire. The completion of the second lap provided plenty of incidents at the Douglas depot. Evans (Humber) was the first to stop for oil and petrol, and very heartily was he cheered as he left. H. A. Collier, Gassert, Haslam, Douglas, Fenn, C. R. Collier (who also tightened his belt), Stevens, Greaves, Boldt, Wright (who also tightened his plug terminal), and Slatter all stopped for replenishments, while Fletcher, who also stopped, went off in blissful ignorance with some spilt petrol alight on his machine which had been set fire to by the exhaust. A spectator got wildly excited, but all to no purpose, as the

Third Round Positions.

The order of the first six was:

			h. m. s.
1.	P. J. Evans (2 $\frac{3}{4}$ Humber)	...	2 43 26
2.	H. A. Collier (2 Matchless)	...	2 49 24
3.	D. Brown (2 $\frac{3}{4}$ Humber)	...	2 55 43
4.	E. Kickham (2 $\frac{3}{4}$ Douglas)	...	2 57 25
5.	K. Gassert (2 $\frac{1}{2}$ N.S.U.)	...	2 58 38
6.	H. J. Cox (2 $\frac{3}{4}$ Forward)	...	2 58 40

It was now not long before the winner would be known, but people felt fairly certain Evans would retain his lead, and every time a competitor appeared guesses were made right and left as to his identity. More excitement was aroused by Ross telephoning to say C. R. Collier had gained 3m. on the last lap, and when he did arrive everyone urged him to come on, but owing to several punctures, a faulty sparking plug, and a slipping belt, he did not complete the course. What the message really meant was that Collier had *lost* 3m.



Mr. J. R. Nisbet,
with megaphone,
clerk of the
course,
signalling to the
chief marshal to
stop competitors
at end of fourth
lap.

flame blew out in an instant. Johnson reported tyre troubles. Wilberforce stated he had had spills at Braddon Green and on the mountain. Wright, we were pleased to note, had made a satisfactory repair to his change speed rod. Drechsler arrived very late.

Second Round Positions.

The order of the first six was:

			h. m. s.
1.	P. J. Evans (2 $\frac{3}{4}$ Humber)	...	1 43 34
2.	H. A. Collier (2 Matchless)	...	1 53 23
3.	H. J. Cox (2 $\frac{3}{4}$ Forward)	...	1 57 56
4.	C. R. Collier (2 Matchless)	...	1 58 30
5.	E. Kickham (2 $\frac{3}{4}$ Douglas)	...	1 58 44
6.	D. Brown (2 $\frac{3}{4}$ Humber)	...	1 59 26

On the completion of the third round, the leader Evans, who was gaining ground, was heartily cheered, and H. A. Collier, who was holding second place, was going well. Incidents were now few and far between. Cox stopped for fuel; Dixon and Weatherilt came in almost together to replenish, while Weatherilt reported having lost ground through a broken petrol pipe. Drechsler stopped for petrol, and stated he had had tyre troubles. At this stage of the proceedings rain fell slightly, but soon passed over. Next came a telephone message to say that Evans had just passed Ramsey, and there appeared to be every chance of his winning. Many people then tried to excite Mr. H. Belcher, of Humbers, Ltd., but all efforts failed, and he succeeded in preserving quite an unruffled demeanour. Grange next passed with his stand down.

THE RACE FROM FIVE DIFFERENT POINTS.

A BRIGHT fine morning was a welcome change to the dismal conditions prevailing on Thursday. An hour previous to the start I set out from Quarter Bridge to take up my position on the steepest part of Creg Willey's Hill, as I started with the intention of seeing hill-climbing, high speeds, and corner work. The road surface was by no means dry, and under the trees it was just sufficiently tacky to call for cautious driving. However, the road was rapidly drying, thanks to a fairly stiff south-westerly wind. Through Union Mills and Crosby the going

As regards what happened on the other part of the course, Fowler's engine was knocking badly on the "goose-neck," Alexander dismounted on the same portion of the mountain road, and Wilberforce's two-speed gear seized up and caused him to be thrown over the handle-bars. Fortunately Dr. O'Rafferty was hard by, and, after examining him, he reported that the sufferer was more affected by shock than anything else. Tumbles were by no means rare, but poor Wilberforce's *contretemps* was the only really bad fall. He was removed on a stretcher hastily rigged up by the Boy Scouts.

As was anticipated, Evans finished an easy first, and was heartily received on his arrival; in fact, it was a most popular win. H. A. Collier, the second man, also received an ovation. Cox, who had the honour of being the first private owner to finish, came in third, and received an enthusiastic welcome. Evans made by no means a non-stop run, as his tool bag came off, he lost a spare belt, and had to stop to put up his stand, which had fallen. C. Collier suffered belt and other troubles. Douglas Brown, of whom the islanders were justly proud, stopped too soon and had to walk in, and curiously enough his petrol pipe union became unscrewed just as he pulled up. The second private owner to finish was another Humber rider, F. P. Johnson. Humbers, in fact, have done a performance of which they may be justly proud. They provided the winner, the second private owner, and all their team completed the course. Their new model was described for the first time five or six weeks ago, the engine having offset cylinders, side-by-side mechanical valves, flat-faced valve seatings, and a single ring to each piston. All the Humber machines had Armstrong-Triplex gears. E.M.P.B.

was not of the best, the road being twisty and moderately undulating, and also lumpy and pot-hole. Ballacraigne corner did not convey the same meaning to the competitors this year as last, the turn being a very gradual and easy one which could be taken at anything up to 35 m.p.h. In Glen Helen the roads were wet and heavy, but improved during the ascent of Creg Willey, and thereafter were almost ideal to Ramsey except for three long avenues which dried slowly, being protected from the drying wind by the thick foliage overhead.

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I had just settled down after selecting a point of vantage 200 yards from the summit of Creg Willey when the official car passed, intimating that the road was closed. As I listened intently for the distant bark of Hugh Gibson's New Hudson—I felt confident that he would retain his lead—the noise of racing engines resounded through the air, and proved to be H. H. Bowen on a 3½ h.p. Singer and F. C.

it was dangling down in dangerous proximity to the rear wheel as he passed. Harry Martin, the next arrival, made the most noise, but was losing no time. W. W. Douglas's twin purred along very smoothly. E. Kickham (Douglas) held unconcernedly between his lips an unlighted cigarette. The Douglas riders, I knew, were not out to take risks with an idea of winning, but to make a good performance on their standard two-speed machines; all credit to them!



The sharp curve approaching Sulby Bridge. One of the most dangerous points on the course.

North on a three-speed Ariel, who were on their way to take up positions on the course.

The minutes dragged along slowly as I waited impatiently for the echo of the J.A.P. engine resounding in the glen below. At last I could hear the buzz of the engine, brought in waves by the following wind. What a crackle the new overhead J.A.P. has! Gibson came over the steepest part excellently on the direct drive, changing to top gear near the summit. He was closely followed by J. Haslam, who manipulated his Gradua gear to advantage, then K. Gassert (N.S.U.) followed within 100 yards.

A lighter and more continuous buzz signalled the approach of a fast machine, which overtook and passed Gassert on the steepest gradient with ease. It was Colver on the Enfield, which was travelling magnificently. Bolton (Martin), the next arrival, was going well, though his belt appeared very slack. Sain made a fine climb on his single-gearred Alcyon, but the rear mudguard was bouncing up and down alarmingly. Rem Fowler changed up too soon on his three-speed New Hudson, and had to change down again, whilst

H. J. Cox (Forward) struck me as going very promisingly. V. Wilberforce had a spare tube tied round his waist, which came adrift, and his *confrère*, G. L. Fletcher, rode alongside to acquaint him of the fact. Making a speech at 30-35 m.p.h. is not exactly an easy matter. A. J. Stevens (A.J.S.) made a steady ascent, and C. R. Collier (Matchless) passed, looking cool and unconcerned, as though a T.T. race were an everyday occurrence. H. Greaves (Enfield) had crept up a place, and W. E. Grange was obviously quite happy, waving his hand to friends as he sped up the 1 in 10 gradient on his Humber.

Then followed a long wait, so I walked briskly along the course for a mile and a half to beyond Cronke Voddy, where there is a slight decline and competitors accomplished their best speeds. Some struck me as not exerting themselves unduly, yet a mile of straight open road is where valuable seconds are gained. The best speeds I should estimate at 55 m.p.h. H. A. Collier was fiddling with his tool bag as he raced past, and the screwdriver and tools dropped out, so he pulled up and put matters right. I watched all the

An enthusiastic crowd at Ramsey watching the riders as they passed on their way towards the mountain road.



the little Humber ridden by Sam Wright simply bounded over the steepest portion. P. Johnson was not so fast on a similar mount. Good ascents were made by all the remainder with the exception of A. H. Alexander, who had to run alongside on two occasions until his Rex picked up speed. Fem managed to keep his Humber going by vigorous digs on the ground with his right leg. P. J. Evans (Humber) had not fastened his spare belt on the carrier securely, for

competitors at this point on the second round, the first arrival being H. V. Colver, whose twin was going better than ever. The time was 11.13 p.m. Four minutes later P. J. Evans passed, having overhauled ten competitors in one lap. Next in order of arrival were H. A. Collier, K. Gassert, and H. Rem Fowler. C. R. Collier was actually twenty-five minutes behind Colver, though he started but twelve and a half minutes later. These two old stable

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companions were fancied by most to be likely winners.

Next I sped along a stony and rutty by-lane on my machine, which brought me out near the Devil's Elbow, then scurried along the coast road to Kirk Michael. Here I watched the riders on the third lap. Evans was now the leader, H. A. Collier being second and K. Gassert third. They were all apparently extending themselves in this lap, for the corners were being taken faster and closer, and the riders lay low, pushing their engines to the utmost. Practically every competitor who finished two laps came round a third time, twenty-four passing me in Kirk Michael.

Here I learned that a train was about to leave for Ballaugh, so I boarded this and came across Harry Martin, whose machine looked spick and span, but his retirement was caused by a broken valve lifter wire and a throttle

wire coming loose—what a trivial thing to cause a withdrawal! I was also told here that Kickham had pushed his machine into Ballaugh. Moving once again to Sulby Bridge I obtained my fifth view of the competitors, this time observing a splendid exhibition of corner work. However, no one took risks; some, in fact, were over-cautious, and lost much time. The Germans, however, were particularly fearless at the corners. Cox was the only one who came close to fouling the bridge, and just avoided a fall by pushing at the parapet with his hands. I was extremely sorry when A. J. Stevens misjudged the corner on the last circuit. He, along with Corke, had travelled most consistently throughout, but he quite under-estimated his pace, and charged the grass bank, which fetched off the driving chain and the rear cover. He was off again in five minutes, and was among the fourteen gold medal winners. G.S.

HAIRPIN, RAMSEY DEPOT, AND SULBY BRIDGE.

THE dual attraction of lurid cornerwork and gear changing led me to take up my position on the hairpin bend at the start of Snaefell climb.

Within a quarter of an hour no less than fifteen riders passed, headed, as was proper, by Hugh Gibson (No. 1). Their cornerwork was simply magnificent. Let it be understood that cornerwork in a 150 mile race and in a Kop Hill sprint are two entirely different things. At a timed short sprint you must snatch every fraction of a second you can; hence a ditch-shaving skid, a sensational recovery, a cloud of dust and a hundred hearts in a hundred throats are proper to cornerwork in a mile sprint. In a 150 mile race you must get round with a minimum of risk. It is the part of the machine to supply the speed; of the man to supply the restraint.

Hence I say the hairpin work was gorgeously magnificent. The men tackled the U in various ways. Some swung wide, some cut in, but every man observed supreme caution. They ran up to within 100 yards as fast as their engines could yank them; then up went the valves, and round they crawled, like mice suspicious of a bit of cheese. Once round, most of them slammed in a lower gear, banged their throttles open, and shot upwards with re-echoing exhausts—wonderfully reverberating in the roar of a tiny T.T. engine! As I have said, there were no thrills, no frame-twisting, no scraped back tyres, no ditch-shaving. Gassert (N.S.U.) was probably responsible for the finest corner. Weatherill undoubtedly picked up best above the U—his engine belled like a stampeded herd of a thousand bulls. Alexander was overheating, and his sprint alongside until out of sight was as plucky as it was pathetic. Though this cornerwork was magnificent, it was not spectacular—"valve-lift, semi-circular swerve, gear change, throttle slammed open," about expresses it. So when everybody had passed on lap 1, I tramped off to where I had left my machine in a by-lane, and went down to the Ramsey depot for lap 2; *en route* I was just in time to see Grange remount after a roadside adjustment.

A good crowd had lined the road at Ramsey depot, and was taking the keenest interest in it all. Everybody who passed was either a Collier or Douglas Brown (son of the proprietor of the *Isle of Man Times*). An assortment of the prettiest girls were obviously infatuated with a certain good-looking marshal. A horde of small boys continually proffered ha'pence for the red and blue air balloons which two wide-awake attendants had tied to the palings to inform their man where his petrol lay. I had barely joined the crowd before Colver shot in on his Enfield, and made a greased lightning replenishment of both tanks in fifty-four seconds. Graham

Dixon squeezed the adjustment of his valve-lifter, plus two tank fillings, into 110 seconds. Others were longer, and more than one had difficulty in restarting due to stretched lifter wires or adjusters having shaken loose. Weatherill actually managed to hold down the stiff spring of his overhead valve J.A.P. with the fingers of one hand—no mean feat!

Most of the men relied on the Douglas depot, and few stopped here, but those who ran through were slow, not having had time to recover speed after the twist at the entrance to Ramsey. When all the men were through I rode down the by-lanes to Sulby Bridge for the third lap. Here genial John Gibson was dividing his attention between a packet of sandwiches, a pair of field-glasses, a score of venturesome urchins, and his mount for Monday's race, a

brand new Rudge with the expanding engine pulley and rear belt rim. The corner work here was a repetition of that on the Ramsey hairpin—commonsense and caution personified—no thrills. Cox, on the Forward, was the only man I saw graze the parapet of the bridge, and he had two excellent excuses for being "rattled" as de Rosier calls it. It is exciting for an amateur to run high up in his first race, and two other competitors were hunting him hard.

On the next lap I heard Stevens completely failed to take the corner; the rest were slow, but sure. Perfect cornerwork of this character soon palls, and I returned to Ramsey depot for the fourth and last lap. The leading men were now separated by intervals which made alteration of the placings impossible, except through spills or serious

trouble. P. J. Evans passed through 8m. or more ahead, a lead which gave him time to free-wheel in from the Bungalow and win, if only his luck lasted till he reached the mountain top. By the roadside was a tall post, temporarily connected to the local telephone system, and Marshal Alec Ross stood with his ear glued to the receiver. At intervals his stentorian voice bawled out the Douglas news to the eager crowd: we heard how one by one the leaders had all climbed Snaefell Summit, and kept the order in which they passed us. Presently we were agog with excitement again, wondering whether all the members of the Humber team would finish. Sam Wright went through safely, and when later W. E. Grange on the sixth and last Humber roared healthily past the Humber attendants became pardonably and enviably hysterical. They tied two laths to the screen of their supply car, stretched an old sheet across, and rudely scrawled thereon with lampblack the legend "Humber wins!" Tying two or three gaudy air balloons on behind, they were ready for a triumphal procession into Douglas. B.H.D.



J. Haslam (2) h.p. Zenith) rounding the hairpin corner at Ramsey.

OBSERVATIONS ON THE MOUNTAIN CLIMB.

ONE of the most interesting points on the course from the spectacular point of view was "the goose neck." From here it was possible to obtain an excellent view of the machines from the moment they rounded the hairpin bend till they reached the summit of the steepest gradient above my vantage point. Moreover, additional interest was given by watching the manipulation of the various types of change-speed gears.

Although a mist prevailed for some time during the earlier hours of the morning, the sun eventually contrived to make its presence felt, and the roads rapidly approached their ideal condition. At twenty minutes to eleven a small dot was seen travelling at considerable speed from the hairpin. The machine proved to be Hugh Gibson's 2½ h.p. New Hudson, which rounded the corner well, if a trifle wide, and disappeared over the rise, while its rider energetically flooded his carburettor. Close on its heels followed Colver, the Enfield swinging round the corner well on its low gear.

The others followed in close succession. No sooner had one man disappeared in flame and smoke than another came up to the bend, changed smartly, if jerkily, to a low gear, and vanished. The winning Humber passed eighth at a very fast speed (he started seventeenth), hugging the corner at the approach side and swinging wide beyond.

Quite the most exciting ascents were made by the Zeniths, whose riders would come round the corner, then reduce their gear, whereupon, in every case, the engine would emit a tremendous roar, gradually sinking in key as the gear was raised. Slatter created a sensation by coming up well and fast, belching clouds of smoke the while. The gear changing as a whole was good, generally taking place above the bend during this round.

After the passing of Grange's Humber there was an interval, and a general comparison of notes meanwhile took place. Then the energetic boy scouts spied a machine in the distance. It stopped, however, about a quarter of a mile away, and after a five minutes' delay was restarted, and proved to be Bell on the M.R.

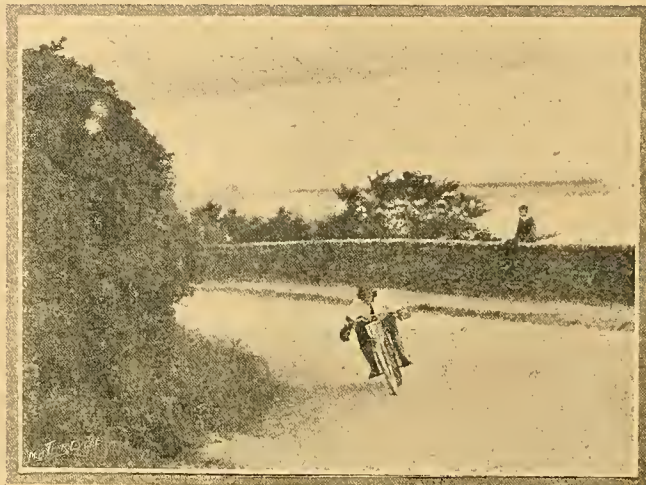
In the second round Colver passed first, taking the corner well and fast, with one leg scraping the ground, while Evans's Humber took the turn wide and was but a few paces from the bank. Drechsler made a splendid turn, as, indeed, did all the German competitors, whose riders had apparently made a special study of this corner. Rem Fowler showed signs of trouble, as he arrived extremely late in the round with his left knee bandaged.

In the third round a number of the competitors changed to a lower gear at the approach side of the bend, some changing up afterwards while still upon the gradient. Gassert gave an excellent exhibition of corner work, taking the bend without cutting out and without any signs of a falter. Quite a number took the corner close on the approach side, and came perilously near the gutter on the far side, one giving a wandering photographer perched on the said bank the shock of his life.

The riders now began to string out, as during the third round intervals of considerable length ensued. These intervals were useful, as they enabled the spectators to get up the usual wordy argument concerning the exact round in

which certain machines were and the accuracy of each other's watches—points which were loudly debated until Collier's Matchless broke into the argument with a roar, nearly suffering a bad skid by getting too near the ditch.

At this point the leading files began to mingle with the laggards, and lap four saw the arrival of the winning Humber, and H. A. Collier's Matchless before the passing of the tail of the third round. Just as the spectators were congratulating themselves that no smash of any description had occurred, Fenn's Humber roared up, took the corner hard, heeling over at an acute angle. He assisted as much as he could with his leg, but eventually came down against the far side bank. The engine raced for a moment, and an



P. J. Evans (2½ h.p. Humber) at the first bend after the Ramsey hairpin.

ugly twist appeared in the snaky exhaust pipe, and the handles, together with the footrests, showed signs of the fall. Fenn was away again without overmuch waste of time, but was obviously uncomfortable when his machine got going. Johnson's Humber ran by as Fenn was extricating himself, fortunately without going wide.

Most of the competitors seemed to be using their lowest gears on the approach side, and one or two emitted strange metallic noises and knocked ominously. Slatter's Aleyon passed still steady despite its single speed, but with a distinct ring about the spur gearing. The unfortunate Rem Fowler had still further trouble, as his machine failed, and, despite his wounded knee, he pluckily scrambled alongside for some distance. After the last man had passed a call came through for a doctor, as Wilberforce had jammed his change gear and been thrown. He was considerably upset by shock, although his injuries, we are glad to report, were not so serious as might have been expected.

S.H.D.

SPEED AND CORNER WORK.

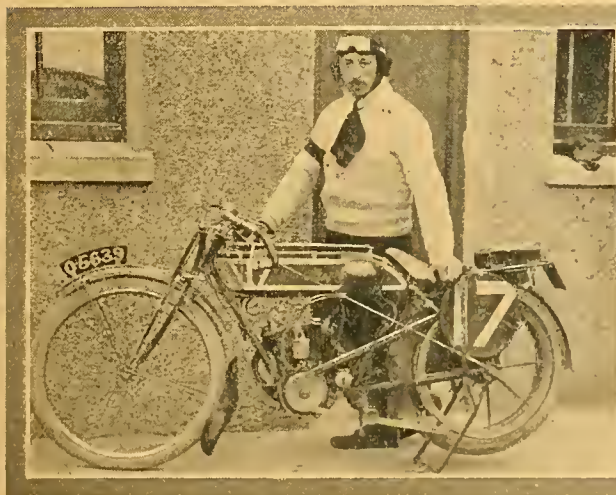
AFTER a run round the course I decided that the best point for my first view of the race would be somewhere in the neighbourhood of Hilberry. I had a good view of the riders coming down the mountain, and how they did travel, too. After leaving Keppel Gate the road is decidedly rough to Craig-Na-Baa Hotel, after which the surface rapidly improves, and becomes perfectly ideal towards Cronk-Na-Mona, where there is a dead straight run of a good long mile down a gradient of 1 in 14. The Humber, particularly Fenn's, hummed down this stretch at an extraordinary speed, which cannot have been much short of 70 m.p.h. Colver's Enfield was equally speedy, but the second lap found him descending the hill not quite so fast and in dead silence with his engine out of gear. The N.S.U.'s, thanks to the weight of the riders and their great skill, came along very fast and smoothly, but it was obvious that they could have done with a higher gear for this part of the course, at any rate. Another who was very fast was Slatter, on the Aleyon, but it gave one furiously to think when one noted that the

wheels were inches out of track. Of exciting incidents hereabouts there were none, but on the first time round H. A. Collier and P. J. Evans had a heroic, and, as it turned out, prophetic struggle for a mile or two, the latter shooting ahead just before the corner, and taking it in a style that was pyrotechnically brilliant compared with Collier's quiet sweep round.

Cronk-na-Mona corner is nothing to speak of, but as it is fairly sharp and at the apex of two hills of opposite gradient, it is especially a turn that rewards clever corner work. In this respect Sam Wright, P. J. Evans, and W. Douglas showed themselves excellent. They nipped round it "all out" and away on the sky line towards Hilberry almost before one had time to jot down their numbers.

Hilberry Corner, a mile or two nearer the finish, is one of the "show" places of the course, but there was little doing here except a most commendable display of restraint, and it was quite clear that practice had demonstrated the advisability of doing this in preference to rushing at it, only to

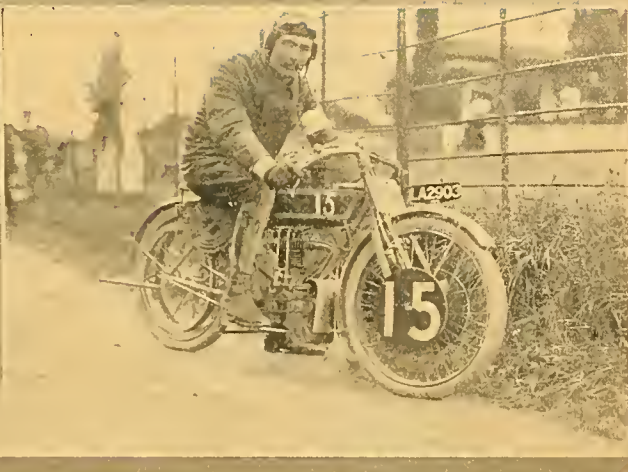
The International Motor Cycle Tourist Trophy Races.—



The winner, P. J. Evans, with his 2½ h.p. Humber fitted with Armstrong Triplex gear.

pull up. Few riders checked their speed at all down the twisty, narrow road between Hilberry and Willaston, and a grand display of fine riding was to be seen, in spite of the tameness of the procession into which the race had developed by the time I reached this point.

A little more excitement was to be had at Willaston, which is without doubt the most difficult turn on the course, as it is both sharp and blind. There were a couple of tumbles here, to say nothing of numerous "very nearlies." Boldt took the corner too sharply, and came down pretty hard, following it up with a series of graceful rolls over and over. However, he was up like an acrobat, getting away almost before one could realise what was afoot. Slatier also



The first single cylinder and second to finish, H. A. Collier (2 h.p. Matchless-Jap), who also used an Armstrong gear.

Fowler came down the hill neck and neck, with the former rapidly overhauling the latter. They were practically a dead heat at the turn, when Corke, who could easily have cut across in front, with most commendable restraint hung back so as to avoid any possibility of baulking Fowler, and afterwards succeeded in catching him up. Another neck and neck at the corner was put up by Sam Wright and Fletcher, both of whom actually took the corner as if joined by coupling rods. The width, however, after the turn was insufficient for the redoubtable Sam, who promptly ran over the grass bank on to the footpath, upon which he ran a few hundred yards, and succeeded in finding a soft place for diving across into the road again. The most hair-raising performance was accomplished by one of the N.S.U. riders, who by opening up his throttle to the full when just about to take the turn made his little machine fairly leap, and it was as much as he could do to get round, but he wisely steered into the grass gutter to prevent a skid, and got away without having to slow down at all.

W.G.A.



Harold J. Cox (2½ h.p. Forward), who finished third, taking in petrol at the Douglas depot.

took a toss by slithering across the road, and a number of others took the turn far too wide, some of them performing rather badly. Alexander cut across in fine style, scraping the road with his belt pulley guard. Wilherforce, whose tumbles bad by no means improved his face, came along very warily, and so did Evans, who with several minutes in hand was wisely refraining from running any risks. Gassert by leaning well over swept round the fastest of all. J. D. Corke and Rem

INTERVIEW WITH THE WINNER.

P. J. Evans, who was the popular winner of the Junior Tourist Trophy Race, is quite a novice as regards road racing. He is a well-known motor cycle agent in Birmingham, and up to the present has devoted his attention chiefly to local club competitions. Meeting him at the conclusion of his splendid ride, we exchanged the usual greetings, and asked him how he had fared.

"Quite nicely," replied Mr. Evans. "Naturally, I had to slow up for the corners, but the course, which is not too terrible if taken carefully, did not cause me much trouble, though, as you know, I did not make an absolutely non-stop run."

"Had you many exciting experiences?"

"No," replied our victim, "except that I had no foot brake for the last part of the course, and had to rest my foot on the silencer. You see the sole of my boot is half burnt away."

"You look pretty fit after your strenuous ride?" we ventured.

"Yes," replied Evans, "and I feel it."

"What gears did you use, Mr. Evans?"

"The ratios were 4, 6, and 8½ to 1."

"And did your gear give you any trouble?"

"No, not the slightest. I consider it to be nearly perfect."

As Evans had sprung to fame suddenly from comparative obscurity, others monopolised him, and we were forced to renew our congratulations and say good-bye. Noteworthy features of his driving were his consideration for others, his calmness, skill, and caution.

Junior T.T. Lap Times and Results at a Glance.

Rider.	H.P. and Machine.	Cyls.	Bore and Stroke.	C.C.	1st Lap.	2nd Lap.	3rd Lap.	4th Lap.	Total.	Gear.	Transmission.	Remarks.
1. P. J. Evans	2 1/2 Humber	2	60 x 60	339	h. m. s. 55 0	h. m. s. 53 34	h. m. s. 54 52	h. m. s. 53 41	3 37	Armstrong 3-sp.	Belt	Winner Junior Tourist Trophy.
2. H. A. Collier	2 Matchless-Jap.	1	76 x 65.5	297	56 11	57 12	56 1	56 56	3 46	Armstrong 3-sp.	Belt	First single-cylinder.
3. H. J. Cox	2 Forward	2	56 x 69	339	1 0 4	57 52	1 0 44	57 16	3 55	Armstrong 3-sp.	Belt	First private owner.
4. D. Brown	2 1/2 Humber	2	60 x 60	339	59 2	1 0 24	58 19	1 0 41	3 56	Armstrong 3-sp.	Belt	Gold medal.
5. H. Graves	2 Enfield	2	54 x 74	340	1 0 21	1 1 38	58 13	56 22	3 56	Enfield 2-sp.	Chain	Gold medal.
6. K. Gassett	2 N.S.U.	2	53.6 x 75	338	1 0 27	59 35	58 36	58 45	3 57	N.S.U. 2-sp.	Belt	Gold medal.
7. W. W. Douglas	2 Douglas	2	60 x 60	340	1 0 4	59 55	1 0 27	59 35	4 0	Douglas 2-sp.	C. & B.	Gold medal.
8. A. G. Tenn	2 Humber	2	60 x 60	339	1 6 36	58 9	56 11	1 0 23	4 1	Armstrong 3-sp.	Belt	Gold medal.
9. F. P. Johnson	2 Humber	2	60 x 60	339	59 26	1 9 12	58 12	57 26	4 4	Armstrong 3-sp.	Belt	Gold medal.
10. J. Haslam	2 Zenith	2	1 76 x 65.5	297	1 4 9	1 1 40	59 52	59 3	4 4	Gradua.....	Belt	Gold medal.
11. P. Weatherill	2 Zenith	1	76 x 65.5	297	54 0	1 10 8	58 42	1 2 47	4 5	.....	C. & B.	Gold medal.
12. G. L. Fletcher	2 Douglas	2	60 x 60	340	1 2 28	1 3 16	1 2 12	1 2 40	4 10	Douglas 2-sp.	Belt	Gold medal.
13. H. G. Dixon	2 New Hudson	2	76 x 65.5	297	56 32	1 6 50	1 4 30	1 6 17	4 14	Armstrong 3-sp.	Belt	Gold medal.
14. S. Wright	2 Humber	2	60 x 60	339	1 2 35	1 14 44	57 42	1 4 26	4 19	Armstrong 3-sp.	Belt	Gold medal.
15. J. D. Corke	2 A.J.S.	1	70 x 77.5	298	1 6 4	1 5 47	1 5 55	1 5 28	4 23	A.J.S. 3-sp.	Belt	Gold medal.
16. A. J. Stevens	2 A.J.S.	1	70 x 77.5	298	1 1 44	59 59	1 2 28	1 22 26	4 26	A.J.S. 3-sp.	Chain	Fastest single geared machine.
17. N. D. Slatter	2 Aleyon	1	65 x 90	299	1 5 22	1 8 47	1 8 7	1 7 2	4 29	Single gear	Belt	
18. W. E. Grange	2 Humber	2	60 x 60	339	1 15 23	1 18 19	1 1 12	1 9 36	4 44	Armstrong	Belt	
19. A. Boldt	2 N.S.U.	2	53.6 x 75	338	1 2 59	1 3 23	1 43 14	1 3 26	4 53	Single gear	Belt	Magneto trouble 4th lap, Ballaugh.
20. H. R. Fowler	2 New Hudson	1	76 x 65.5	297	58 40	1 25 7	1 3 1	1 26 36	4 53	Armstrong 3-sp.	Belt	Refined, punctures.
21. A. H. Alexander	2 Rex	2	60 x 60	339	1 17 12	1 13 47	1 11 10	1 18 18	5 0	Douglas 2-sp.	C. & B.	Gear seized, Shaefell.
E. Kiekham	2 Douglas	2	60 x 60	340	58 44	1 0 0	58 41	-	-	N.S.U. 2-sp.	Belt	Punctures, plug, and be t.
R. Drechsler	2 N.S.U.	1	69.8 x 78	299	1 5 36	2 1 18	1 10 51	-	-	Douglas 2-sp.	C. & B.	Seized big end, Glen Helen.
V. Wilberforce	2 Matchless	2	76 x 65.5	297	58 43	1 7 6	1 17 13	-	-	Armstrong 3-sp.	Belt	Sheared sprocket, Koppel Gate.
H. Gibson	2 Hew Hudson	1	76 x 65.5	297	58 43	-	-	-	-	Enfield 2-sp.	Chain	Retired, punctures.
H. V. Colver	2 Enfield	2	54 x 74	340	55 55	-	-	-	-	N.S.U. 2-sp.	Chain	Chain shortening device jammed.
J. F. Sirett	2 N.S.U.	1	69.8 x 78	299	56 26	-	-	-	-	Armstrong 3-sp.	Belt	Broke frame, Ginger Hall (Sulby).
M. Sain	2 Aleyon	1	65 x 90	299	56 14	-	-	-	-	Armstrong 3-sp.	Belt	Broke valve lifter & throttle, Ballaugh.
F. Canale	2 Aleyon	1	65 x 90	299	-	-	-	-	-	Armstrong 3-sp.	Belt	Overheated.
D. C. Bolton	2 Martin	1	76 x 65.5	297	-	-	-	-	-	Armstrong 3-sp.	Belt	Broke inlet pipe, Ramsay.
H. Martin	2 Martin	1	76 x 65.5	297	-	-	-	-	-	Armstrong 3-sp.	Belt	
R. J. Bell	2 M.R.	1	62 x 85	299	-	-	-	-	-	Armstrong 3-sp.	Belt	
G. Griffith	2 M.R.	2	52 x 80	340	-	-	-	-	-	Armstrong 3-sp.	Belt	

* Fastest lap.

There were twenty-five belt-driven, five chain-driven, and four chain and belt-driven machines in the race.

There is a feeling that this year's T.T. Race will be the last, but at the trophy presentation Lord Raglan spoke in terms which infer that there is no truth in this rumour.

We are indebted to G. N. Higgs for the assistance he rendered to various members of our staff by conveying them to different points along the course, also to Douglas Bros., the New Hudson Cycle Co., and Humber and Co. for placing machines at our disposal during the race week. These machines did much valuable work.

The number of survivors is distinctly good, as out of thirty-four starters twenty-one finished. The winner's average speed was 41 1/2 miles per hour, the second 39 3/4 m.p.h., and the third 38 m.p.h. P. J. Evans's fastest lap, 53m. 34s., is equal to a speed of 42 miles per hour.

It was noticeable that a large percentage of competitors used Hutchinson tyres, including the rider of the fastest single-cylinder machine, who finished second.

Harold Cox, the third in order of merit and first of the private owners, used a carburettor of his own design—known as the C.A.P.—on his twin Forward.

The equipment of Evans's winning Humber was as follows: B. and B. carburettor, Armstrong-Triplex gear, Bosch magneto, Lyso belt, and Continental tyres, while Shell spirit and Price's oil were used.

All connected with Humber were naturally jubilant over their victory, and their exuberance of spirits found vent in a practical form. Obtaining a sheet, they wrote on it in large letters, "Humber wins," and attached it to the front of the screen of their car by means of laths. Further decorations were added in the form of gaudy air balloons, which were allowed to stream out behind as the car with its happy group of occupants wended their way from the replenishment station to Douglas.

THE SENIOR T.T. RACE.

A Magnificent Triangular Contest.

Three Competitors lead at intervals.

C. R. Collier finishes second and is disqualified, along with De Rosier.



General view of the crowd at the starting and finishing point at Woodlands.

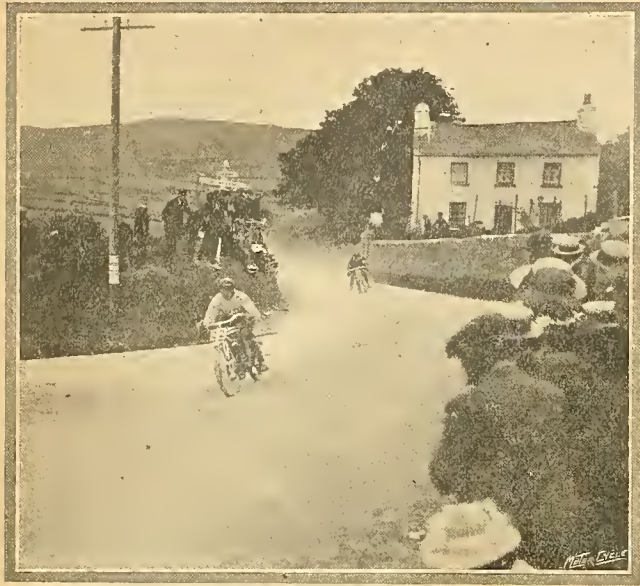
ON Monday a bright sunny morning with a cloudless sky gave promise of a magnificent race, under the most favourable conditions, which expectation was fulfilled. Excitement in this event had almost reached fever heat, and there was no doubt that the higher-powered machines commanded the most attention. Practically everyone had a favourite, and strangely enough they were in the majority of cases different riders. It is a fact that there were nearly a score of riders tipped as probable winners by even trade prophets, which rendered the event all the more interesting, and keenly anticipated. People spoke with bated breath of the terrific speed of De Rosier, Godfrey, and Moorhouse on their Indians, and the Collier brothers and their Matchless machines, the likelihood of Philipp and his Scott getting home first, and the corner

work of the fearless Bat trio—W. H. and J. T. Bashall and H. H. Bowen. Nor were these all, for some confessed astonishment at the speed of some of the single-cylinders, and were even sanguine of success. The four Ariels had created an excellent impression, the two Premiers were running as no single-cylinder Premier has run before, and the Rudge men with plenty of experience of the course, and the Singers were all regarded as dangerous opponents of the Triumph, which machine has only once been ousted from its position as first single-cylinder. Nor were the new pattern water-cooled single-cylinder Rex machines without their supporters. There was a large crowd at the starting point at Woodlands, and also at the petrol and replenishment depots, one immediately beyond Quarter Bridge—half a mile from the start, the other at Ramsey.



B. V. Jones (on his 3½ h.p. Premier) starting from Woodlands, followed by S. C. Perryman (3½ h.p. Ariel) and H. A. Collier (4 h.p. Matchless).

The International Motor Cycle Tourist Trophy Races.—



A. Boldt (N.S.U.) and C. R. Collier (Matchless) at Cronk-ny-Mona.

A Punctual Start.

The competitors were marshalled along a by-road, and punctually at 10 a.m. the holder of the trophy—C. R. Collier—was given the word to go, and as he pushed his machine along to start he received a tremendous ovation. His engine fired promptly, and he was soon over the brow of the hill, at the foot of which lies Quarter Bridge and its right angle corner. Charlie had one thing to be thankful for, he had no dust until he caught the tail end of the procession. At half-minute intervals the remainder followed to the number of sixty, the non-starters being W. Houghton ($3\frac{1}{2}$ Rudge), E. V. Stevens ($3\frac{1}{2}$ Dot), who broke his leg in practice, W. E. Grange ($3\frac{1}{2}$ Bradbury), and J. Woodhouse ($3\frac{1}{2}$ Ivy Precision), who were disqualified for presenting their machines for examination after time, J. H. Slaughter ($3\frac{1}{2}$ L.M.C.), whose engine was not running well; J. Healy ($3\frac{1}{2}$ Rudge), who was withdrawn by Rudge-Whitworth in consequence of the unfortunate accident to V. J. Surridge; and W. L. T. Rhys (4 Bat), who damaged his machine in practice.

Before the start C. R. Collier broke his exhaust lifter wire, but was able to replace it in time, whilst J. Prendergast pulled out the nipple of the wire controlling his two-speed gear. Especially good starts were made by H. A. Collier (Matchless), Edmond (Premier), and Newsome (Triumph). C. E. Murphy and J. A. Carvill, amateur riders of Triumphs from the Green Isle, received a big cheer. H. H. Bowen (Bat) took mighty strides, slipped, and almost fell. The diminutive but intrepid Godfrey pushed slowly on the low gear for some yards, but once in the saddle accelerated in wonderful fashion.

W. Creyton (Triumph) trod on the brake in mounting, and promptly brought his machine to rest. J. L. Norton, the eldest competitor, received an extra special cheer. Philipp, in violet coloured leather costume to match his Scott, shot away from the mark at the word to go and was quickly out of sight. De Rosier's attire was even more striking, for he wore black tights, running shoes, and a light blue woollen hat. He got away well. The brothers Bashall made fine starts on their Bats.

Once there was a funny incident. A dozen competitors were spread across the road awaiting their turn to start when there was a cry that a competitor was approaching—de Rosier, someone yelled. There was a sudden stampede of competitors, marshals, judges, and timekeepers, who retreated helter-skelter to the roadside, only to find that it was a ruse, for less than 30m. had elapsed.

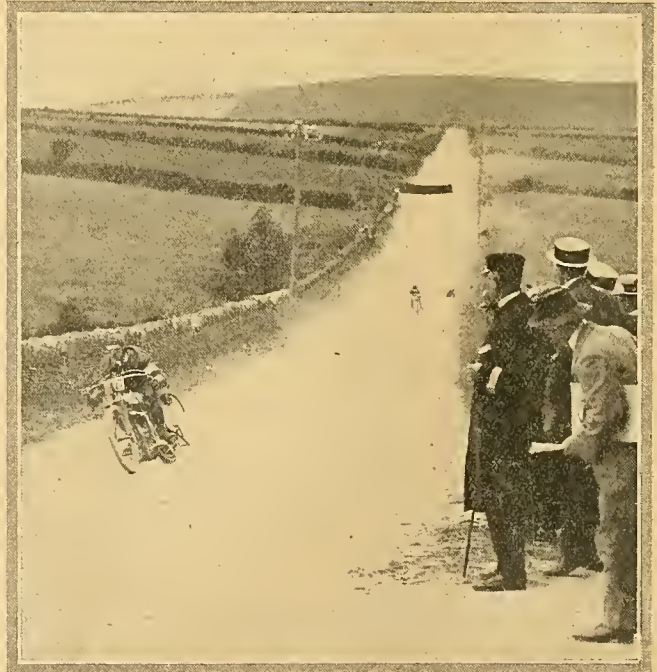
Sproston, on a Rudge, demonstrated in how short a distance an engine will fire, and the wonderful acceleration powers of a good $3\frac{1}{2}$ h.p. in combination with a three-speed

gear. The last rider to start—B. Plews ($3\frac{1}{2}$ h.p. Calthorpe)—ran for sixty yards before his engine would fire. The names of the starters and details of the machines they rode are given on a subsequent page.

Early Incidents.

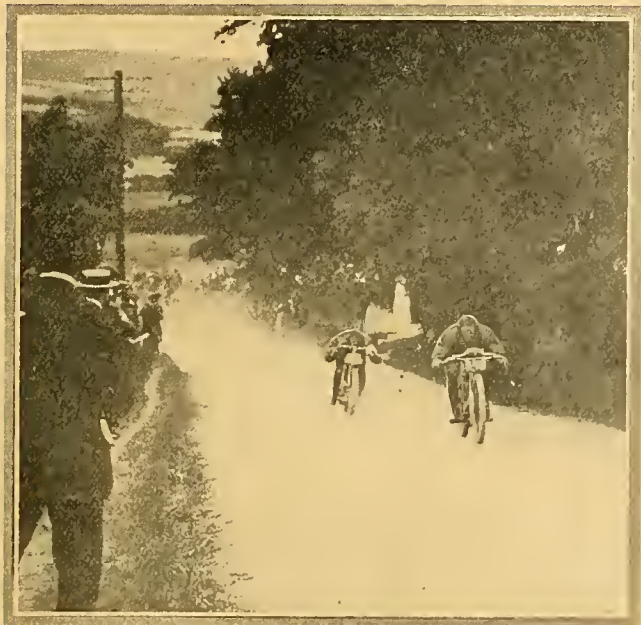
Once all the competitors were on their way, spectators turned to discussing the chances of the leaders. A. Boldt (N.S.U.) suffered a temporary stop at Ballacraigne, announced Mr. J. R. Nisbet through the megaphone. The gap between the departure of the last competitor and the arrival of the first on the second round was not great, but the moments dragged slowly. The impatience of the crowd was relieved by a message from Ramsey that No. 1 (C. R. Collier) had passed, and, shortly afterwards, eyes were strained to catch a glimpse of him drop down Bray Hill half a mile from the starting and finishing banner. The enthusiasm had certainly never been equalled in any previous race. For one thing, the race was more of an international character than any other held hitherto, for not only were the English and American champions engaged, but also a team of Germans, who were certainly going very well, and a Frenchman.

Forty-four minutes and no Collier, forty-five and still absent, forty-six and a cry went up as he swept round the Hilberry corner, and shot full speed down Bray Hill, and literally flew over the line in 46m. 33s. The course measured $37\frac{1}{2}$ miles, and it had been said that laps were covered in 43 and 44 minutes in practice, but this amateur timing was now doubted. Collier was noticeably being bumped about considerably on the rough surface at the summit of Quarter Bridge hill. A gap of two minutes, and Quentin Smith (Triumph) roared past, having completed his lap in 48m. 45s., and passed H. Rem Fowler ($3\frac{1}{2}$ h.p. Ariel). Two competitors now approached in "Indian file," and though B. V. Jones (Premier) crossed the line first, F. A. Applebee buzzed past him on his two-stroke Scott within 100 yards. O. C. Godfrey (Indian) was to the eye fastest by the press box, though his time proved to be exactly the same as C. R. Collier's—46m. 33s. Edmond (Premier) pulled up as he crossed the line, and yelled out for a knife to cut his legging adrift. De Rosier was travelling magnificently, and had picked up several places. His time was 46m. exact—the best so far. Elce (Rudge) and North (Ariel) raced down the hill neck and neck, the former crossing the line fifty yards ahead. Adamson (Triumph) was the fastest of the single-cylinders in this first lap. Weatherilt (Zenith) suffered a burst tyre, and lost some minutes replacing the tube. As Sproston (Rudge) raced



John Gibson (Rudge) and Jake de Rosier (Indian) turning off the mountain road.

The International Motor Cycle Tourist Trophy Races.—



C. B. Franklin (Indian), second place, and F. A. Applebee (Scott)
on the road to Snaefell.

past it was noticed that his toolbag had jolted open. His time of 48m. 59s. was exactly the same as Lister Cooper's, and strangely enough they started together. Alexander, on the water-cooled Rex, stopped half a dozen yards from the finishing line, and reported that his engine ball-race was damaged and squeaking. After talking with Mr. W. Williamson for a few minutes he continued.

The leaders at the end of the first lap and their times are as under :

FIRST LAP.

	m.	s.
1. Jake de Rosier (3½ Indian) ...	46	0
2. {C. R. Collier (4 Matchless-Jap) ...	46	33
{O. C. Godfrey (3½ Indian) ...	46	33
4. A. J. Moorhouse (3½ Indian) ...	47	19
5. F. A. Applebee (4 Scott) ...	47	33
6. C. B. Franklin (3½ Indian) ...	47	48

In the initial round, W. H. Bashall (Bat) stopped twice to fit new belts. T. L. Rankin (Singer) charged a wall a quarter of a mile past Sulby Bridge, and was taken to Ramsey Hospital suffering from serious injuries to the skull, besides a broken ankle. G. E. Stanley (Singer) and J. Gibson (Rudge) fell in negotiating Sulby Bridge—always a stumbling block—but immediately continued. C. E. Murphy (Triumph) suffered from plug troubles, and after using all his spares was obliged to withdraw. The ranks of the Bat were soon depleted, for H. H. Bowen damaged a front big end at Creg Willey, and though he did his best to keep going was forced to retire at Sulby. H. Martin (Singer) and R. Lord (Rex) punctured.

The Second Round.

C. R. Collier retained his position at the head of the procession, and had already passed several of the stragglers. His time was an improvement of his first circuit, but probably only the difference between a standing and flying start. Later it was reported that he had filled up with petrol at Ballacraigne, and talk of disqualification ensued, as the rules stated that petrol must only be taken at the depots at Ramsey and Quarter Bridge. H. A. Collier also mysteriously ran out of petrol in the second round, though he told us that in practice the tankful would carry him for three rounds. Unsuspecting the real trouble, he took off the petrol pipe to clear it before he traced the absence of petrol. Quentin Smith (Triumph) was only a minute or two slower than Collier, and was riding in first-rate

style. Then followed a succession of competitors, all going at high speed. De Rosier lost his first place owing to the fact that he slowed considerably, whereas C. R. Collier improved. Already there was a thinning in the ranks and the gaps were longer. Creyton was seen to pull up fifty yards from the banner and glance at his rear tyre, telling an attendant that he had punctured and stopped because he imagined the tyre was going down again. Godfrey was a few seconds slower in this lap. A rider who was going in fine style was Albert Berlie on a new model M.R. with overhead valves and bore and stroke of 63 by 80 mm. But for the fact that his three-ply leather belt pulled through at the fastener three times he would have had to be reckoned with in the results.

SECOND LAP.

	h.	m.	s.
1. C. R. Collier (Matchless) ...	1	32	29
2. Jake de Rosier (Indian) ...	1	33	13
3. O. C. Godfrey (Indian) ...	1	33	27
4. C. B. Franklin (Indian) ...	1	34	53
5. A. J. Moorhouse (Indian) ...	1	36	45
6. F. A. Applebee (Scott) ...	1	36	52

Involuntary stops were suffered by R. Lord (Rex), who cut his back tyre clean through between Crag-na-baa and Hilberry; J. R. Alexander (Indian), who fell near Willaston, cut an ugly gash in his knee, and damaged right grip control; A. Boldt (N.S.U.) fell at Quarter Bridge; Stanhope Spencer (Rudge) fell at Sulby; J. L. Norton (Norton) seized piston at Ramsey; B. V. Jones (Premier), shortage of petrol, due to leaky tank, pushed into Ramsey; W. F. Newsome (Triumph), puncture; P. Weatherilt (Zenith), puncture; Howard Smith (Triumph) changed plug. H. Collier, W. H. Bashall, and Q. Smith replenished with petrol. The Armstrong gear of F. G. Edmond's Premier refused to hold on the second and top gears, so he retired, as also A. J. Sproston (Rudge) with timing gear trouble and G. E. Stanley (Singer), who fell at the last corner on the second lap.

The Third Lap.

In lap 3 C. R. Collier again stopped for petrol, but recorded a time of 48m. 16s. At Quarter Bridge several competitors had narrow escapes, one or two running on to the pathway. P. Brewster (Norton) fell, but scrambled up again, and was off in a moment. Later his three-speed gear seized when travelling at full speed down the mountain, this and Edmond's, we believe, being the only gear troubles. Taylor dropped the end of the silencer off his Rudge, P. Weatherilt had to inflate his tyre again, Howard Smith had perforce to use a third plug, Lister Cooper ran out of petrol, and W. F. Newsome stopped for some mysterious reason.



Frank Philip (4 h.p. Scott) at full speed, just past the hairpin bend at Ramsey.

The International Motor Cycle Tourist Trophy Races.—



The winner, O. C. Godfrey (Indian), passing over Ballaugh Bridge.

near the Bungalow. Newsome first took out the plug, which was found all right, then dissected the carburettor (likewise all right), and on reassembling the engine started immediately. Frank Philipp (Scott), who was known to have covered laps in practice at 46 mins., accomplished the fastest circuit in this lap—time, 44 mins. 52 secs., equal to a speed of over 50 m.p.h.

THIRD LAP.

			h	m.	s.
1.	C. R. Collier (Matchless) ...	...	2	20	45
2.	O. C. Godfrey (Indian) ...	...	2	21	39
3.	J. de Rosier (Indian) ...	...	2	21	52
4.	C. B. Franklin (Indian) ...	...	2	23	25
5.	A. J. Moorhouse (Indian) ...	...	2	26	45
6.	Hugh Mason (Matchless) ...	...	2	29	8

The Fourth Lap.

C. R. Collier lost his lead in this lap owing to a puncture, but Godfrey recorded a very fast lap, and now led by 2m. 1s. over Franklin, who was improving, and 2m. 7s. over the former leader. On this round the great de Rosier was held up at the Ramsey control with inlet valve and plug troubles, and the delay of 20m. which ensued settled his chance, even if he had not committed a breach of the rules by procuring extra spares. W. H. Bashall (Bat) again had to replace a belt. H. Lister Cooper broke a valve near Hilberry, W. F. Newsome punctured, G. Fenton (Zenith) changed a plug, the magneto sprocket of Eric Myers's Scott slipped, whilst Frank Philipp passed with his engine running on one cylinder. He afterwards reported that one of the pistons had turned round in the cylinder. F. Mackay (Singer), who had been travelling very consistently, punctured in this lap, and W. Creyton (Triumph), last year's first



C. R. Collier (on his 4 h.p. Matchless) rounding the corner in Ramsey.

single-cylinder rider, had the compression tap blow out, and thus settled his chance.

The leaders on this round were:

FOURTH LAP.

			h	m.	s.
1.	O. C. Godfrey (Indian) ...	...	3	9	12
2.	C. B. Franklin (Indian) ...	...	3	11	13
3.	C. R. Collier (Matchless) ...	...	3	11	19
4.	A. J. Moorhouse (Indian) ...	...	3	16	12
5.	H. A. Collier (Matchless) ...	...	3	19	44
6.	J. A. Carvill (Triumph) ...	...	3	25	57

The last lap was the most exciting of the lot, for it was still anybody's race, and a short involuntary stop by any of the leaders would settle the destination of the Tourist Trophy for another year. It was to be a duel between two Englishmen, C. R. Collier and O. C. Godfrey, though both of them afterwards admitted to us that they did not know their respective positions. Could Collier pull back the time he had lost in replenishing with petrol and repairing his tyre? The suspense was an anxious one for many. "No. 1, C. R. Collier, has passed Ramsey," hawled out the holder of the megaphone. Meanwhile, de Rosier passed with still another lap to go.

A few minutes' wait and another message said that Collier was safely round Willaston Corner, which only increased the



J. A. Carvill (Triumph) and A. Boldt (N.S.U.) about to round Bray Hill corner, half-a-mile from the finish.

buzz of excitement, and in a moment or two he was seen travelling at a tremendous speed, and he flashed past the post, never having been passed. But it was noticed that his rear tyre was almost flat. Now the question was, would Godfrey remain consistent in his lap times to the end? He started about ten minutes after C.R., and with another fast lap could win. No one could tell yet as to who would win. Watch in hand, Mr. H. H. Collier, the senior of the Matchless firm, counted each minute, the crowd straining their ears to catch the distant roar of Godfrey's Indian. "Here it is," the cry went up, as Godfrey swooped round the bend and covered the remaining distance at an awe-inspiring speed, a winner for the first time by 1m. 3s. Though his mount is a foreign one, Oliver C. Godfrey is an Englishman bred and born.

The six leaders are given hereunder:

THE FIFTH AND FINAL LAP.

			h	m.	s.
1.	O. C. Godfrey (Indian) ...	...	3	56	10
2.	C. R. Collier (Matchless) ...	...	3	57	13
3.	C. B. Franklin (Indian) ...	...	3	59	52
4.	A. J. Moorhouse (Indian) ...	...	4	5	34
5.	H. A. Collier (Matchless) ...	...	4	9	42
6.	Hugh Mason (Matchless) ...	...	4	15	35



The depot at Ramsey. Lister Cooper (3½ h.p. Triumph), and F. Philipp (Scott), stop to make an adjustment.

Quite a number had not completed their fourth lap as the winners completed the full distance—187½ miles.

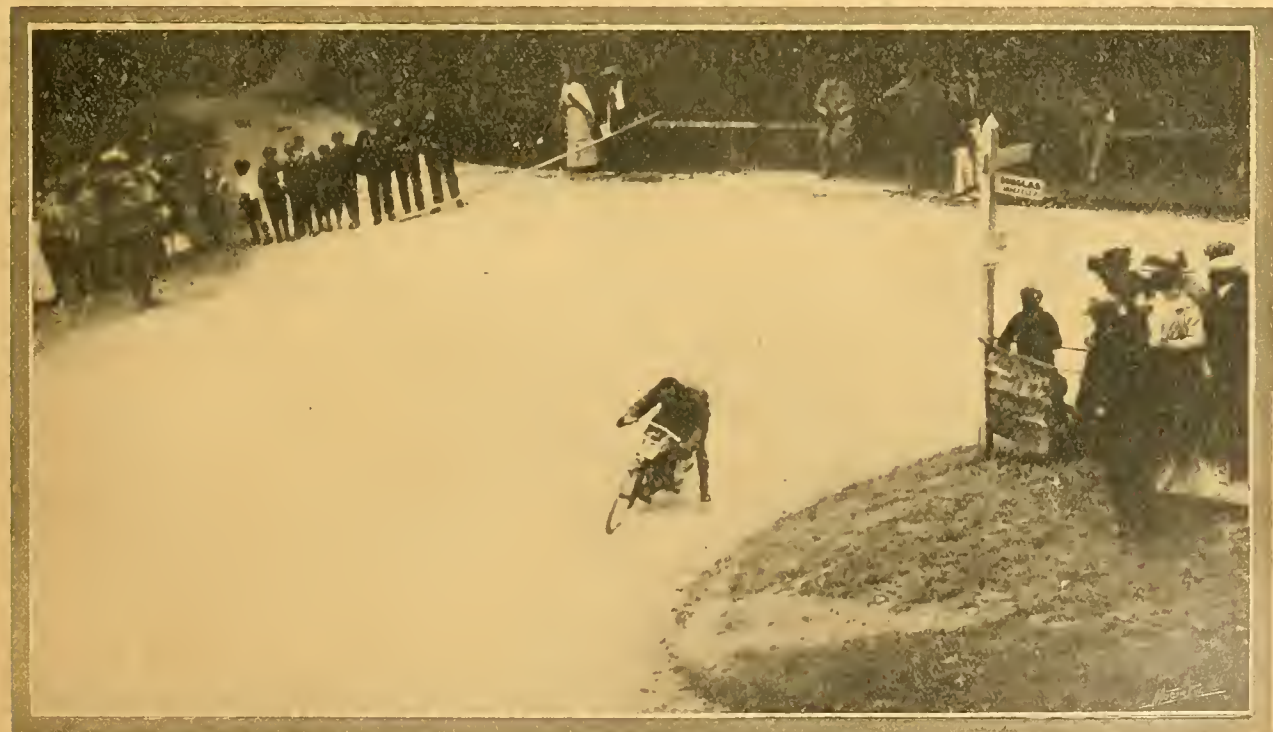
In the last lap, Howard Smith, still unfortunate, replaced a belt and the thread of his 1910 pattern carburetter stripped, which meant that he had to hold the carburetter on to the engine for some miles. Lister Cooper covered his final lap without trouble. F. P. Johnson (Matchless) had trouble on Snaefell with his variable engine pulley, which heated up so much that it was as black as the cylinders when he finished. Weatherill had another stop to inflate his rear tyre. F. Mackay fell and damaged his Singer, putting both brakes out of action, but he pluckily finished. In all there were twenty-eight survivors.

All the leaders were loudly applauded by the big concourse of spectators for their plucky exhibition, whilst willing officials rushed forward to wheel their machines off the course for the final examination.

All the engines were found to be of correct size, and we noticed particularly the good condition of the machines at the conclusion. Every part fitted beautifully after dismounting the cylinders for verification of the measurements. It was not a doubtful win. The leading machines could have stood a very much longer test despite the severity of the course, although all the leaders except C. R. Collier said that they were heartily glad when the five laps were completed.

C. R. Collier and de Rosier Disqualified.

Subsequently a protest was lodged by C. B. Franklin and A. J. Moorhouse against C. R. Collier on the grounds that he infringed one of the regulations by taking in petrol at a point other than the recognised controls. The judges—Messrs. H. P. E. Harding, Victor Hart, and Archibald Sharp—considered the protest and decided that it be



W. F. Newsome (3½ h.p. Triumph) rounding the hairpin bend near Ramsey.

The International Motor Cycle Tourist Trophy Races.—

upheld. The same fate befell Jake de Rosier for fitting new parts not carried on his machine.

It will be seen from our table of results that it was a field day for variably-gear twin-cylinder mounts, which type of machine scored heavily. The first six home had V type engines and change-speed gears. The first single-cylinder machine was a Triumph ridden by J. A. Carvill, a successful Irish rider. He used a single gear of $4\frac{1}{2}$ to 1, and experienced no trouble of any sort, except for the engine suddenly pulling up in the first round. He was well backed up by Quentin Smith, the Manxman, and H. Lister Cooper, who suffered very hard lines. G.S.

SENIOR T.T. IMPRESSIONS.

MY movable positions in the Junior T.T. had proved so satisfactory that I adopted a similar policy in the Senior, and at the start of the race stationed myself on the Ramsey hairpin. Charlie Collier was not long in appearing, and had gained 2m. on Quentin Smith, who, in turn, had left Rem Fowler behind. Harry Collier had already picked up three places, and other men who were clearly passing up through the field were Applebee (4 h.p. Scott), who had gained three places; Franklin (Indian), four places; Carvill (Triumph), four places; Godfrey (Indian), eight places; Creyton (Triumph), eight places; Moorhouse (Indian), eleven places; Philipp (Scott), fifteen places; de Rosier (Indian), eleven places; and Mason (Matchless), fourteen places. The men, like the Junior riders, showed excessive caution, only Howard Smith and Nixon having spills, and Nixon made a lightning recovery, so that he hardly lost a second; he was warmly cheered. Poor Prendergast broke the wire actuating his N.S.U. gear, and being unable to negotiate the mountain road on his 4 to 1 top gear, had thus early to retire. What I saw at this hairpin convinced me that a twin-cylinder victory was inevitable. Almost all the singles "conked" badly after negotiating the bend, and even when the knocking ceased their acceleration was not speedy. I saw very little gear changing, and it struck me that the two-speeded men were finding their low ratio too slow and their high ratio too high.

It will be remembered that in a separate hill-climb after the races last year Newsome defeated all the big twins when he was able to suit his gear to the gradient. But this year the singles were obviously over-gear for the mountain, and for some reason few of them used their low speed. I imagine that practice had shown either that the low gears were too slow, or that the high rate of r.p.m. was too severe on the engines. At any rate, only the men with multi-speed gears such as the Matchless or Zenith, appeared to go in for a change. With the twins the case was utterly different. They rounded the bend nicely, and shot off with thunderous reverberations. The Indians and Scotts performed best; the Matchless machines knocked a little in the initial stages of picking up. One great disappointment befell us, namely, the absence of Bowen on his Bat; we had trusted him for a couple of sensational laps at the least, and faintly hoped for a smashing win if he dodged Nemesis at the bad corners.

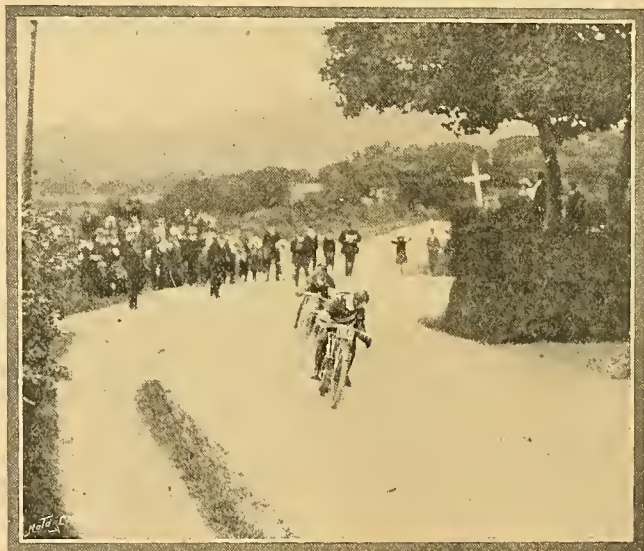
After the first lap I went down to the Ramsey depot, where the large entry had made things uncommonly busy. I had scarcely arrived before Charlie Collier roared past at phenomenal speed. His brother and Quentin Smith were close together 5m. behind him. Smith replenished his petrol tank in the record time of 24s. It was already clear that the single-cylinders were hopelessly out of the hunt, and that only the Indians and Scotts could beat the Matchless if the Colliers' proverbial luck held out. Franklin, Godfrey, Moorhouse, and de Rosier were a trifle behind Charlie Collier on nett time, as also was Philipp. The Scotts were rather handicapped by their heavy consumption of oil and petrol, and their refills were slow, and occupied 1½m. on an average. Poor B. V. Jones pushed in from the entrance to the town, having sprung a leak in his petrol tank. Luckily it was near the top, so he was able to proceed, but he had to fill up once in each lap. Here we found Murphy, who had already used up the three sparking plugs he carried, and was forbidden by the rules to borrow more. Norton presently joined him with a seized piston, and news filtered through that Rankin had been badly injured in a collision with a wall near the Sulby Hotel, and was now lying in Ramsey Hospital.

PRESENTATION OF THE TROPHY.

The trophy was presented by His Excellency the Governor-General of the Island, in the presence of a large crowd, and the winner, O. C. Godfrey, was loudly cheered. When Mr. Nisbet announced that the second was C. B. Franklin, the crowd did not hesitate to show their disapproval of the A.C.U. judges' decision to disqualify Collier, though Franklin was well received. A. J. Moorhouse, the first private owner on a twin, was vociferously cheered. Subsequently, Mr. H. H. Collier, sen., was chaired and carried around the Ball Room shoulder high, amid great scenes of enthusiasm.

Proceeding down the by-lanes to Sulby Bridge, I found poor Bowen in a heartbroken condition, his front cylinder big end having commenced to give trouble on Creg Willey, and finally collapsed at Sulby. The corner work on the ill-famed bridge was fast and good, de Rosier and the Scott team being star artists. Stanhope Spencer took a bad toss, but savagely kicked all bent parts straight, and roared off within two minutes. Johnson nearly mullered the corner, as he was bending down adjusting some detail, but he saved himself magnificently at the last minute.

Returning to the Ramsey depot, to my astonishment I found the redoubtable Jake in trouble with his footrest, rear inlet valve, and rear sparking plug. He was very shaky, and quite unfit for mechanical adjustments, and after wasting a lot of time and breaking the rules, despite official protests, by taking a nut and a plug from his attendants, he departed very late. Hard luck! One's sympathy goes out to a visitor.



Willaston Corner, a left-hand turn at right angles. F. P. Johnson (Matchless) glances round at a competitor overtaking him.

and his terrific speed and beautiful riding position had won universal admiration. J. R. Alexander had taken an ugly toss; his knee was cut, his footrests gone, and his right grip control of ignition and valve lift disorganised. John Gibson, who had previously been well up amongst the singles, lost 20m. replacing a stretched exhaust valve. Interest now centred on the Matchless-Indian duel, and great was our patriotic jubilation when Charlie Collier passed with 45s. in hand of Godfrey, as far as we could tell; but wise heads wagged ominously, for Charlie Collier had been driving furiously on the two concluding laps, though dogged by trouble, and had presumably nothing left up his sleeve, whereas Godfrey hurtled past at a greater speed, and we knew he had Collier beaten on the mountain. Ere long the—to Englishmen—mournful news came through that Godfrey had picked up 108s. on Collier between Ramsey depot and the finish; so we were left to congratulate an English victor, even if he rode a foreign machine. This should atone for Lee Evans's somewhat unlucky defeat in 1909. B.H.D.

Survivors of the Senior T.T. with their Lap Times.

No. and Rider.	H.P. and Machine.	Cyls.	Bore and Stroke.	e.c.	1st Lap	2nd Lap	3rd Lap	4th Lap	5th Lap	Total.	Gear	Trans- mission.	Remarks.
1. O. C. Godfrey ..	3 $\frac{1}{2}$ Indian	2	70 x 76	584	m. s.	m. s.	m. s.	m. s.	m. s.	h. m. s.	Indian 2-speed	Chain	Winner Senior T.T. and £40 cash.
2. C. B. Franklin ..	3 $\frac{1}{2}$ Indian	2	70 x 76	584	47 48	46 54	48 12	47 33	46 58	3 56 10	Indian 2-speed	Chain	£25.
3. A. J. Moorhouse ..	3 $\frac{1}{2}$ Indian	2	70 x 76	584	47 19	47 5	48 32	47 48	48 39	3 59 52	Indian 2-speed	Chain	£10, first private owner.
4. H. A. Collier ...	4 Matchless-Jap ..	2	70 x 64	580	47 54	52 40	49 14	49 56	49 58	4 9 42	Matchless variable ..	Belt	Gold Medal.
5. Hugh Mason ..	4 Matchless-Jap ..	2	76 x 64	580	50 48	53 34	50 42	53 16	52 15	4 15 35	Matchless variable ..	Belt	Gold Medal.
6. J. A. Carrill ..	3 $\frac{1}{2}$ Triumph	1	85 x 88	499	49 31	50 33	51 1	54 52	50 52	4 16 49	Single 4 $\frac{1}{2}$ to 1	Belt	First single-cylinder, private owner.
7. W. H. Bashall ..	4 Bat-Jap	2	76 x 64	580	57 16	50 32	51 28	49 9	49 32	4 17 57	Single	Belt	Gold Medal.
8. Quentin Smith ..	3 $\frac{1}{2}$ Triumph	1	85 x 88	499	48 45	50 16	53 17	54 11	52 11	4 18 40	Single	Belt	Gold Medal.
9. H. Lister Cooper ..	3 $\frac{1}{2}$ Triumph	1	85 x 88	499	48 59	51 53	48 10	63 21	49 52	4 22 21	Single	Belt	Gold Medal.
10. J. T. Bashall ..	4 Bat-Jap	2	76 x 64	580	53 55	53 53	54 32	52 16	50 20	4 24 56	Single	Belt	Gold Medal.
11. H. Reed	4 Dot-Jap	2	76 x 64	580	54 49	56 25	54 20	53 21	53 50	4 32 45	P. and M.	Chain	Gold Medal.
12. W. F. Newsome ..	3 $\frac{1}{2}$ Triumph	1	85 x 88	499	51 31	60 14	52 36	57 25	53 20	4 35 6	Single	Belt	Gold Medal.
13. E. C. North ..	3 $\frac{1}{2}$ Ariel	1	86.4 x 85	498	52 22	54 16	68 1	53 46	55 29	4 43 45	Armstrong 3-speed ..	Belt	Matchless variable
14. E. P. Johnson ..	4 Matchless-Jap ..	2	76 x 64	580	65 45	52 15	53 43	50 30	58 43	4 44 37	Armstrong 3-speed ..	Belt	Matchless variable
15. B. V. Jones ..	3 $\frac{1}{2}$ Premier	1	85 x 88	499	61 32	56 26	53 43	66 24	58 33	4 46 9	Armstrong 3-speed ..	Belt	Matchless variable
16. P. Weatherill ..	3 $\frac{1}{2}$ Zenith-Gradua ..	1	85.5 x 85	499	61 48	51 18	71 12	51 13	51 6	4 46 37	Gradua variable ..	Belt	Gradua variable
17. J. R. Haswell ..	3 $\frac{1}{2}$ Triumph	2	85 x 88	499	58 18	57 5	68 5	54 15	4 51 46	4 51 46	Single	Belt	Single
18. J. R. Alexander ..	3 $\frac{1}{2}$ Indian	2	70 x 76	584	47 52	51 54	51 32	90 33	56 10	4 58 1	Indian 2-speed	Chain	Chain
19. E. Mackay	3 $\frac{1}{2}$ Singer	1	85 x 88	499	52 54	67 17	69 27	57 25	57 57	5 5 0	Single	Belt	Belt
20. N. F. Holder ..	41 Blumfield	2	67 x 83	583	52 54	57 47	52 12	98 6	55 7	5 5 26	Single	Belt	Single
21. W. S. Spencer ..	3 $\frac{1}{2}$ Rudge	1	85 x 88	499	57 47	52 12	98 6	55 7	52 35	5 12 47	N.S.U. 2-speed	Belt	N.S.U. 2-speed
22. John Gibson ..	3 $\frac{1}{2}$ Rudge	1	85 x 88	499	65 27	60 42	74 24	59 12	62 13	5 16 37	Rudge variable	Belt	Rudge variable
23. A. Boldt	3 $\frac{1}{2}$ N.S.U.	1	85 x 88	499	53 48	65 9	64 13	60 18	81 2	5 21 56	N.S.U. 2-speed	Belt	N.S.U. 2-speed
24. Howard Smith ..	3 $\frac{1}{2}$ Triumph	1	85 x 88	499	53 48	62 39	62 21	74 54	85 14	5 24 30	Single	Belt	Single
25. A. Berle	4 M.R.	2	63 x 80	499	51 43	62 39	62 21	74 54	85 14	5 36 51	Single	Belt	Single
26. F. A. Applebee ..	4 Scott (2-stroke) ..	2	74 x 62	531	47 33	49 19	79 13	67 1	99 52	5 42 58	Scott 2-speed	Chain	Scott 2-speed
C. R. Collier	4 Matchless-Jap ..	2	76 x 64	580	46 33	45 56	48 16	50 34	45 54	3 57 43	Matchless variable ..	Belt	2nd in order of speed, but disqualified.
J. De Rosier	3 $\frac{1}{2}$ Indian	2	70 x 76	584	46 0	47 13	48 39	62 9	55 40	4 29 41	Indian 2-speed	Chain	11th in order of speed, but disqualified.

The remainder completed laps as follows :

FOUR LAPS.

H. Rem. Fowler (3 $\frac{1}{2}$ h.p. Ariel), Armstrong 3-speed gear, belt, single-cylinder.
 S. C. Perryman (3 $\frac{1}{2}$ h.p. Ariel), Armstrong 3-speed gear, belt, single-cylinder.
 W. Johnson (4 h.p. Matchless-Jap), Matchless variable gear, belt, twin-cylinder.
 K. Cassatt (3 $\frac{1}{2}$ h.p. N.S.U.), N.S.U. 2-speed gear, belt, single-cylinder.
 *F. Philipp (4 h.p. Scott), Scott 2-speed gear, chain, twin-cylinder.
 W. Johnson (4 h.p. Matchless), Matchless variable gear, belt, twin-cylinder.

THREE LAPS.

Eric Myers (4 h.p. Scott), Scott 2-speed gear, chain, twin-cylinder.
 Vernon Taylor (3 $\frac{1}{2}$ h.p. Rudge), Rudge variable gear, belt, single-cylinder.
 W. Croyton (3 $\frac{1}{2}$ h.p. Triumph), single gear, belt, single-cylinder.
 W. H. Elce (3 $\frac{1}{2}$ h.p. Rudge), single gear, belt, single-cylinder.
 P. Brewster (3 $\frac{1}{2}$ h.p. Norton), Armstrong 3-speed gear, belt, single-cylinder.
 J. W. Adamson (3 $\frac{1}{2}$ h.p. Triumph), single gear, belt, single-cylinder.

TWO LAPS.

R. Nixon (4 h.p. Matchless), Matchless variable gear, belt, twin-cylinder.
 G. Fenton (3 $\frac{1}{2}$ h.p. Zenith-Gradua), Gradua variable gear, belt, single-cylinder.

ONE LAP.

F. C. Edmond (3 $\frac{1}{2}$ h.p. Premier), Armstrong 3-speed gear, belt, single-cylinder.
 J. L. Norton (3 $\frac{1}{2}$ h.p. Norton), Armstrong 3-speed gear, belt, single-cylinder.
 R. Drechsler (3 $\frac{1}{2}$ h.p. N.S.U.), N.S.U. 2-speed gear, belt, single-cylinder.
 P. Butler (4 h.p. Dot), P. and M. 2-speed gear, chain, twin-cylinder.
 J. Lang (4 h.p. Matchless-Jap), Matchless variable gear, belt, twin-cylinder.
 A. H. Alexander (3 $\frac{1}{2}$ h.p. Rex), single gear, belt, single-cylinder.
 F. Mackay (3 $\frac{1}{2}$ h.p. Singer), single gear, belt, single-cylinder.
 B. Plews (3 $\frac{1}{2}$ h.p. Althorpe), two-speed gear, chain and belt, single-cylinder.
 R. Lord (3 $\frac{1}{2}$ h.p. Rex), single gear, belt, single-cylinder.

Riders not mentioned did not complete a single lap.

* Fastest lap in third circuit, time 44 min. 52 sec.; speed 50 $\frac{1}{2}$ miles per hour.

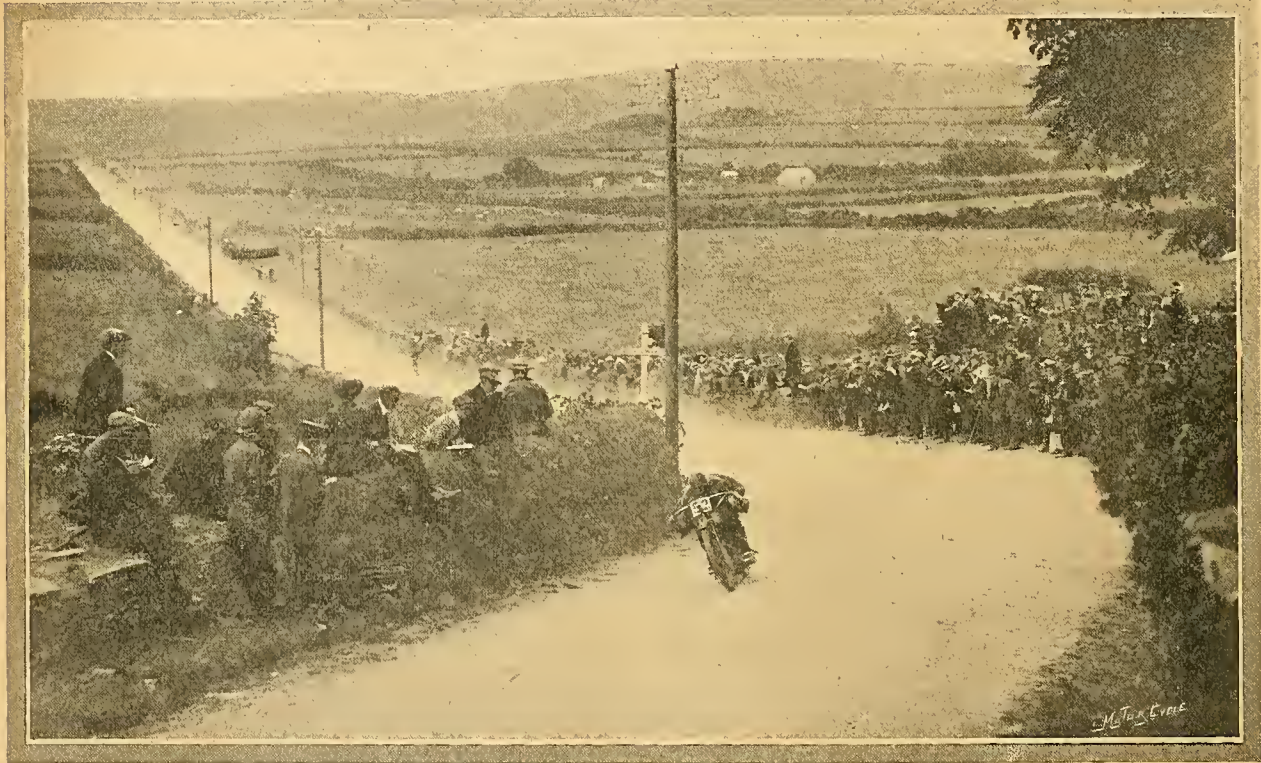
THE WESTERN SECTION OF THE COURSE.

IN order to observe the effect of Creg Willey hill on the competitors during the opening round, I took my station near Cronk-y-voddy cross roads, where a clear view of the course can be obtained for about half a mile. At 10.15 C. R. Collier (Matchless) came up the gradient a great deal slower than would be expected. Exactly one minute afterwards Quentin Smith (Triumph) went by, preceding Rem Fowler (Ariel) and Jones (Premier). Obviously, the gradient appeared to have a marked effect on all the machines, and very few passed at any exceptional speed. The Matchless, Scotts, and Indians appeared to the best advantage. Competitors passed at very short intervals, and this added to the interest from the spectacular point of view: frequently there were three men in sight at the same moment. The peculiar sitting position of the N.S.U. riders was most noticeable, and must have proved anything but comfortable. De Rosier passed hotly pursued by Lang (Matchless), but neither gained any ground

Being desirous of witnessing some fast cornerwork, I journeyed by the old course to the corner before Kirk-michael. Here some of the finest riding could be seen, as a skilful man could negotiate the turn "all out," and in this respect no one equalled Philipp and Applebee on their Scotts. Approaching the corner with their smooth peculiar hum, these machines swung out, tilted inwards, their rider's leg scraping the ground, and went by with a swoop wonderful to behold.

How much can be gained at corners was clearly demonstrated, as the leading men invariably took them with as little fuss as possible, while those less fortunate, or less practised, cut out too long, slowed down, and finally went wide.

The best at this corner, besides the Scott riders, seemed to be Godfrey, Franklin, and de Rosier on Indians, C. R. Collier (Matchless), Gassert (N.S.U.), and Carvill (Triumph). The sporting instincts of the spectators were aroused when



F. Stanhope Spencer (Rudge) leading, and J. T. Basham (Bat) rounding Hillyberry Corner. Note the straight open stretch and the dust.

during the time they were in sight. Rankin on his Singer provided a momentary thrill by showing a horrible wobble, but eventually managed to get straight again just before disappearing from view.

The riding position on the Rex machines appeared to be much lower than that on any of the others, and at a distance they presented the curious aspect of riderless run-aways.

Fenton's Zenith was running badly, for it could be heard coming slowly up the rise, and it passed in a hesitant mood, while its rider vigorously flooded the carburetter. Apparently he overdid it, for he stopped a little way further up, eventually restarting in clouds of black smoke.

Whilst people were waiting for the tail end of this round an impromptu entertainment was provided by the antics of a bull, which was being led by fully eight yards of rope, one end of which was attached to its horns, whilst it was accelerated from behind by two men with sticks. The animal invaded the course with its guardians in tow, and refused to be turned off, until the combined force of marshals, special constable, and crowd ejected it, and saved what might have been a very dangerous situation.

Lang (Matchless) and Haswell (Triumph) rounded together, the former getting the lead a short distance further down the village. Butler appeared to be enjoying some private and personal joke, for his countenance betrayed a wide and appreciative grin as he passed.

From further down the road, actually in Kirkmichael itself, the spectacle was one of pure speed, without any of the excitement occasioned by a corner. Newsome's Triumph roared by very fast; Reed's Dot appeared slower, but not a whit less noisy, and Gibson's Rudge with its particular exhaust note passed well, jumping a little under the influence of a particularly vile piece of road. Mason (Matchless) and Alexander (Indian) came by in grand style, the latter seeming rather the faster. It was at this point that a rumour came through, fortunately untrue, that Alexander (Rex) had smashed into Sulby Bridge, and that he was badly hurt.

Thrills at Ballig Bridge.

One of the most sensational parts of the course is Ballig Bridge, and I arrived there just as Brewster (Norton) came over, jumping the front wheel only. During the

The International Motor Cycle Tourist Trophy Races.—



C. R. Collier (Matchless)—who finished second but was disqualified—travelling down Bray Hill at 70 m.p.h. A large crowd congregated at this point.

second round Alexander (Rex) shed his belt in mid-air at Ballig, and lost valuable seconds thereby. Taylor (Rudge) lost the end of his silencer in the same place during the jump. Quite the most awe-inspiring passage was that of Philipp (Scott), who came up to the bridge all out, left the ground a clear foot, and landed with a tremendous bump some six yards ahead. Most riders shut off and reduced the jump to a minimum, especially the N.S.U. men. Collier and De Rosier, who were loudly cheered,

provided fair jumps, which resulted in blood-curdling wobbles, while much interest and sympathy was aroused for J. R. Alexander, whose knee was seen to be badly cut and his leg dangling in a nasty position.

At all three points the race was full of incident, which in many cases bordered on the sensational. S.H.D.

DOWN THE MOUNTAIN.

HAVING left my machine at Hilberry, Noel Drury and I set off to tramp up the mountain with a view to seeing how the machines fared a mile or two above Keppel Gate; with plenty of time in hand we made ourselves as useful as possible collecting puncturiferous articles off the road—by no means a light task, as the yield generally panned out at about a handful of hairpins, ends of telegraph wire, horseshoe nails and other hardware, per hundred yards. Arrived at a point where the machines could be discerned on the sky-line a good mile away we awaited the coming of the leader with some little excitement. A puff of dust on the hillside and the faint roar of an engine indicated that someone was coming along, and in a few moments C.R. was roaring past us “all out,” and a moment later was sweeping out of sight down towards Keppel. At this point C.R.’s time was 38m.—very good going indeed—but Quentin Smith’s performance—he was next along in 40m.—was perhaps even more admirable, and it was quite clear from the way he took the bends that he had learnt the course to a hand’s breadth. The same time was done by H. A. Collier, who, however, was bettered to the extent of half a minute by Godfrey. The Triumphs appeared to be going exceedingly well, and were picking up place after place in a remarkable manner; for instance, Lister Cooper, starting 61st, was the 31st rider past me, and Haswell, who started 56th, the 41st. De Rosier managed to pick up twenty places, and so did Berlie, who rode the 4 h.p. M.R. in the most amazingly clever manner. The finest performer here, however, was Frank Philipp, whose Scott just slid down the gradient at about 70 m.p.h. as easily and silently as if the rough road had been a smooth wooden track. Applebee and Myers also came along at a silky mile a minute, but Philipp, smartly attired in purple leathers, was undeniably the “star.”

The corner below this point is decidedly deceptive. It is really one that, although on the down gradient, can be taken “full bore,” in approaching it, it is almost impossible to persuade oneself that one is not going clean over the bank and down the side of the mountain. Ifere it was that the value of diligent practice made itself felt. Berlie went



O. C. Godfrey crossing the finishing line on his 3½ h.p. two-speed Indian. His average speed was approximately 47½ m.p.h.

The International Motor Cycle Tourist Trophy Races.—



ALL SMILES. O. C. Godfrey, the winner, with Mr. & Mrs. W. H. Wells.

round very warily with much cutting out (only for the first circuit, however), and J. T. Bashall lost seconds by dropping down to quite a trot for it, but De Rosier, although having a sort of wavy roll on, occasioned by the trickily puffy wind, roared away around it in regular flying kilometre style. Adamson, North, Elce, Norton, and J. R. Alexander came along in a bunch, and these men deserve the greatest credit for the clever way in which they sorted themselves out in a long string before taking the bend. Haswell and A. H. Alexander also had a fine long neck and neck struggle, which lasted, I was afterwards told, almost to Hilberry. There was, thanks to the rough surface, a good deal of rolling and dodging, about the most notable performance in this respect being by Holder.

At Keppel Gate.

This is one of the most exciting points on the course. The road, after sweeping round a wide curve, drops sharply down to Crag-na-baa Hotel, the turn at Keppel being made all the worse by the fact that it is partially obstructed by the rails which support the gateposts, and these, by the same token, considerably obstruct the view. This is the sort of thing which puts A. J. Moorhouse on his mettle, and he just galloped down the hill and whipped through the gate, bouncing and bumping over the road inequalities with a look on his face as though he were at last in his happiest element. The Scotts, as usual, made no more fuss than if they were flying above the road instead of rolling along it. Godfrey put in some tremendous speed. Adamson, misjudging the curve at Keppel Gate, swerved across the road into the turf-covered wall, and everybody expected to see a few dusty somersaults. However, he made a most magnificent recovery when it seemed quite impossible for anything but a smash to happen, and a moment later was going as merrily as ever and just as fast. Hugh Mason got a bad wobble on just above the turn at Crag-na-baa Hotel by putting on his foot brake too suddenly, but a little dexterity soon enabled him to right himself again.

Judging by the crowd that was assembled here, the locals evidently regarded this as a great point of vantage, and indeed there was a good deal of sensational riding to be

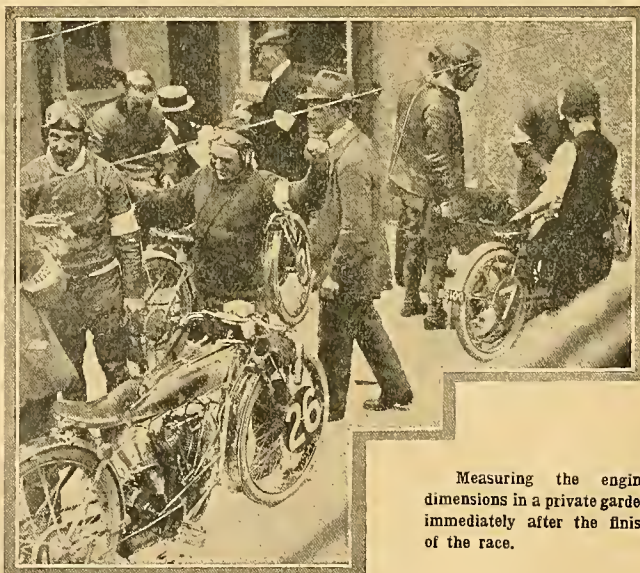
seen. The German N.S.U. team put in some fine corner work, adopting the lean-in-machine lean-out-rider principle. Stanley and C. R. Collier arrived neck and neck, came round the corner in single file, and then proceeded to go in for a hot scrapping match down the hill, in which the honours, for the time being, went to the single-cylinder. Sproston, coming wide, had a near shave for the wall, and the great Jake and F. A. Applebee put up a fine match, which showed that as far as speed was concerned they were as nearly as possible equal. Applebee was, however, easily the quicker round the turn.

A little lower down I came upon Lord looking down his nose at a tyre that was cut, evidently by a sharp stone, clean round from bead to bead, and quite beyond any temporary patching up. Mason's Matchless appeared to cease firing for a short time, probably owing to a stopped-up jet, for the rider's vigorous float-tickling got it to fire again, and there appeared to be no recurrence of the trouble. Johnson's Matchless presented a peculiar appearance, as the back mudguard was broken, and dancing about upon its supports gave the appearance that the whole machine was taking spasmodic jumps.

At Hilberry.

An exciting bit of speed work was seen here when Jones, Franklin, and de Rosier came down the long straight all together and at a huge speed. The first-named held on with full throttle right through, and, whipping past the others just before the corner was reached, negotiated the turn in fine style and with a wonderful spurt. W. H. Bashall was also prominent here, and flung himself round with a look about his chin that said, "Finish, at all costs." As for Berlie on the M.R., he proved quite the most wonderful corner-man in the race, and was perceptibly faster at this point than any of the others. Leaning over at an extraordinary angle, he went round as though no corners had any terrors at all and cheerily waved his hand to me. His ovation was tremendous, and everyone at Hilberry would have liked him to finish high up. His machine, by the way, weighs only 120 lbs. Lister Cooper stopped on his fourth lap with a broken exhaust valve and made a smart replacement, only occupying six minutes in the process. It was no surprise to him to experience further trouble, for ill-luck dogged him throughout. C. R. Collier, suffering from an almost flat punctured tyre, took the corner in his last round in a decidedly alarming manner and rolled considerably. Brewster arrived with his gear seized up, but eventually got away with the belt rim spokes strapped to the wheel spokes.

W.G.A.



Measuring the engine dimensions in a private garden immediately after the finish of the race.

The International Motor Cycle Tourist Trophy Races.—

How the Winner Fared.

Godfrey's success was an extremely popular one, and his face beamed with joy on being informed of his success. W. H. Wells seized him by the arm and paraded past the crowd at the enclosure, amid cheers from the spectators. The race was well won, but it had been a terrible strain on the riders.

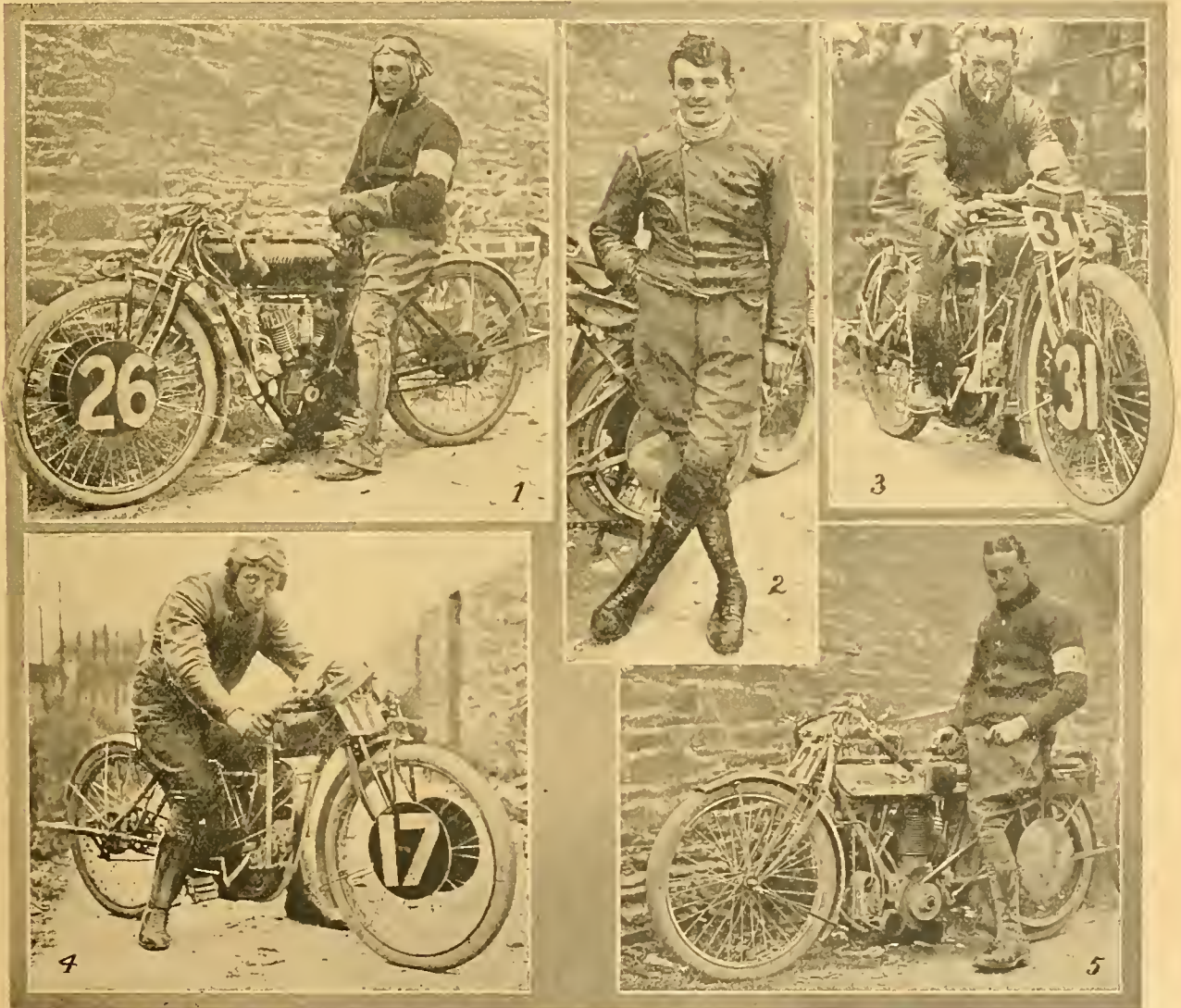
Godfrey won a most uneventful T.T., having practically no enforced stops at all. He filled up with petrol at the end of the second lap, but had no other occasion to visit the depots. The Indian mechanical oiler worked perfectly, and it was only on the last lap that the hand pump was used as a measure of precaution, as, at the Ramsey hairpin, C. E. Murphy had signalled to Godfrey the position he lay in by holding up a single portentous finger. Godfrey was not aware or had any idea of the positions he held during the race up to that point, and henceforward the speed was piled on, the machine not having previously been opened to the last notch. The low gear was used practically only for the hairpin bend on Snaefell and for picking up after the "gooseneck."

There were only two incidents of any note. A sparrow flew into the driving chain near Sulby, and got badly mangled, causing the breakage of eight chain rollers, and afterwards Godfrey had a narrow squeak passing another competitor near Crag-na-Baa. The man in front was on his wrong side, and Godfrey had to go wide over some very rough ground. His only bit of scrapping was with H. A. Collier, whom he managed to pass between Quarter Bridge and Crosby.

An hour after the finish, when other competitors were still encircling the course, Godfrey was in bed in peaceful slumber.

The party of Dutch motor cyclists who visited the island especially for the T.T. Races attracted much attention. They all carried tiny flags on the handle-bars.

A half-crown sweepstake was organised in connection with the T.T. by the A.C.U. officials at the Sefton Hotel, the pool being £50. V. A. Holroyd drew the winner and received £25; Owen Clegg second, £15; and C. H. Bramley third, £10. Ten per cent. of the total was deducted as a contribution to the Douglas Hospital.



A GROUP OF WINNERS.

1. O. C. Godfrey (3½ Indian), winner of the Tourist Trophy. Godfrey's time was 3h. 56m. 10s., which equals a speed of 47½ m.p.h.

4. C. B. Franklin (3½ Indian), who upheld the honour of Ireland and was second, only 3m. 49s. slower than the winner.

2. Quentin Smith (3½ Triumph), second of the single-cylinder riders to finish.

3. A. J. Moorhouse (3½ Indian), a popular Macennia, third in the race.

5. J. A. Carvill (3½ Triumph), first single-cylinder. Carvill's time was 4h. 16m. 49s., equal to a speed of 43½ m.p.h.

The Kilometre Speed Trials on Tuesday.

The flying kilometre trials were run off on Douglas Promenade in a depressing drizzle, and in the presence of fully 40,000 spectators. The wet made the concrete track extremely tricky, and the officials wisely cancelled the second half of the programme in which the competitors were to take a return run in the opposite direction. Notably Harry Martin lost a good deal of time through the rather haphazard manner in which the signal that the competitors had passed the finishing line was given. De Rosier made a good burst of speed, but was never all out, and he started cutting out a hundred yards before the line. In stopping he had to correct a decided wobble.

The times were as follow:

CLASS B.

	Time.	m.p.h.
D. C. Bolton (2 Martin-Jap) ...	39s.	57.35
H. V. Colver (2½ Enfield) ...	43½s.	51.54
P. Weatherill (2½ Zenith-Gradua) ...	44½s.	50.6

CLASS C.

J. T. Bashall (4 Bat-Jap) ...	35½s.	63.34
W. H. Bashall (4 Bat-Jap) ...	35½s.	62.48
S. A. Newman (3½ Ivy-Precision) ...	36½s.	61.45

CLASS D.

J. De Rosier (7 Indian) ...	29½s.	75.57
H. D. Shaw (7 Indian) ...	31½s.	70.34
J. J. Cookson (7 Matchless-Jap) ...	36s.	62.13

OUR ARTIST'S IMPRESSIONS OF THE TOURIST TROPHY RACE.



CLUB NEWS.

Oxford M.C.C.

The hill-climbing competition advertised to take place at Kop Hill on Saturday has been postponed.

Glasgow M.C.C.

The results have now been declared for the twelve hours' trial, which was held on June 24th. The following qualified for gold medals:

	Marks lost.
H. W. Ballardie (3½ Triumph) ...	0
R. M. McCulloch (3½ Triumph) ...	3
W. Deans (3½ Rudge) ...	1
G. W. Orr (3½ Ariel) ...	3
F. Blair (6 Zenith) ...	0

York County M.C.C.

The second Quarterly Trials were held on Saturday last over a 94 mile course to Austwick and back. The following made non-stop runs, qualifying for silver medals: W. E. Asquith (1910 Triumph), R. W. Glenn (1911 Triumph), J. C. Mitchell and Miss J. Mitchell (1911 3½ h.p. Premier and sidecar).

Derby and District M.C.C.

In the flexibility hill-climb held on Hazlewood Hill on Saturday last, and decided upon greatest difference in fast and slow times, the winner proved to be A. Ainsworth (3½ Rudge), E. G. Boissier (3½ h.p. H. and M.) being second, and C. Foley (3½ h.p. Bat) third.

Club News.—

Liverpool A.C.C.

On the 9th inst., there will be a speed-judging contest for ladies in sidecars, meet at the Stage, at 11 a.m., while the following week, on the 16th, a run to Kendal has been arranged, meet Sefton Arms, at 10 o'clock.

North Middlesex M.C.C.

The open hill-climb on July 15th includes a division for amateurs only, and also another for ladies, so that a bumper entrance should be assured. Entries close July 9th, and further particulars can be obtained from A. V. Deacock, "Sonning," Highgate Avenue, N.

Cork and District M.C.C.

A gymkhana was held at Garryvoe Strand on June 22nd, but owing to the wild and wet weather only two events could be run off. Results:

Tilting at the Ring.—1. P. A. Egan (3½ h.p. Triumph); 2. M. J. Chambers (3½ h.p. Rudge).

Flying Half-mile.—1. R. S. Russell (3½ h.p. T.T. Matchless), 35½s.; 2. L. Dobbin (3½ h.p. T.T. Rudge), 36s.; 3. R. Atkinson (3½ h.p. Rudge), 36½s.

Nottingham and District M.C.C.

His Grace the Duke of Portland has again kindly lent the track at Clipstone for the next meeting on August 19th. There will be seven open events for various classes of machines, and entries close on August 10th. Particulars from J. King, 8, Shakespere Street, Nottingham.

Willesden Green C. and M.C.C.

There will be a reliability trial and speed-judging contest on July 16th, the course decided upon being from headquarters to Coventry and back. All entries must be sent to J. C. Ball, 166, Chapter Road, Willesden Green, before July 10th. The first and second prizes are a pair of Kempshall tyres and a Whittle belt respectively, presented by the manufacturers.

Pontefract M.C.C.

The hill-climb for the Robson trophy took place at Minscliffe last Thursday, the winner being Col. J. R. Shaw, J.P., the club's president, on a 4 h.p. Scott. W. Bentley and H. Marshall, riding 3½ h.p. Triumphs, tied for the second place. Fastest time, T. Dunk (T.T. Triumph). A knock-out competition was won by A. H. Burnell (T.T. Triumph).



A group of competitors in the Sydney M.C.C.'s hill-climb at Eastwood, N.S.W.

THE COAST RIDE.

IN our last issue we briefly referred to the completion of F. Dover's ride round the coasts of England, Scotland, and Wales. Exigencies of space prevented the publication of many interesting details last week, and doubtless many of our readers will be interested to read a few additional particulars which it was impossible to include in the daily reports sent to us by post, these naturally being of the shortest possible description, owing to the fact that they had to be hurriedly written at the completion of the day's journey and posted the same night.

State of Machine and Accessories.

When our representative strolled round to Lawrence's Hotel, Liverpool, on June 26th, at noon, and in a deluge of rain, Dover and Sawyer (his riding companion for the last four days) rode into the Square looking fit and well. The 3½ h.p. Premier, beyond being very dirty (it had not been cleaned during the whole of the ride), was in excellent order. The footrests were bent, the speedometer out of action, and the horn dented, but nothing else was amiss.

With regard to the tyres, the front one still had the Clincher Dreadnought pattern on the tread, and had been punctured once. The back cover had been replaced at Bridlington. There were eight patches on the back air tube, but both tubes were still in order. Two Lyso belts were carried, the new one being used during the wet weather as a precaution against belt slip. The old one still looked good for a lot of wear.

With regard to the seals, those on the engine and on the frame were intact, but that on the front wheel forks had broken off through vibration. Those on the back wheel forks had to be removed to replace the tyre. With regard to the engine, Mr. Dover informs us that the sparking plug was never taken out or the exhaust valve removed, and it was pulling as well during the last twenty miles as at the commencement. No attention was paid to the carburetter, and no tools were used on this portion of the mechanism, neither did the Bosch magneto receive any attention whatever, except for lubrication at different periods.

Dover's tales of the North-west of Scotland will not encourage the motor cycle pastime there, for he says he

averaged one hundred dismounts per day, most of them to enquire the way. The usual answer to this query was "Nae sae far," an estimate that often proved to be thirty miles. Time moves so slowly in these districts that the inhabitants have no idea of expedition as we know it. On one occasion a funeral party was disturbed, who were carrying all their food and utensils for a long journey, and they could not have travelled less than fifteen miles on foot from the nearest place from which they could have come. In many places the crofters ran away when they heard the machine's approach, and in some of the villages the inhabitants were so frightened by the engine explosions that they would not go within ten yards of the machine.

In some of the wild parts of Scotland the sheep ran in front of the machine for miles till they could run no longer, when they lay down exhausted, and the rider was able to pass. The horses in some instances ran till they were tired out, and then, pressing their heads into a bush or hedge, trembled until the machine had passed.

At one place in Scotland, after suffering eighteen spills in one day owing to the loose state of the road surface, Dover decided to cut that bit out and take the steamer to Thurso. Upon making enquiries, he was told that the steamers ran often, but this proved to be once a month, and as the steamer had left three days before his arrival he was compelled to finish the journey by road.

Ready to Go Again.

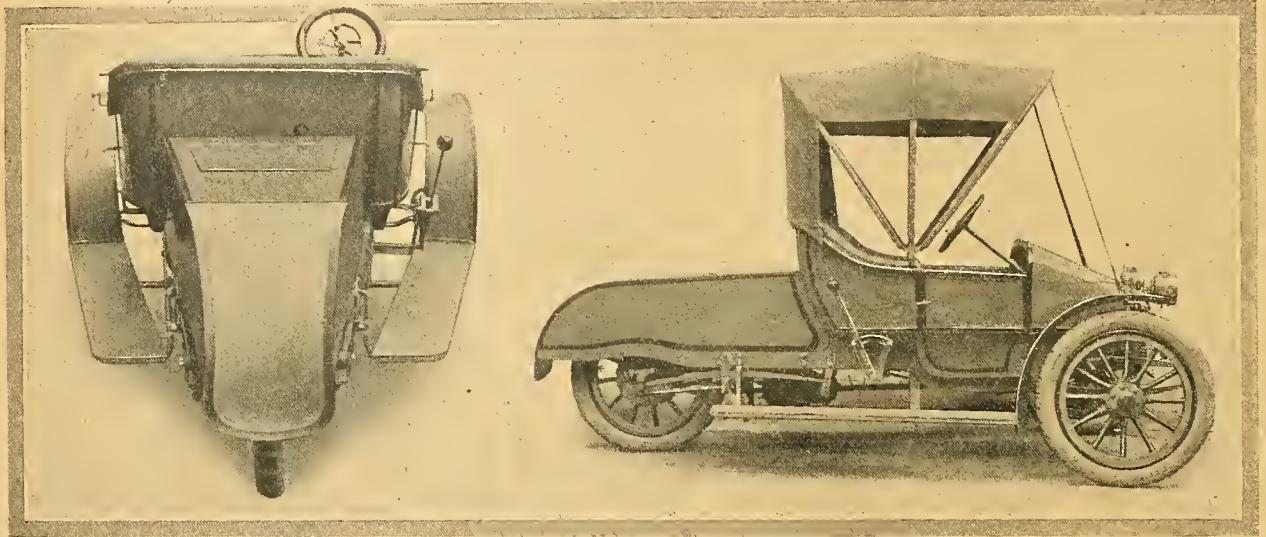
Dover told us that, with the exception of the North-west of Scotland, he was ready to go over the whole journey again. He summarises the whole trip by saying that he would not undertake it again without a companion. The long journey is too lonely, and the long distances mean all riding and sleeping, with no time to look round and admire the various points of interest en route. For a long tour of this description, Dover thinks that one hundred miles per day is quite sufficient, provided one takes an intelligent interest in all the architectural and scenic beauties of the route.

THE TITAN SOCIABLE CARETTE.

THE little three-wheeler of which we give two illustrations was lately brought before our notice by the makers—the Titan Motor Wheel Co., Far Gosford Street, Coventry.

Outwardly this vehicle is built very much on car lines, being fitted with a hood and artillery wheels. Every care has been taken by its makers to provide for the comfort of the passenger and driver, and the Titan is said to be capable of a speed varying from four miles to forty miles per hour.

effected by threequarter pitch roller chains. The change of speed is controlled by two pedals, and whichever gear is required the pedal for same must be depressed and held down by the foot. When both pedals are released free engine results. Only very slight pressure is required to keep the pedals down, and as they are placed in a comfortable position they serve as footrests. The frame is made of armoured wood laterally supported by steel cross members. Laminated elliptic front springs and grasshopper



A rear view of the Titan carette.

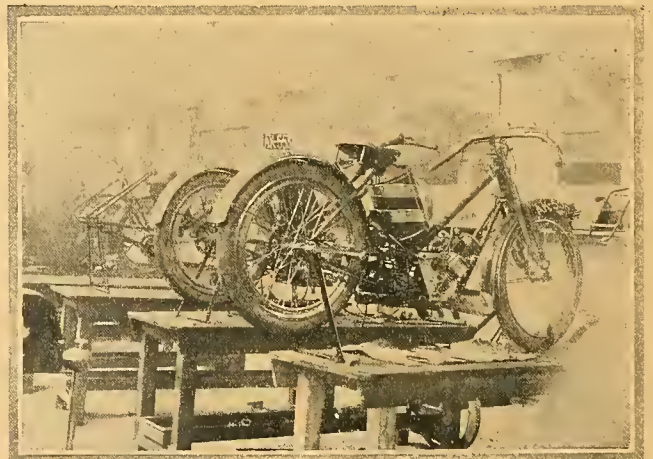
The three-wheeler, of which we give a description, ready for the road.

The motive power is a single-cylinder $5\frac{1}{4}$ h.p. water-cooled engine with B. and B. carburetter; the ignition is by high tension Ruthardt magneto. The epicyclic two-speed gear box is bolted to the crank case and driven by gear wheels from the engine crankshaft, and the speeds provided are in the ratio of 6 and 9 to 1 and transmission to the rear wheel is

inverted rear springs ensure easy riding. The steering is by rack and pinion, and the wheelbase is six feet, the track being four feet. Two internal expanding brakes are fitted to the rear wheel only, one operated by foot and the other by hand. The engine is controlled by the throttle only, the lever for which is on the steering column.

REMOVING CARBON WITHOUT DISMOUNTING CYLINDER.

A FEW weeks ago we had an opportunity of witnessing a demonstration of the Watkins patent internal carbon deposit remover, the results obtained being excellent in every way. The apparatus consists of a cylinder of oxygen, connected to which, by means of a flexible connection, is a length of copper tubing. The valve caps being removed and piston placed at top of compression stroke (both valves closed and cylinder walls swept by piston now being covered), the oxygen is forced into the cylinder and a light applied. The terrific heat obtained completely burns away all carbon deposit in a very short time. Messrs. T. J. Sully and Co., of Old Town, Clapham, are, we understand, the only people possessing the necessary appliances, and are willing to clean a single-cylinder motor cycle engine thoroughly by the above method in under fifteen minutes at quite a nominal charge. What a boon this invention will be to the motor cyclist who will be able to obtain a clean engine in so short a time with practically no trouble and at a low figure.



A part of the erecting shop at the Scott Engineering Company's works. The three machines in course of erection are the T.T. models ridden by E. Myers, F. A. Applebee, and F. Philipp in the Senior Race on Monday.

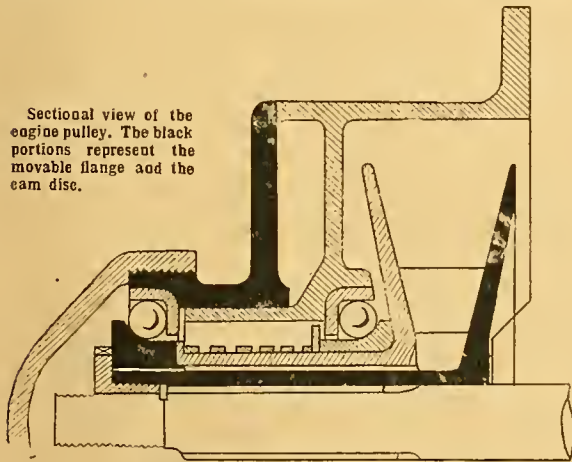
A NEW INFINITELY VARIABLE GEAR.

By the courtesy of Messrs. Rudge-Whitworth, Ltd., we had an opportunity last week of examining a new infinitely variable gear which is extremely simple and not particularly costly to manufacture, and which, on account of its efficiency, promises to be very successful.

Briefly, the gear consists of an expanding pulley on the engine-shaft with a correspondingly expanding belt rim on the rear wheel. The operating mechanism for contracting and expanding the two pulleys is interconnected, so that when the engine pulley is expanded the belt rim contracts, thus taking up the slack of the belt, an arrangement of the leverage compensating for any variation in the opening of the flange. It will readily be seen that, owing to the difference in the diameter of the two pulleys, it is necessary to provide a compensating arrangement of this nature, otherwise the tension on the belt would be variable, whereas with the device under review the belt tension remains constant. The gear ratios vary from $3\frac{1}{3}$ to $5\frac{3}{4}$ to 1.

The engine pulley has a fixed and a loose flange, the latter being the one nearest to the crank case. Surrounding the pulley is an aluminium case, similar to the clutch cover already fitted to the Rudge-Whitworth machines. This has cams formed on its face: a disc with corresponding cams lies against the edge of the case, and the disc is suitably connected to the loose flange. Ball races are provided to take up the thrust, and a coil spring keeps the washers in position

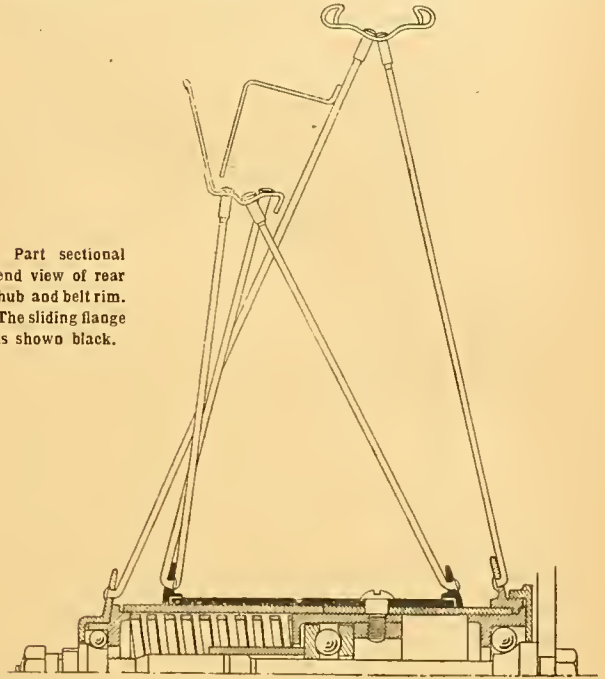
Sectional view of the engine pulley. The black portions represent the movable flange and the cam disc.



and also prevents any possibility of the balls dropping out. To operate the cam disc a long flat lever is suitably fastened to it, working in a quadrant on the tank. A rod is attached to the disc and extends to the rear hub operating mechanism, so that when the cam disc is partly rotated the motion is communicated to the hub mechanism, and the two work in unison. The rear wheel is built up with a special hub over which slides a sleeve. The fixed portion of the belt rim is attached to the wheel spokes, but the loose flange is spoked to the sleeve. Five studs in the sleeve pass through slots in the wheel hub and into a bush, so that the drive on the loose flange is partly taken by the spokes of the wheel hub and partly by the studs. The bush is connected to a rod passing up the centre of the hollow axle. When the rod is operated by a lever pivoted on to the chain stay, the loose flange of

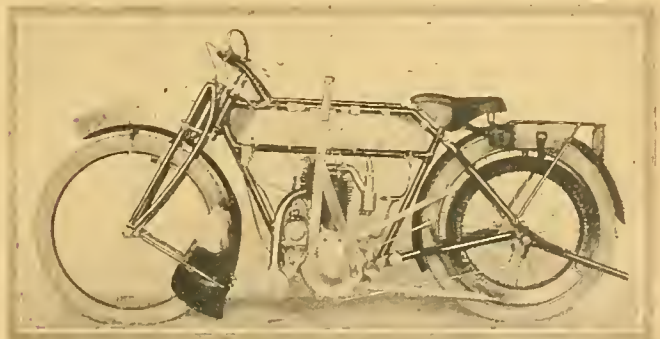
the belt rim moves outwards, and allows the belt to drop further down the groove. The lever, as already mentioned, is connected to a rod passing to the cam

Part sectional end view of rear hub and belt rim. The sliding flange is shown black.



disc of the engine pulley, so that one movement of the hand lever expands one pulley and contracts the other and *vice versa*. A coil spring is provided in the hub, which keeps the loose flange at the lowest gear position.

At the time of writing several of these gears were being made for use by the private owners of Rudge-Whitworth machines who had entered for the T.T. Senior Race. We think it worthy of mention that it was only on the morning of June 23rd that the drawing office work on this gear was commenced; the drawings were handed to the works on Monday, June 26th, and the first machine fitted with the gear was on the road on June 28th. By working night and day the firm was able to send complete gears to the Isle of Man by the following Thursday, June 29th, a record in rapid construction which we think would be difficult to emulate and hard to beat.



One of the T.T. Rudge-Whitworths fitted with the new infinitely variable gear described in the accompanying article.

Occasional Comments "by Ixion"

SEJ

The B. and B. Variable Jet.

I am now busy testing the B. and B. variable jet carburetter, and am absolutely charmed with it. A case of spare jets is well enough, but it is an awkward job to change loose jets. To make their sockets petrol tight is not always easy, and if a speck of dirt be left on the fibre washer there will be a leak, while these fibre washers are delicate and brittle, often breaking in process of detachment.

With the variable jet you can make a toolless adjustment from the saddle, and get precisely the aperture you want. With the aid of a few file marks on the butt of the spray chamber you can further return at any instant to any adjustment that you have found useful for a particular purpose in the past.

Before long three or four differentiated settings will be punched on the outside of my carburetter, and whether I am competing in a petrol consumption trial or a speed test my carburetter adjustment will only demand a second or so in the making.

Cutting out the Float.

The meaning of the above headline may not be obvious at first sight. It refers to a practice I adopted in racing work on twin-cylinder machines some years ago. When the engine was running at a very high speed I discovered that a few extra miles an hour could be obtained by pressing down the float tickler, and so letting the petrol run straight through from tank to jet without any intermediate cut-off at all. In more than one event I beat the trade rider of my machine simply and solely by means of this device. I never quite worked out the theory of the notion to my satisfaction. One would have thought that if the float chamber were never allowed to fill up with spirit, owing to the savage suction on the jet, no extra supply could have been gained by mechanically holding the float out of commission, but, anyhow, the fact of extra speed was indubitable. Of late years I have ridden single-cylinders almost exclusively, and for several seasons past I have tried the same plan on them without the least success. Not long ago I particularly wanted to outstrip a rival machine in an all-out sprint, and the makers told me to hold my float down when I had worked up speed. I complained that both hands were required to keep this particular machine on the road, for speeds have gone up since the time when I first adopted the notion. The makers replied that it was only necessary to hold the float down for a second or two. The r.p.m. would immediately rise, *and would remain at the higher figure*, which is distinctly curious. I tested their information, and for the first time in my experience I found the plan paid with a single-cylinder. I have performed one or two experiments, *e.g.*, riding without a float at all, and keeping the petrol tap closed until the speed has risen. Finally I got a Bowden carburetter tickler and fitted it permanently to my machine. The engine will do somewhat over a mile a minute for short distances. When it is

travelling at this speed I cut out the float for a few seconds, and the speed immediately rises two or three miles an hour, and does not drop again when the float is released. Readers might send their views or similar experiences to the Editor.

Hill-climbing and the Scottish Trials.

By all accounts the Scottish Trials will not be a mere picnic on the level, even though the trade desire for decent surfaces has influenced the promoters to cut out Amulree and Cockbridge Hills. I hear that Cairn o' Mount is no ordinary pimple. It is over two miles in length with a decent gradient all the way, and in the upper portion there is a S bend resembling the Devil's Elbow on Cairnwell, but consisting of an infinitely stiffer gradient. We have to go north of the Tweed nowadays to find hills which really test motor cycles without throwing the burden of trick riding on the jockeys. Excessive length, combined with a rational degree of twistiness and a sustained gradient, are the excellent features of the Scottish climbs.

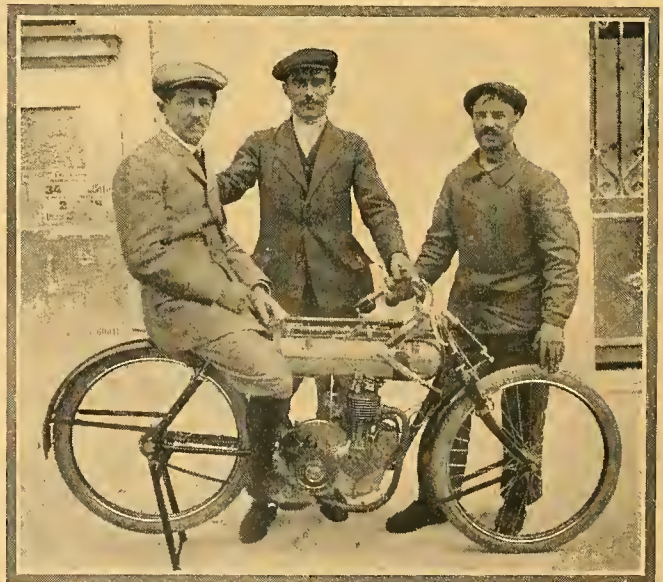
Explosive Puncture Sealers.

I am all of a tremble. On June 15th I gave a recipe for a home-made puncture sealer, alleged to be popular in America. This week a writer, signing himself "Chemist," remarks that this recipe produces a most powerful explosive; should a tyre so filled hit a large stone at high speed the result of the impact would be

"Sailing, sailing up into the blue,

Front wheel and back wheel and motor cycler too!"

I have not had time to verify this remark as yet, but let me hastily ejaculate that I can only be seen at the office by special appointment.



The trio of Frenchmen in the Junior T.T. Race who were entered on Alcyons: Francois Sain, Michel Canale and J. Garbero. The Alcyon machines are gear and chain driven.

Service Tweed Caps.

Scotch, and Irish Tweeds.
Brown and Grey Shades, 3/6.
Holland Dust Caps, 2/11.

The Service All-weather Suit,**For all Seasons,**

is the best ever offered at the price, 25/-. Jacket and Leggings. Thoroughly Waterproof, Windproof, and Dustproof. Approval. Deposit.

Fawn Double Texture Material, seams stitched and solutioned.

Jackets 36 in. long, fitted with storm cuff. Leggings button at side, and fasten on Trousers with strap. Jackets only, 16/6. Leggings, 8/6.

Waterproof bags, with leather straps for carrying All-weather Suit, 2/6.

**Black "Asbestol" Gloves.**

Strongest glove made. Guaranteed to stand the test of heat, steam, water, and washing. Price 6/6 per pair.

The Good Service Gloves.

11 in. deep, sac wrist, extra strong leather, double palms, 3/3.

Wide Range Goggles.

Best Quality curved glasses, trimmed Chenille, Gauze sides, 3/6.

Rubber Goggles.
1/9, with spare lenses.

Everclean Collars.
3 for 1/6.

The Service Anklets and Trousers Protectors.

Thoroughly waterproof. Price 1/-

Dust Suits.

Holland Jacket and Leggings, 10/-.
Holland Trousers Overalls, with Apron, 6/6

New Trousers Overalls.

Fawn Double Texture Waterproof Material, guaranteed.

Made to fasten round waist, also strap under foot.

State inside leg measurement. Our price, 13/6. Sold elsewhere 16/6. Jackets 16/6.



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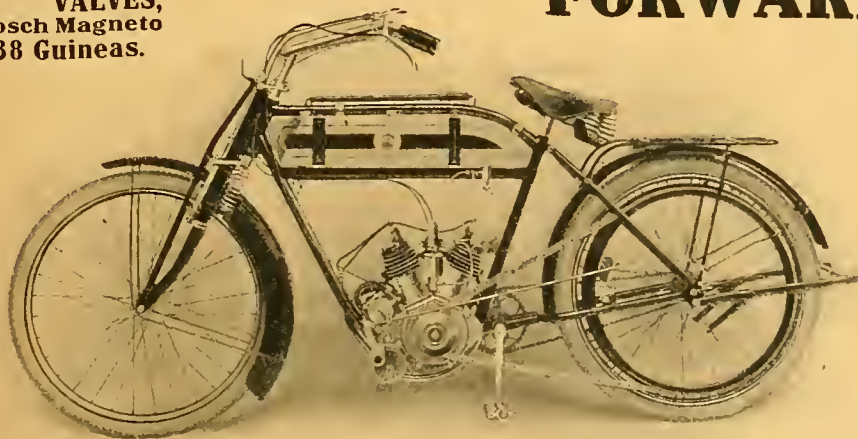
(Established 1889.)



JUNIOR T.T. RACE ISLE OF MAN.

2 $\frac{3}{4}$ h.p. M.O.
VALVES,
Bosch Magneto
38 Guineas.

"FORWARD" THIRD,



beating 35 well-known
lightweights.

**First Amateur
Rider to Finish.
Only One Forward
entered.
A Marvellous
Performance**

Machine was fitted with the

**New C.A.P. Carburettor and Reliable Forward Belt
Fastener.**

Forward Cycle Co., 9, Edmund St., BIRMINGHAM.

In answering these advertisements it is desirable to mention "The Motor Cycle."

“English - weather - proof” Garments at

Dunhill's

Specially suitable for the vagaries of an English summer



No. 2985.

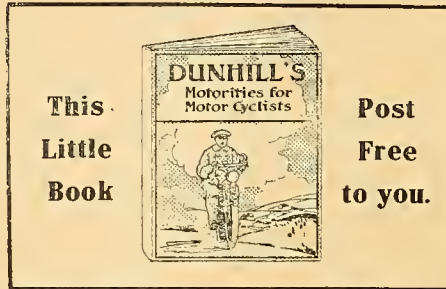
Waterproof Cape.

With sleeves and pockets. Every freedom and very practical. With patent fastener and strap at neck.

18/6.



No. 291.



This
Little
Book

Post
Free
to you.



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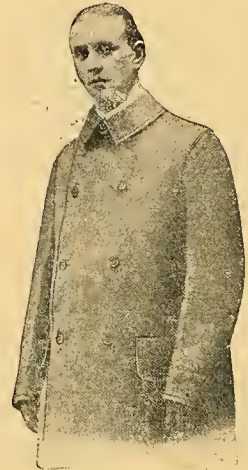
Dust Cap.

Made in a light washable material to match dust coats. With curtain to protect the back of the head from dust, 3/6.

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Waterproof Cap Cover.

For wear over an ordinary cap, with curtain to cover the back of the head and ears. In black waterproof material and dustproof material 4/6.



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Waterproof Coat,

Double texture, double breasted, guaranteed for two years.

16/8, 21/-, 33/-.



No. 2865a.

Double-Breasted Tweed Jackets.

291. Drencher proof, covert coat length, deep extension storm collar, sleeves fitted with wind cuffs. Also in fancy check frieze and Devon cloth. Send a postcard for detailed particulars and self-measurement form.

Trouser Overalls.

The cheapest on the market and the best. Guaranteed absolutely waterproof for 2 years. Practically untearable.

2865. Without seat	18/6.
2983. Second quality, ditto	13/6.
3014. Extra stout material, ditto	£1 1/-
2865a. With seat	£1 2/-
2984. Second quality, ditto	16/6.
3015. Extra stout material, ditto	£1 5/-

“The Best is Cheapest in the End.”
Go to Dunhill's and find out that it is also cheapest in the beginning.

Write for new Illustrated Catalogue.

359-361, EUSTON ROAD, LONDON, N.W.

GLASGOW—72, St. Vincent Street.

MANCHESTER—88, Cross Street.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor. "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

"Records."

[5707.]—The present glut of records is very depressing reading, particularly law-breaking six days' rides, and I beg to enter a protest against such records, and hope motor cyclists will join in a movement against them.

This sort of thing is bringing the sport into great odium, is highly dangerous to the public, and is certain to lead to more systematic and constant police traps all over the country.
G.C.

The Vicious Dog.

[5708.]—Quite lately, while the dog trouble was at its worst, I made application for membership in the A.A. and M.U., asking them at the time of writing whether they could lend a helping hand in this matter. A most kindly reply came from Mr. Stenson Cooke, stating that they would be perfectly ready to act if I sent in the name of the owner of any dogs who should on more than one occasion in the future cause me trouble.

While heartily endorsing the remarks of "GP 5684" regarding the necessity of legislation, it would be far better to obtain the assistance of the existing societies rather than inaugurate any new institution for the purpose.

W. A. DOUGLAS-HAMILTON.

The Coast Ride.

[5709.]—In looking over Fred Dover's log, I see he has an entry for June 12th, "John-o'-Groat's to Fraserburgh, no hills," which is a little strange if he took the proper coast road to Fraserburgh. We have not more than nine miles away the famous Pennan Hills, or Braes as we Buchan people call them, and, owing to their very steep nature, the cart wheels have to be spragged on descending, and the road surface is very bad on tyres.

We have a good few motor cyclists in the Broch, who own first-class 1911 machines, and when they require them tested to the fullest they can get that done on Towie and a great many others quite as stiff as Rest and be Thankful or the Devil's Elbow, on the coast road between John-o'-Groat's and Fraserburgh.
BROCHIER.

Saddle Comfort.

[5710.]—I feel it my duty, in the interests of motor cyclists, to write and ask you to put before your readers the following experience.

I ride on an average some four to five hundred miles a week, and until about nine months ago never felt that the various saddles I tried were quite what they ought to be from a point of comfort. I then tried one of the XL'All anatomically moulded and cantilever sprung saddles. The difference this saddle made to one's comfort is difficult to imagine. I can now ride 150 to 200 miles at a stretch without feeling any discomfort.

At Whitsuntide I was persuaded to try one of the same company's pan saddles. I rode this saddle in the Birmingham to Land's End and back competition, doing 288 miles at a stretch without any discomfort whatever; in fact, the saddle gives one the sensation of sitting in a comfortably padded armchair minus the arms only.

I have absolutely no interest whatever in the makers, and it is simply because I wish the virtues of this type of saddle to become known to fellow motor cyclists that I ask you to publish this letter.

R. VERNON C. BROOK,
Hon. Secretary Birmingham M.C.C.

Tyres Blowing off Rims.

[5711.]—We notice from time to time mention of tyres blowing off rims, and lately have seen cases where riders have had their holiday spoilt through this fault. It may interest some of your readers to know that three or four layers of tape put round the inside of the rim is an almost certain cure. We have had so many cases of this trouble brought to us that we are surprised this tip is not better known.

CROYDON CENTRAL MOTOR CO.

A Combined Handle-bar and Lamp Bracket.

[5712.]—We notice in the issue of June 22nd that a Mr. Milne has patented a carrier for lamps and generators. We have already made, advertised, and sold such a carrier in an improved form to the one your correspondent refers to.

Your correspondent has one fatal error in his drawing, and that is the generator socket has a slot in it which will become squeezed with the tightening up of the whole carrier. It will then be necessary to loosen the carrier to detach the generator. There are only two machines on the market as far as we know at present that could use your correspondent's style of carrier at all.

HALL AND SONS, LTD.

Still Another Conversion.

[5713.]—I enclose a photograph of a 6 h.p. Singer tricar which I have converted into a sociable. I thought it would be of interest to you and your readers. Practically



The cost of converting this tricar to a sociable was about £7. (See accompanying letter.)

I have rebuilt it myself, and reduced the weight by about 1 cwt. It is most comfortable, and far exceeds my expectations in running. No doubt other readers will repay themselves in a similar way, the cost not being heavy—between £7 and £8.
JONAH BADGER.

Great Reforms in the Scottish Six Days' Trial.

[5714.]—Mr. Pratt's letter [No 5678] on the above calls for some little comment.

Although the route this year will possess a better set of road surfaces, this does not mean that it will be no test, as Mr. Pratt seems inclined to think, and it is not easy to understand his attitude in hoping for increased severity.

In the matter of hill-climbing, Mr. Pratt must not forget how all the change speed mounts were completed "outed" at Arrochar.

I think, in all fairness to the other competitors who did so well on hills, that this should be pointed out.

J. DONALDSON.

An Experience of a Two-jet Carburetter.

[5715.]—Noticing several enquiries recently regarding the Binks two-jet carburetter for motor cycles, I thought a little account of my experience would not be amiss.

I have one fitted to my $3\frac{1}{2}$ h.p. two-speed Humber, and find it a very great advantage both for flexibility and power. There is only one lever to manipulate, whilst for slow running only one jet is in operation, for fast work the two jets are brought into play, the result being that a much finer mixture is produced in this way.

The difference is particularly noticeable on my Humber—whereas the explosions used to be woolly, they are now more crackly. This enables me to mount hills which were hitherto impossible on the top gear.

There is also a noticeable saving of petrol, as for slow and ordinary running only the small jet is in operation. The carburetter is very flexible, and engine picks up much more rapidly without knocking than any other that I know of, also it is wonderfully easy to start.

A. C. ROBBINS.

Change Speed Gears and Sidecars.

[5716.]—In reply to your correspondent under the above heading, I have ridden and driven motors of various makes since 1902, and purchased my first Scott in the early spring of last year, and purchased a 1911 model this year. I used my last year's model almost exclusively for sidecar work. The machine was always ready for its work, and took me over a very considerable portion of the English counties.

My sidecar was the Millford spring wheel, and when on tour with my wife we carried over 60 lbs. of spares and luggage.

I never knew I had a two-speed gear except for occasionally giving it a kick when requiring to change speed or starting. Starting was in itself a pleasure instead of a task, as with a simple kick of the starting lever after having flooded the carburetter, I was able to sail away much to the astonishment of the usual crowd.

As for your correspondent's statement that we only use our sidecars for two or three days a week or for a sixty miles spin, I went a tour on mine last year, starting eight miles south of Hitchin, running right up to the Lakes with

one stop for the night at Boston Spa, and on next day with one stop for lunch at Kirkby Lonsdale to Portinscale.

Whilst in the Lake District I climbed every hill which came in our rounds, including Red Bank, which is about 1 in $3\frac{1}{2}$ (but on this particular hill I had no luggage and had to drop my passenger), and after a fortnight's running round I motored back here with one mechanical trouble near Ilkley. That in itself is not a bad record for a machine I was warned was not prepared for the heavy work it had to tackle.

NORMAN HODGSON.

[5717.]—In your issue of June 15th I notice a letter on the above subject. I consider I am qualified to answer several points raised therein, for the following reasons. I reside in a remote corner of the British Isles, where the best roads average 6 to 10 feet wide, full of deep ruts, boulders and holes, sharp angles, and gradients from 1 in 4. Against the unanimous advice of all who ought to know, I purchased a sidecar. My mount is a $3\frac{1}{2}$ h.p. two-speed P. and M. I have driven the sidecar about 2,500 miles in this country, and I think for severity of gradient, etc., this district (Shetland) would be hard to beat in the United Kingdom.

The result of my experiences is as follows. I had much difficulty in getting into the steering, but it is now perfectly simple. I find the combination comfortable to both passenger and driver. The frame stands the strain, and wear on tyres is not at all excessive. When engine, etc., is tuned up and gears gripping well and road conditions good, I can take a ten or twelve-stone passenger up a long 1 in 6 or 1 in 7 gradient. With delicate handling I can work up a short 1 in 4 gradient.

But (and this is the crux of the whole business) to get any satisfaction out of such a combination, the machine must be kept up to concert pitch. I clean my cylinder out every five or six hundred miles—a three or four-hours' job. Grease is apt to work on to the rings and cause slipping of the gear. This must be carefully attended to. I never drive all out, the average with sidecar being fifteen or sixteen miles an hour. I cut down all weight to the last ounce, and do not like a heavier load than ten stones, preferably less. This simply means I have to tune up my machine as if for a race every five or six weeks, and is certainly a drawback, but what would you have? You cannot have it all one way. I cannot afford a car, and I want to take my wife and children out for an occasional spin. To do so I must give my machine constant and assiduous attention, which I do ungrudgingly.

I have had none of the trouble experienced by your correspondent, and can only suspect that he has been expecting too much and has not been giving his machine proper care and attention.

CHAIN DRIVE.

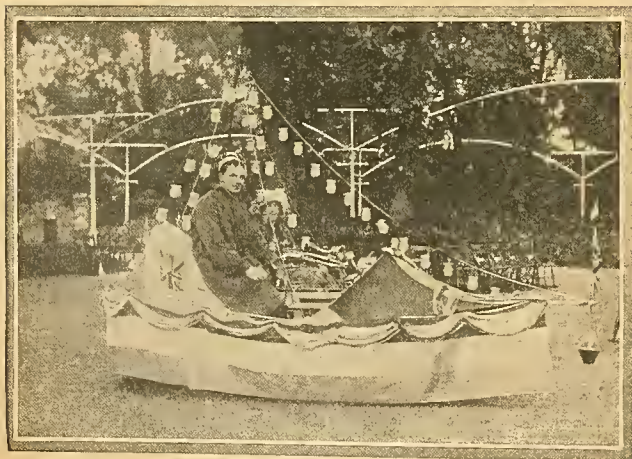
[5718.]—Sitting disconsolate in an hotel in a small town in Somerset I turned for solace to *The Motor Cycle*, dated June 15th, which had just been forwarded to me on my tour. In it I read letter No. 5676 from "Never Again" on the unreliability of change-speed gears. The latter might have been written by myself, so completely am I in sympathy with the writer.

After ten years of India, I had looked forward to this holiday with eager anticipation. The idea was to get a motor cycle and sidecar and take my wife for a prolonged tour, lasting three months, through Britain. I had had three years' riding experience with $3\frac{1}{2}$ h.p. machines and sidecars, but my district in the Punjab was as flat as a pancake, and the roads excellent.

The advice of several well recognised experts in England was to get a high-powered machine fitted with a change-speed gear for this country with its hills and dales. Behold me then with an 8 h.p. machine of well-established reputation fitted with a two-speed gear, which, though usually fitted by the firm, is not of their own make. The fixed sidecar was also made and supplied for the machine by the firm, the combination costing over £100.

We started, and for 300 miles all went well. From that time to this we have done in all 2,500 miles, but never more than 200 without more or less serious trouble, in nearly every case due to the two-speed gear.

A fortnight ago our troubles came to a climax. The gear seized up ten miles from anywhere, and the combination had to be conveyed in a cart to the nearest garage. On being taken down the balls in the gear bearings were found to be double cone shaped and the spindle hopelessly fired. The gear was returned to the firm, who sent me a new



A prettily-decorated motor cycle which was seen at the Eastbourne Coronation festivities. The machine—a $3\frac{1}{2}$ h.p. Triumph—is the property of Lionel O. Hudson of that town.

RELIABILITY

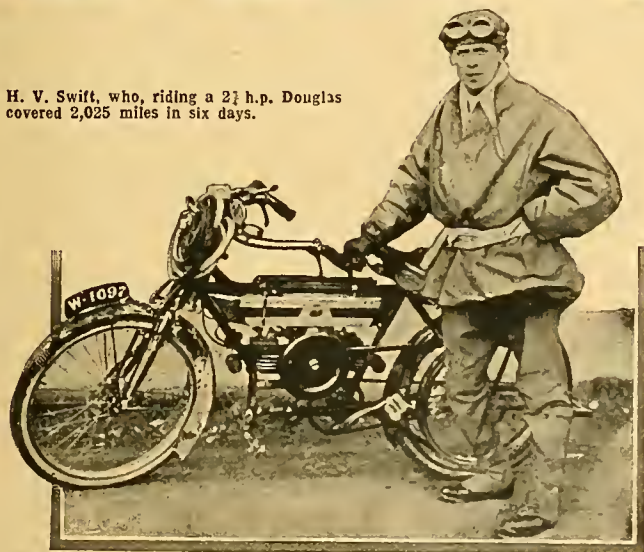
2,025 MILES IN SIX DAYS

ON THE

DOUGLAS

Vibrationless Lightweight

H. V. Swift, who, riding a 2½ h.p. Douglas covered 2,025 miles in six days.



Six Days' Ride on a Lightweight.

H. V. Swift, of the Sheffield and Hamshire M.C.C., completed his six days' ride on a 2½ h.p. Douglas at 9.30 p.m. on June 21st, having covered 2,025 miles. The daily distances, routes, etc., were given last week, see page 626. In a telegram handed in at Sheffield within a few minutes of the completion of the ride, he says: "Finished 9.30 p.m. 2,025 miles in six days. Little Douglas stood the great test remarkably well." Mr. Swift was checked by members of his club and timed by a member of the staff of the *Sheffield Daily Telegraph*.

Lightweight Long Distance



For further proof is necessary as to the efficiency, comfort, and reliability of the Douglas we refer readers to the remarkable results achieved in the **M.C.C. LONDON-EDINBURGH RUN** in which **SIX DOUGLAS'S** entered and gained **SIX GOLD MEDALS**; four returning obtained **FOUR SPECIAL GOLD MEDALS** while Mr. Eli Clark secured **SECOND PLACE** for the **CHALLENGE CUP** with a total variance of only **7 mins. 5 secs.** being only a difference of variance of 2 mins. 39 secs. from the winner; a 3½ h.p. machine. Then there is the **END-TO-END LIGHTWEIGHT RECORD STILL UNEQUALLED**—you are missing the joys of motor cycling until you ride a Douglas. Let us prove it to you to-day.—Write

LONDON OFFICE—336, Goswell Road, E.C.

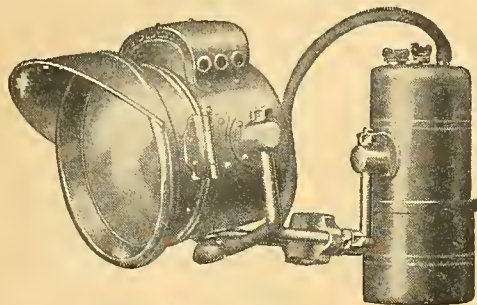
DOUGLAS BROS., Kingswood, BRISTOL.

Telephone—51.

Powell & Hanmer

Manufacturers

With thirty years' experience. You can therefore rely upon these lamps.



Complete with Generator,

27/- each.

The best value in the market.
Every Lamp Guaranteed.

Write for our new list, we make several patterns.

Works: Chester St., Birmingham.

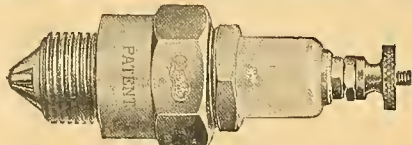
With the

BROOKS Plug

the necessity for packing is entirely eliminated and none of any kind is used.

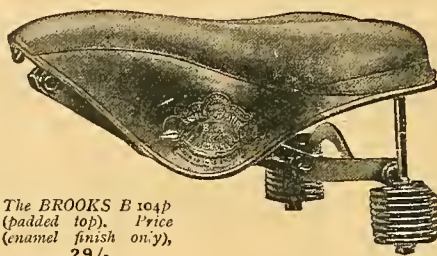
That is another point which makes for its efficiency—another point which experience has proved to be essential to a perfect service, and—

Remember it has many other merits, each of which is described in our special leaflet, which we will send you free.



W.H.W.

J. B. BROOKS & CO., Ltd.,
Makers of the World
famed Brooks Saddles,
7, Criterion Wks., Birmingham.



The BROOKS B 104b
(padded top). Price
(enamel finish only),
29/-

Just

now is the Ideal touring time, BUT—
The tour itself will lack in perfect pleasure if you fail in preparation. In such the Saddle must ever be a first consideration, for no other fitment will influence that pleasure to a like degree. Hence when you

specify

the saddle choose a BROOKS, because there is none other which can embody the BROOKS Patent Compound Springs—the springs which have a perfect compensating action and make the roughest road—"vibration-less."

And the bag—let that also be a

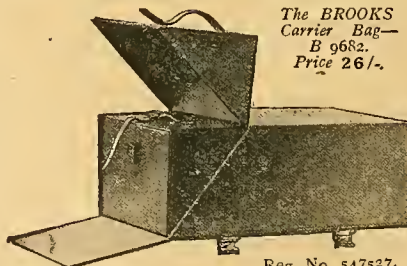
BROOKS

for behind every one that bears that name there is an actual experience of the Motor Cyclist's needs, and every one makes for your comfort and convenience

Ask for the Motor Cyclist's edition of the BROOKS BOOK now—before the tour.

J. B. BROOKS & CO., LTD.,
49, Criterion Works, Birmingham.

Note that samples of all BROOKS Saddles, and Cycle and Motor Cycle Accessories, can be seen at our London Show-rooms: 11, Grape Street, Shaftesbury Avenue, W.C.



The BROOKS
Carrier Bag—
B 9682.
Price 26/-

Reg. No. 547527.



spindle, but disclaimed all responsibility, saying that lubrication was at fault. I knew this was not the case, as the gear had been freely lubricated before every run. However, I accepted what they said, and off we started again. The gear bearings on this occasion were packed with grease, but, nevertheless, twenty-five miles had not been covered before the gear had seized again, leaving us unfortunates with five miles to the nearest town, and here we are again for an indefinite period with the gear once more returned.

Oh for a reliable variable gear! I feel hopeful, however, that your advocacy and this year's T.T. race will bring it. It will find an eager purchaser in
PUNJAB.

[5719].—In reference to "Never Again's" letter, when I first thought of investing in a sidecar machine I had visions of similar troubles with a heavy twin, and so finally decided on a 3½ h.p. two-speed Humber, to which I fitted a light Rey sidecar, and I have no reason to regret my choice. In four months I have covered close on 3,000 miles, and as most all of my journeys have been between 150 and 300 miles, I think "Never Again" will agree that this is genuine touring.

I think that a motor cycle that will pull a sidecar from Manchester to Aberdeen through rain and snow in March in twenty-two hours is all that can be desired; the distance between these two cities is 333 miles.

As for the two-speed gear, I have found this well up to its work, and it requires very little attention.

Like "Never Again," tyres and belts are my only trouble; they wear out far too quickly.

The other points raised in his letter I think are rather exaggerated, or else he has been very unlucky.

For myself I believe the 7 h.p. and 8 h.p. engines will in the future only find favour on quad cars.

B. LEE SUTCLIFFE.

Insurance.

[5720].—With regard to Mr. Priestley's letter [5703] respecting my previous letter [5666], there is no "peculiar clause" in my policy beyond the statement, "number of persons carried, one," and as this is evidently intended to be a condition of the policy, the fact of carrying two persons upsets this condition.

The policy referred to is an A.C.U. policy, and I accepted the decision of the insurance company that they must repudiate liability for the reason stated above. I judged it advisable to make the fact known in view of the increase of "carrier seats" one sees on the road.

ADSUM.

Long Distance Runs.

[5721].—It would appear that we are to witness a surfeit of long distance runs, and I write to ask you if you do not think that such runs are absolutely unconvincing and totally misleading to the public?

Such runs should be officially observed, and so we should know exactly what has been done to the machines whilst the rider is asleep. I write in no carping spirit, but I venture to think that were a car to start on such a test both the motorcarist and the press would scarcely take any notice of it. Nowadays any runs not observed by the R.A.C. bear no weight, for a very good reason. I met a friend of a rider who recently made an attempt to beat a long distance record, and he told me that every night as the rider finished two friends collared his machine, and ripped off the cylinder, ground in valves, or fitted new ones, and generally overhauled it, so that the rider practically started on a new machine every morning.

Pratt has hit the right thing in arranging his trial under A.C.U. observation.
HARRY G. BELL.

The London-Edinburgh Run.

[5722].—As a sidecar passenger in the above run I shall be glad if you will insert this letter. There were no fewer than a score of cars entered in this M.C.C. event.

The cars started immediately behind the sidecars, and several of them being high-powered, they, of course, caught up the sidecars very quickly, very often passing at a high speed, thereby raising a cloud of dust, which, beside being very unpleasant for the competitors, was, in the majority of instances, highly dangerous, as it was impossible to see anything for some time after they had passed.

One or two of these cars would pull up by the roadside, and shortly after come tearing up again with another cloud of dust in their wake. This, I may add, happened the whole way to Edinburgh.

We heard no end of grumbling at Edinburgh by the sidecar competitors, and also by the back motor bicyclists. If the car owners want a reliability trial let them organise one on their own, and not interfere with the motor cycle trials.

PULVIS.

Power and Sidecars.

[5723].—Referring to the correspondence which has from time to time appeared in your columns regarding power necessary for sidecar work, I thought you might be interested to know that I had the pleasure the other day of a ride in a sidecar propelled by a little single-cylinder engine of only 65 mm. bore, geared about 6 to 1. This tiny engine will with two up attain a speed far above the legal limit, climb steep gradients without pedal assistance, throttle down to four miles an hour, firing regularly, and even take ordinary gradients at this low speed. It was a revelation to me, and will doubtless surprise those of your readers who champion tremendous twins. The little machine weighs over 140 lbs., and the weights of the driver and the writer were 10 stones and 11 stones respectively.

H. F. HENDRY.

[5724].—In view of the correspondence in *The Motor Cycle* from time to time on hill-climbing sidecar machines, etc., the enclosed photograph may be of interest. It depicts my 1911 3½ h.p. two-speed Premier and sidecar on the steepest part of Sutton Bank. I made two clean ascents, with an eleven-stone passenger, as in photograph, on June 22nd. The combination is most satisfactory, as besides its hill-climbing



J. C. Bennett Mitchell, who climbed Sutton Bank on a 3½ h.p. two-speed Premier with sidecar attached.

powers it has a very decent turn of speed on the flat, and is economical to run. Moreover, it is a fairly low-priced outfit.
J. C. BENNETT MITCHELL.

SUMMARY OF CORRESPONDENCE.

H. Lutwyche wishes to thank a fellow motor cyclist who offered him the use of a cover to ride home with, although he was a perfect stranger to him.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

The Wall Tricycle.

To distinguish the tricycle chassis illustrated on June 22nd from other products of the Roc Co., it will be marketed under the title of the Wall tricycle. The frame, fork, clutch, and gear are all covered by patents or registered designs.

Agencies Wanted in South Australia.

A firm already representing a fair range of motor cycles in South Australia is on the look-out for new agencies. Manufacturers of motor cycles and accessories who are not represented in this portion of our Empire can obtain the name and address of the firm in question on application to the editor.

How to Cross the Channel

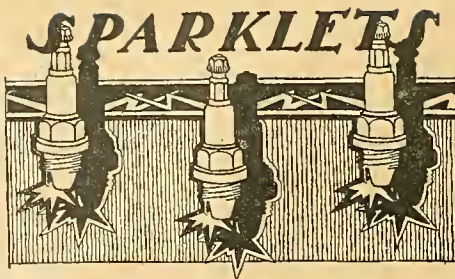
We are informed by the Borough Engineer of Folkestone that the Zealand Steamship Line on the Queenborough-Flushing route now only runs day steamers, the night boats now running from Folkestone leaving that town for Flushing at 10.45, and arriving at Folkestone from Flushing at 5.30 a.m. Return ticket (available for eight days): First-class 26s., second-class 15s. Single fares for motor bicycles 7s. 6d., motor tricycles 15s., double-seated motor tricycles 30s.

The Brooks Sparking Plug.

The name of "Brooks" being practically a household word among motor cyclists, they will be interested to know that the Brooks sparking plug, which we reviewed a short time ago in these pages, is giving universal satisfaction. Among its merits may be mentioned its ability to withstand the hottest spark, the finest glazed steatite being used in the manufacture of the insulator, and the electrodes are produced from pure nickel. Another advantage of this plug is that it is perfectly gastight, its construction being such as to render leakage impossible. No packing is used, and the body of the plug—which is made throughout of steel—is rendered rust-proof by a special process. Readers who are on the look-out for a first-class plug should make enquiries from the makers, J. B. Brooks and Co., Ltd., Great Charles Street, Birmingham.



A pillion basket seat which can be fitted in four different positions. It is made by Messrs. Henderson, Camden Street, North Shields.

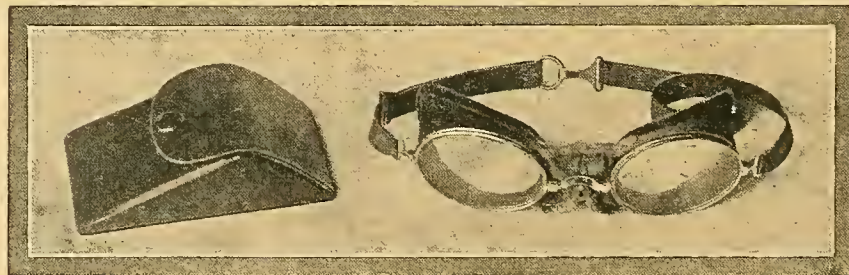


Making Joints and Stopping Leaks.

Conrad W. Schmidt, Limited, Carpenters Road, Stratford, E., sell a large number of preparations which will especially appeal to motor cyclists. "Coverole" is a material for stopping leaks in petrol tanks, pipes, unions, etc. Any preparation which will cure trouble of this kind should be heartily welcome. "Jointilak" is a specially prepared gold size for making oil-tight joints on crank cases, etc.

Goggles for Short-sighted Riders.

An exceedingly serviceable pair of goggles has lately been placed on the market by Messrs. Jaquemin Brothers, Hatton Garden, E.C. The lenses, which are of chlorophyll glass, and obviate



The useful pair of motor goggles made by Messrs. Jaquemin Brothers.

all irritating effects of the sun's glare, are oval in shape, and are of ample size. The goggles, which are compact, dust-proof, and well ventilated, adequately protect the eyes and fit comfortably over the face, and possess the advantage of being capable of being worn over pincez or spectacles, a fact which will strongly appeal to all short-sighted riders. Being made by a firm who have had a long experience in the manufacture of goggles, those under consideration are optically perfect, and, in consequence, cannot injure the eyesight. They are sold in a neat and compact case.

New and Second-hand Mounts.

An interview with Mr. Webster, of the Holborn Auto Exchange, Ltd., 1991, High Holborn, W.C., elicited the fact that the company was doing a brisk business in second-hand machines. The company has also a very good stock of new models, including Bradbury, M.R., and Douglas machines, and one of its specialties is the H.A.L., a smart little machine fitted with either a 3½ h.p. J.A.P. or Peugeot engine; the fittings throughout are Chater-Lea. The machine has also Druid spring forks, and the wheel-base is shorter than the usual motor bicycle. One of these machines gained a gold medal in the London to Edinburgh run.

Speed and Voltage.

It is not generally known that the H.H. battery used by F. A. McNab is a 6 volt one, and it is interesting to record that he used this system of ignition in one of his recent record performances. He hopes to use it again in an attempt on the hour record which he will shortly make.

When Sending Repairs.

We are asked by S. Hall and Sons, 18-20, Swinton Row, Edinburgh, the makers of the F.R.S. lamps, to caution readers when sending repairs to write their names and addresses fully on the labels and to pay carriage. A lamp has been delivered at their Birmingham depot bearing a M.U. and A.A. badge, but there is no address on the label, and the firm have received no letter of instruction. The railway labels are marked Hazel Grove. Will the owner kindly communicate with them?

Repairing Cracked Horn Bulbs.

R. Surridge, 28, George Street, Camberwell, S.E., has introduced a device known as a "horn bulb patch." This is a rubber covering designed to the shape of and made to fit over the horn bulb. It prevents the bulb from wear,

and will enable a cracked one to be used. It is quite effective, as we have tried one personally, and it possesses the advantage of being considerably cheaper than a new bulb. It is sold by the Service Company, Limited, 292-293, High Holborn, W.C.

Catalogues Received.

We are in receipt of the latest booklet issued by the Union Rubber Co., of Manchester, and 4, Great Eastern Street, E.C. In it are found references to the latest type of Turco tyres and every kind of rubber accessory, including repair outfits, tyre plasters, gaiters, motor soap, carbide, waterproof clothing, and numerous other useful accessories. It may be had on application to the firm.

New Pattern Goggles.

W. and R. Jacobs, 39c, King William Street, E.C., inform us that in response to the suggestions made to them by users of the Le Grand Reflex goggles, they are now making the front lens in two pieces, divided in the centre, with a small metal fixing clip. In this way fracture of the glass is extremely rare, as there is a certain amount of "give" in the centre of the frame, while in the remote case of breakage the cost of a new half lens is, of course, half of what the complete fitment would be.

ROVER

MOTOR BICYCLES.

**The Choice of those
who "know."**

The best points of all other Standard Machines, and the many exclusive, common sense improvements devised by ourselves, combine to make the **ROVER** $3\frac{1}{2}$ h.p. Motor Bicycle

The Most Practical All-Round Machine on the Market.

Men with actual road experience—whether they ride for pleasure, for business, or to win—choose the **ROVER**, because they know that for Reliability, Comfort, Economy, and Speed, it stands alone.

At any of our addresses, we shall be pleased to demonstrate the many practical points of this serviceable machine, or Catalogues will be sent on request.

The Rover Co., Ltd., Coventry.

LONDON—59, 61, New Oxford Street, W.C., and
19, Holborn Viaduct, E.C.

CROYDON—9a, George Street.

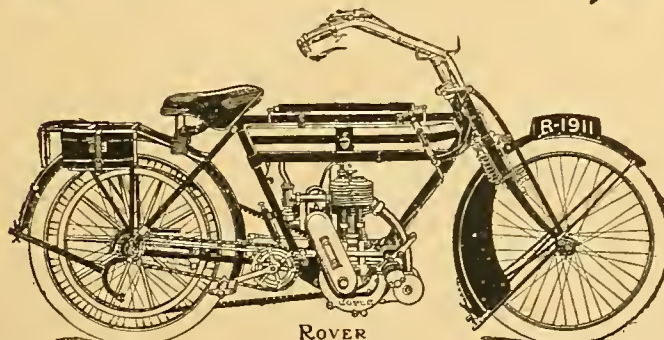
LIVERPOOL—Central Hall Buildings, Renshaw
Street.

NLWCASTLE-ON-TYNE — 86, Northumberland
Street.

LEEDS—36, Guildford Street.

DUBLIN—23, Westmoreland Street.

BELFAST—81, King Street.



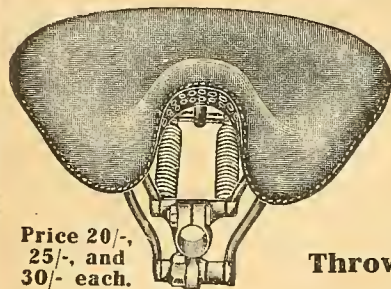
Price complete, with Free Engine Clutch, £55.

E.H.C.

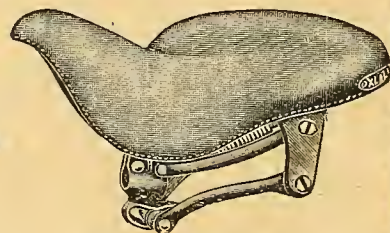
RIDE IN LUXURIOUS EASE

ON AN

XL-ALL SADDLE.



Price 20/-,
25/-, and
30/- each.



**Throw away your present torturer
and R.I.P. evermore.**

This Week's Testimony—

Cox's Motor Garage, St. Andrews Hill, Cambridge,
Gentlemen,
The representatives of the — Motor Cycle firm have
seen my XL-ALL Saddle. I told them they ought to fit
them as Standard. You will hear from them I am certain.
I have shown it to another Motor Agent, Mr. —, and he
is delighted with it. Can you let me have the agency.

Yours truly, Y. T. COX.

Birmingham Motor Cycle Club,
June 28th, 1911.

Gentlemen,
I am writing to tell you how pleased I am with your
Pan Saddle. I rode this saddle in the Birmingham-Land's
End-Birmingham Competition, a distance of 288 miles at a
stretch each day, and at the end of the run was as comfortable
as if I had been sitting in an easy chair. I suffered neither
soreness nor backache, both of which were common to other
riders in the competition. I am quite confident that your
saddles are The Only Saddle. I am continually urging my
friends to have one. Wishing you every success.

Yours faithfully, R. VERNON C. BROCK, Hon. Sec.

IT SPRINGS MORE THAN ANY
OTHER MAKE.

IT NEVER VARIES ITS TILT
LIKE ALL OTHERS.

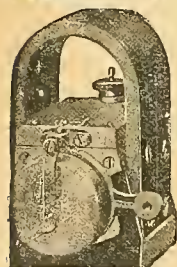
IT SPRINGS AT THE PEAK
AS MUCH AS AT THE BACK, WHICH
NO OTHER WILL DO.

A LOWER SEATING POSITION
CAN BE OBTAINED THAN WITH
ANY OTHER.

THE SPRINGS ARE ADJUST-
ABLE TO ALL RIDERS, WHICH
CANNOT BE DONE IN ANY OTHER.

Our output has trebled in 6
weeks, yet not a single saddle is
in stock, so order early to get
quick delivery.

XL-ALL, LTD., 6 & 7, Moseley St., BIRMINGHAM.



Are you
aware that the

"N.F."

MAGNETO

**can be fitted or dismantled
even by inexperienced hands**

Other features which should not be overlooked are the following :

The "N.F." Magneto, by reason of its simple construc-
tion and few wearing parts, has a much longer life
than other makes. The armature cannot burn through
even when considerably overloaded, on account of
a very special insulation and suitable spark gaps.
Space does not permit of mentioning other im-
portant features, we therefore ask you to
send for a booklet, post free on request.

S. WOLF & Co., 115, Southwark St., London, S.E.

Telegrams: "Widerstand, London." Telephone: 5172 Central.

Agents for fitting "N.F." Magnetos:
Mann & Overton, Ltd., 15, Com-
mercial Road, Buckingham
Palace Road, S.W.

STEADY AS A ROCK

Accurate as the Greenwich Time Ball.

"JONES"

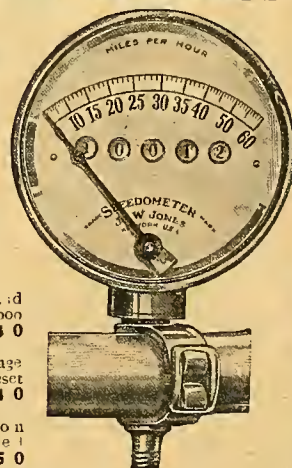
MOTOR CYCLE SPEEDOMETERS

are:

Unapproachable
for
RELIABILITY,
ACCURACY, AND
GOOD SERVICE.

MODELS:

25. Speed to 60 m.p.h., and
Season's Mileage to 10,000
miles £3 3 0
31. Includes also trip mileage
and automatic reset
.. .. £4 4 0
32. Above with addition
of maximum speed
band £5 5 0



FULL PARTICULARS OF

MARKT & Co. (London), Ltd.,
6, City Road, LONDON, E.C.



SOMETHING TO CROW ABOUT.

THERE IS NO DOUBT

that to secure reliable and efficient service means reliable goods. These to be so must be well designed, skilfully made, and excellently finished, all qualities of which are embodied in the belt that has the always gripping, never slipping qualities—the

WATAWATA

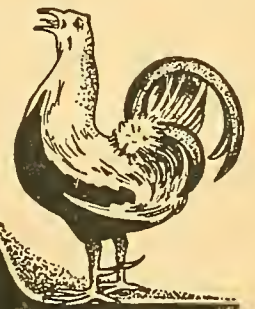
BELT.

A belt that will enable you to obtain every ounce of power out of your engine without wastage of petrol and increase of running charges.

Write for Booklet B.

O. & W. ORMEROD, LTD., :: ROCHDALE.

London : W. B. BROOKE, 18a, British Grove, Hammersmith, W.



The best motor cycle belt is unquestionably the ROBERTS. It is the most durable and smooth-running belt made; it is moulded to the exact length required, and therefore non-warping; drives straight and true, with no waste of power.

From all agents (belt and outfit), or direct from

The Roberts Motor Tyre Co.,

Gripwell Works, St. Mary's Row, BIRMINGHAM.

Telephone — 1298 Central.

Do not buy an outfit until you have seen the Vulco Motor Cycle Outfit. It is better value, contains more material, and is generally of higher quality than any other outfit on the market. Price 3/-. Send for list, which also gives details of the Roberts Retreading. Motor cycle covers a speciality.

London Office and Warehouse :
13-14, King Street, Cheapside, E.C.
Telephone—5360 Bank.

THE NEW T.T. STEATITE

LODGE

SPARKING PLUG

AS USED IN THE TOURIST TROPHY RACE.

The best plug to use on all motor cycles where conditions are unusually severe

WONDERFULLY EFFICIENT,
ABSOLUTELY GAS TIGHT,
PERFECT INSULATION,
AND
GUARANTEED FOR RELIABILITY.

PRICE **5/-** EACH

Post free in U.K., including steel gauge for the sparking points.

The ordinary Lodge motor cycle plug is obtainable everywhere (with gauge) price 4/- each, as usual.

LODGE BROS. & CO.,
Dept. E., New St.,
BIRMINGHAM.



MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



Section I.
Northumberland, Cumberland, Durham, and Westmoreland.

Section II.
York and Lancashire.

Section III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

Section IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

Section V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

Section VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

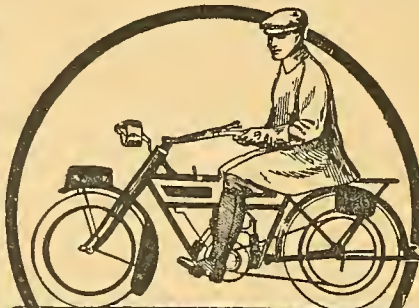
Section VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

Section VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

Section IX.
Somerset, Devon, Dorset, and Cornwall.

Section X.
Scotland.

Section XI.
Ireland and Isle of Man.



FOR VALUE
AND SQUARE
TREATMENT IN
ALL EXCHANGES

WAUCHOPE'S

ARE EASILY FIRST.

Send details of your present mount, and receive approximate cash allowance we offer in part purchase of a New 1911 Model of any best make.

OUR STOCK INCLUDES:

3931.	5 h.p. 1910	Tourist REX	.....	£35 0
3500.	3½ h.p. 1910	Tourist REX	.....	£36 10
	1 h.p. 1910	Lady's MOTOSACOCHE	30 Gns	
4039.	3½ h.p. 1911	ARIEL, variable gear	.....	£45 0
3934.	2½ h.p. 1910	ROYAL ENFIELD	..	£27 10
4087.	5 h.p. 1911	Tourist REX	.....	30 Gns
3894.	1½ h.p. 1910	MOTOSACOCHE	.....	£22 10
4060.	1½ h.p. 1910	MOTO-VELO	.....	£22 10
3509.	3½ h.p. 1909	MINERVA	.....	£22 10
4040.	7 h.p. 1910	Two-speed INOIAN	.....	50 Gns
4110.	3½ h.p. 1910	Free-engine TRIUMPH	.....	£43 10
3923.	3½ h.p. 1910	ZENITH GRADUA	.....	£40 0
4033.	5-6 h.p. 1909	Two-speed F.N.	.....	28 Gns
4051.	2½ h.p. 1910	ROYAL ENFIELD	.....	£25 0
4078.	9 h.p. 1908	Twin BAT	.....	40 Gns
4094.	2½ h.p. 1910	DOUGLAS	.....	£26 10
4107.	3½ h.p. 1909	TRIUMPH	.....	30 Gns
3933.	6 h.p. 1910	Two-speed ROG & sidecar	.....	£47 10
3387.	6 h.p. 1909	EAGLE Runabout	.....	£35 0
4100.	6 h.p. 1909	CHATER-LEA Carcote	.....	28 Gns
4086.	5 h.p. 1910	Twin REX DE LUXE and sidecar	.....	£46 0
3847.	3½ h.p.	FAFNIR	.....	£16 10
	3 h.p.	TRIUMPH	.....	£20 0
4046.	1½ h.p. 1908	MOTOSACOCHE	.....	£12 10
3507.	3½ h.p. 1909	Two-speed N.S.U.	.....	20 Gns
3747.	2½ h.p. 1909	DOUGLAS	.....	£24 0
4006.	2½ h.p. 1910	Two-speed F.N.	.....	£27 10
3812.	3½ h.p. 1910	PREMIER	.....	20 Gns
4093.	7 h.p. 1910	Two-speed V.S.	.....	£55 0
4064.	3½ h.p. 1910	KERRY-ABINGDON	.....	30 Gns
3099.	4 h.p. Twin	N.S.U.	.....	£18 10
2965.	2 h.p. 1909	MOTO-REVE	.....	20 Gns
3323.	2½ h.p. 1910	Twin N.S.U.	.....	£22 10
3937.	3½ h.p. 1906	REX	.....	£12 10
3530.	5 h.p. 1910	Twin V.S.	.....	£35 0
1092.	2½ h.p.	MINERVA	.....	£17 10
3780.	3½ h.p. 1908	Two-speed N.S.U.	.....	£22 10
3485.	2½ h.p.	J.A.P.	.....	£15 0
4045.	3½ h.p.	ARIEL	.....	£10 10
1726.	2½ h.p.	BRADBURY	.....	£10 10
1795.	2½ h.p.	F.N.	.....	9 Gns
2818.	3½ h.p.	ANTOINE	.....	£18 0
3410.	3½ h.p.	N.S.U.	.....	£18 10

WAUCHOPE'S

9, Shoe Lane, Fleet St.,
LONDON, E.C.

Telegrams: "Opificier, London."
Phone: 5777 Holborn.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or it "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Thife and Sons Limited.

SPECIAL NOTE

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

31 h.p. 1907 Triumph, handle-bar control, magneto, 32 new tyres and belt, perfect condition; £23.—Johnston, West Flatt, Egremont, Cumberland.

1910 3½ h.p. Triumph, free engine, new belt, new Dunlop non-skid cover, horn, head lamp and generator, perfect; £40.—1, Market Place, Egremont, Cumberland.

6 h.p. N.S.U., 2-speed and free engine, Whittle belt, Chain silencer, perfect sidecar machine; exchange single good make.—Stout, jun., Egremont, Cumberland.

2½ h.p. Minerva, m.o.v., new back tyre and tube, recently overhauled, good chubner, reason for selling; £8.—Longstaff, Cleatlam, Winston, Darlington.

REX, 1908, 3½ h.p. Amac carburettor, new Palmer cord back, studded front, lamp, good order; £16/10, with Fit-all 2-speed £18/10; will separate.—Box 7,747, The Motor Cycle Offices, Coventry.

MOTOSACOCHE, in perfect condition, free engine, Whittle belt, latest frame, brand new, spring forks, tubular stand and carrier, dry battery, new Palmer tyre; £20.—Taylor, Pooley Bridge, near Penrith.

MOTOR Cycle for sale, in splendid condition, Chater-Lea, Palmers, F.N. carburettor; bargain, £7/10, complete, ready for the road.—Glenrigh, Sandersons Terrace, Crumlington, Northumberland.

TRIUMPH, 1910, free engine model, perfect condition, mileage 2,200, no accidents, Palmer cord back, new spare Clincher cover, new Autocluse lamp and Lucas generator; £43; bought car. — 7,846, The Motor Cycle Offices, Coventry

SECTION II.

York and Lancashire.

1908 N.S.U., magneto ignition, 24x2½ wheels; £17.—Burrell, Ferrybridge.

REX, 1908, 3½ h.p., magneto, splendid condition; £18.—Talmun, Ocean Rd., Waincy.

1911 3½ h.p. Free-engine Model Triumph, brand new; £55.—35, Queensgate, Bolton.

5 h.p. Twin Rex, accumulator, good condition; £15/10. Henshaw, wheelwright, Stockport.

1910 3½ h.p. Triumph, in new condition, all tools and spares; £35.—R. Gill, Castleford.

1910 Scott, as good as new; £40.—Smith and Son, motor engineers, Monk Bar, York.

HUMBER, 3½ h.p., 1910, free engine, 2-speed; £33.—Aynsough, Beaufort St., Nelson, Lancs.

1910 3½ h.p. Rex, practically as new; £28/10.—2, Victoria Buildings, Fishergate, Preston.

LATE 1908 Moto-Reve, magneto, twin, complete; sell, or exchange higher.—32, St. Mary's, York.

1911 Bradbury, purchaser unable to take delivery; offers.—Booth, Artillery St., Heckmondwike.

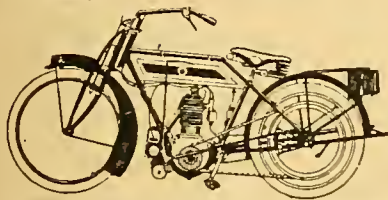
TRIUMPH, 1908 in perfect order; a genuine bargain at £28.—Barker, joiner, Grassington.

WHY WAIT WEEKS!

Immediate Delivery Guaranteed

1911 5 h.p. REX DE LUXE, 2 speeds, free engine	£63 0
1911 7 h.p. REX DE LUXE, with coach built sidecar	£84 0
1911 3 h.p. PREMIER Tourist	£47 10
1911 3 h.p. Tourist TRIUMPH	£48 15
1911 3 h.p. Magneto RUDGE-WHITWORTH	£48 15
1910 3 h.p. Magneto REX, 1911 forks	38 Gns
Special 3 h.p. Magneto REX, with pedalling gear	35 Gns
1910 3 h.p. Twin REX DE LUXE, 1911 forks and fittings	£54 10
1910 5 h.p. Twin INDIAN, spring forks, green finish	£52 10
1910 3 h.p. Magneto REX, 1911 forks, Continental non-skids	39 Gns
Special 3 h.p. Magneto REX, Continentals, fitted with pedals	35 Gns
1910 5 h.p. Twin Tourist REX, Cantilever seat, non-skids	40 Gns
1910 5 h.p. REX DE LUXE, 2 1/2 in. non-skids, 1911 fittings, cylinders, mechanical inlet valves	£54 10
1910 3 h.p. REX, 1911 spring forks, Continental non-skids	39 Gns
1910 3 h.p. Tourist REX, Cantilever seat, non-skids	38 Gns
1910 5 h.p. REX DE LUXE, mechanical inlet valves, two speeds, etc.	£54 10
1910 3 h.p. Tourist REX, spring forks, Cantilever seat	38 Gns
1910 3 h.p. Tourist REX, plate clutch and free engine, pedals	45 Gns
1910 5 h.p. REX DE LUXE, M.O.V., Cantilever seat, 1911 forks and fittings	£54 10
1910 3 h.p. Tourist REX, footrests, Cantilever, Continental non-skids	38 Gns
1910 5 h.p. Twin Tourist REX, 1911 forks and fittings	40 Gns

Special 3 1/2 h.p. Magneto REX, fitted with pedalling gear, as illustration; 35 Gns. Write for particulars.



1910 3 1/2 h.p. Tourist REX, Continental non-skids	38 Gns
1910 5 h.p. Twin REX DE LUXE, 2 1/2 in. non-skids, latest improvements	£54 10
3 h.p. Magneto REX, spring forks, pedalling gear	35 Gns
3 h.p. Magneto REX, 3 1/2 x 8 1/2, h.b. control, fitted with pedals	35 Gns
3 h.p. Magneto REX. Illustrated specification on request	35 Gns
1910 3 1/2 h.p. Magneto REX, 1911 forks and fittings	39 Gns
1910 3 h.p. Standard Tourist REX, Continental non-skids	38 Gns
1910 3 1/2 h.p. Tourist REX, Cantilever seat, spring forks	38 Gns
1910 5 h.p. Twin Tourist REX, standard model	40 Gns
1910 3 h.p. Tourist REX, non-skids, Bosch mag.	38 Gns
1910 3 h.p. Tourist REX, plate clutch, free engine	45 Gns
1910 4 h.p. N.S.U. Model de Luxe, spring forks	£36 0
1910 5 h.p. Twin Tourist REX, Cantilever seat	40 Gns
1910 3 h.p. Tourist REX, Cantilever, spring forks, non-skids	
1910 3 h.p. REX, finished French grey	38 Gns
1910 3 h.p. Tourist REX, Cantilever seat, spring forks	38 Gns
Ditto ditto ditto ditto	
Ditto ditto ditto ditto	
1910 5 h.p. Tourist REX, spring forks, Continental non-skids	40 Gns
1910 SINGER Moto-Velo, magneto, Druid forks	£26 0
1910 3 1/2 h.p. Magneto REX, Continental non-skids, spring forks	38 Gns
1910 5 h.p. REX DE LUXE, M.O.V., 1911 fittings	£54 10
1910 3 h.p. Tourist REX, Cantilever, B. and B.	38 Gns
1910 3 h.p. REX DE LUXE, 2 speeds, free engine	£52 10
1910 3 h.p. Plate Clutch REX, free engine, pedal starting	45 Gns

New Sidecars from £3 10s. Improved Exhaust Whistles, 3/9, post free. Send for List of Second-hand Machines. Discount to Trade, and offers considered for 1910 Machines.

The Halifax Motor Exchange

LARGEST REX DEALERS.

16, Westgate, 'HALIFAX.

'Phone, 766. Telegrams, "Perfection."

Business Hours, 9 a.m. to 6 p.m.

Australian Agent—Allen, 6, Westbourne St., Petersham, N.S.W.

MOTOR BICYCLES FOR SALE.

1911 3 1/2 h.p. Zenith-Gradua; 1911 clutch model Premier; delivery from stock; second-hand machines: 1910 5 h.p. green Indian, little used, offers invited; 2 1/2 h.p. Rex, magneto, new Dunlop tyre and belt, £16; 5 h.p. Rex, twin, £14; 2 1/2 h.p. Bradbury, £5; 2 h.p. Minerva, £6; 1 1/2 h.p. Minerva, £4.—Myerscough and Dunsmore, 25, Liverpool Rd., Gt. Crosby.

1911 8 h.p. Matchless, V.S. 2-speed, delivered month ago, complete with P. and H. lamp, generator, horn, several minor spares, also Mills-Fulford Herald sidecar, everything absolutely as new, and only done 234 miles; cost £80/10, will take £68 cash, or accept Triumph, Phelon and Moore, Scott, Douglas, or B.S.A. free engine, cash adjustment; must be in fine condition, and 1911 model.—Box 7,835, The Motor Cycle Offices, Coventry.

1911 Triumphs, Bradbury, Humbers, James, Zeniths, Enfields, New Hudsons, Rodge-Whitworths, and Douglas from stock; one 1911 Hummer, 2 h.p., lightweight, as new, £30; one 1910 twin Moto-Reve, £20, equal to new; one 1910 Rex, 3 1/2 h.p., T.T. model, new studded tyre and new belt, £35, equal to new; one Triumph, £30, sell at sight; one 3 1/2 h.p. N.S.U., magneto, £20; one 3 1/2 h.p. Rex, handle-bar control, £11; one Bradbury, magneto, handle-bar control, just been overhauled, new tyres, £17; the above motors are fit, complete, and bargain.—Hebden, 149, St. James' St., Burnley. Tel.: 488.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

MUST Sell.—Reliable motor cycle; any trial; exceptional bargain, £8.—Isen, Old Lane, Bloxwich.

TRIUMPH, 1909, free engine model, tyres and machine perfect; £35.—Below.

HUMBER, 2-speed, and sidecar, 1911 model, ridden 300 miles only; £47.—Below.

TRIUMPH, 1907, splendid order, £24; 1906 model, Dunlop studded, £20; Quadrant, 4 h.p., Bosch magneto, £18; N.S.U., magneto, £12.—Oswald Parker, Melbourne, Derby.

BRADBURY, 2 1/2 h.p., h.b.c., just overhauled, re-bushed, new coil, battery, belt, good condition; £10.

CLEMENT-GARRARD Lightweight, h.b.c., good order, splendid tyres; £7, offers.—11, Fisher St., Willenhall.

3 1/2 h.p. Lincoln Elk, 1911, lamp, horn; seen on 32 appointment.—Sturges, St. Paul's Rd., Smethwick.

HOBART, 2 1/2 h.p., £38 model, in crate, just delivered; first cheque £34 secures.—Wheeler, agent, Chester.

ROYAL Enfield, 1911, brand new; cost £45, nearest offer to £40.—Particulars 27, Whitegate Lane, Wrexham.

1911 Triumph and Royal Enfield free engine motor cycles delivered from stock.—Oakley's, Station Rd., Huddersford.

DOUGLAS, brand new, in crate, 1911 model, single speed, cannot take delivery; £35.—Wellington Wks., Melbourne, Derby.

HUMBER Lightweight, 2 h.p., one month old; good reason for selling; £30.—A. Perkins, Sandford, Nantwich, Cheshire.

ZENITH-GRADUAS, 3 1/2 h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

BRADBURY'S.—All models in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

DOUGLAS, 2 1/2 h.p., 1910, splendid condition; any examination: Roe tyres; £28/10.—Newlands, Arboretum Rd., Walsall.

1911 B.S.A., as new, ridden under 50 miles, take sidecar anywhere; any trial; cash offers at once.—Deane, Matlock Bath, Derbyshire.

1911 Models from stock; 2 h.p. Hummer lightweight, 3 1/2 h.p. standard B.S.A., 3 1/2 h.p. free engine Bradbury.—Everitt's Garage, Droitwich.

3 1/2 h.p. V.S. Motor Cycle, 2 speeds, new last August, £2 and not scratched; cost £59, accept £35 cash; ideal for sidecar.—Else, Leewood, Matlock.

1910 1/2 T.T. Triumph, special machine, winner last Bradford speed trials, absolute new condition throughout, and un-cratched, Cowey speedometer, tools complete; sacrifice £41.—R. Else, Leewood, Matlock.

TRIUMPH, 3 h.p., £21; Minerva, 2 1/2 h.p., £16; just from works, re-enamelled and plated like new, magneto.—Boothby, South Normanton, Derbyshire.

HUMBER, 1909 1/2, 2-speed, excellent condition, with new Millford cane sidecar; £36, or exchange good lightweight and cash.—Gee, hairdresser, Mill St., Cogleton.

1911 7 h.p. Rex de Luxe, and Millford sidecar, 2-speed gear, absolutely perfect; any trial; lowest £50.—Somerville, schoolmaster, 42, Rayleigh Rd., Wolverhampton.

CALTHORPE, 3 1/2 h.p., 1910, condition as new, Brown and Barlow, new Dunlop belt, horn, and full kit of tools, spares, etc.; bargain, £28, no offers.—T. Hodson, High St., Bloxwich.

DERBY Motor Exchange, 121, London Rd., Derby.—Zeniths, Ariels, Douglas from stock; 1910 3 1/2 h.p. Minerva, never been on road, to clear, £35; 1909 Triumph, perfect, £33; accumulator machines from £8; send for list; accessories London prices.

SIEMENS-OBACH DRY BATTERIES

are being used by some of the leading motor cyclists of the day in preference to accumulators or magnetos.



This size, price 7/-

with an economical coil, will supply ignition current for a single-cylinder engine for some thousands of miles. See result published last week.

Non-trembler Coil and Battery, as illustrated, £1 0 0

Trembler Coil and Battery, £1 3 0

Leather Case, with straps for battery, 7/6

Sizes to suit any space.

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CAXTON HOUSE,
WESTMINSTER, LONDON, S.W.

Farrar's Sidecar Guarantee.

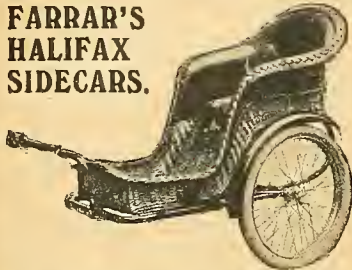
We will repair or replace, within twelve months from date of delivery, parts which are, or become, faulty through defective material or workmanship. This guarantee does not include the cost of refitting nor tyres, and no other responsibility, either expressed or implied, is accepted.

THIS

IS OUR MODEL DE LUXE.

Complete. £5 - 5 - 0 Complete.

FARRAR'S HALIFAX SIDECAR.



Absolutely the finest value on the market.

NOTE OUR front arm which grips the sidcar CENTRE. Nothing lopsided about this attachment.

All our Sidecars are now fitted with Farrar's quick detachable joints and cranked back axles, refinements found on very few other makes.

MODEL "DE LUXE"	£5 5
MODEL "C" with cane body	£6 0
MODEL "D" with coach-built body	£7 0
MODEL "E" with reversible child's seat	£6 10

All complete with mudguard and

HUTCHINSON or CONTINENTAL TYRES

Discount to the Trade.

Delivery from stock to suit TRIUMPHS, REXES, F. & M.'s, N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE.
SPRUNG LIKE A CAR.

TYRES. TYRES. TYRES.

Clincher Dreadnoughts, rubber-studded	30/-
Continental, rubber non-skids, 26 x 2 1/2	30/-
Hutchinson, ribbed tread, 26 x 2 1/2	18/6
Continental, beaded, 26 x 2	18/6
Tubes, all sizes, guaranteed	9/6

ENGINES.

ENGINES.

4 h.p. ROC and Bosch magneto	£9 0
5 1/2 h.p. DE DION Pater, water-cooled	£7 0
5 1/2 h.p. SAROLEA, brand new, 1910 model, fitted magneto, silencers, driving pulley, etc.	£14 14
BRAND NEW 5 1/2 h.p. Twin N.S.U.	£9 10
1 1/2 h.p. DE DION, air-cooled	£1 15
Phelon and Moore Engine and Frame	£5 10
4 1/2 h.p. HUMBER, water-cooled	£6 10
2 1/2 h.p. MINERVA, good puller	£3 10
2 1/2 h.p. SIMMS Engine (vertical) and Frame	£2 10
2 1/2 h.p. RED STAR Engine, Frame, and Wheels	£3 10

Other engines accepted in part payment.

NEW CARBURETTERS.

1911 B. and B., complete	25/-
1910 Amac, variable jets	22/-
5/- allowed for old carburetter.	
1910 Amac, second-hand	15/-
1910 Amac, twin outlet	15/-

Farrar's Motor Exchange

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes from G.P.O.)

Telephone 919.

MOTOR BICYCLES FOR SALE.

2 1/2 h.p. Lightweight, dropped frame, h.b. control, 22 footrests, adjustable pulley, Dunlops, recently plated and enamelled, £10; treadle lathe, 4in. centre, back gear, slide rest, etc., 10/-; C.A.V. 20 amp. accumulator, 5/6; trembler coil, 5/6; wanted, 26x24 cover, beaded; back rest.—25, Derby St., Barton-on-Trent.

THE North Wales Motor Exchange, Rhosdda, Wrexham.—Try us for new Rudge. Beginners send for lists of cheap motor cycles, in good going order, from £5; 3 1/2 h.p. Twin Rex, Bosch magneto, perfect tyres, rubber-covered footboards, spring forks, very low built, in lovely condition, splendid sidecar machine, £25.

NOW or Never; giving up business.—First cheque secures. Come over with cash and ride away; too cheap for correspondence; must be sold within a week. 1911 3 1/2 h.p. Lincoln Ell, £26; 1911 3 1/2 h.p. Kerry, unused, £39; 1911 3 1/2 h.p. James, T.T. model, touch 60, guaranteed, £56; 1907 3 1/2 h.p. Triumph, Bosch, 1910 B. and B., £20; twin Douglas, Bosch magneto, perfect, £16/10; V.S., 5 1/2 h.p., free engine, with sidecar, £27; 1911 3 1/2 h.p. Rex, footboards, cantilever seat, £36.—Motor Mart, Cavendish St., Chesterfield.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

3 1/2 h.p. Rex, h.b.c., new condition: £17.—W. Harper, 32 The Callis, Ashby-de-la-Zouch.

1911 Bradbury (standard), ridden once only: £43.—Morris, Coten End, Warwick.

1910 3 1/2 h.p. Ariel, free engine, easy starting device, all spares: £37.—Morris, Coten End, Warwick.

1908 4-cyl. P.N., good condition throughout: £18.—Morris, Coten End, Warwick.

1911 Bat-Jap, 8 h.p., new: £60; in stock.—Brayshaw's Garage, Loughborough Rd., Leicester.

3 1/2 h.p. Humber, free engine, chain driven: £4/15; good order.—55, Russell St., Peterborough.

FOR Sale, 1910 J.A.P. 2 1/2 h.p. motor cycle, in perfect order: £23.—Drury, Sturton, Lincoln.

TWIN N.S.U., 2 1/2 h.p., lightweight, 1910, almost new: £28.—C. Chapman, Duston, Northampton.

1910 Free Engine Triumph, little ridden, like new: £45.—4, Morton Terrace, Gainsborough.

F.N.: £17; good as new, tyres, etc., not scratched, 4-cyl.—Photographer, 193, Belgrave Gate, Leicester.

DOUGLAS (1910), excellent condition throughout: expert examination invited: £29.—T. A. Morris, Bourne.

3 1/2 h.p. Bradburys, free engine and standard model in stock for immediate delivery.—Main, 36, Parade, Leamington.

ROYAL Enfield, twin belt, equal new, done 100, Palmers, Brooks, lamp, etc.: £35.—174, Victoria Rd., Aston Manor.

TRIUMPH, 3 1/2 h.p., perfect condition, studded tyres, spare belt: £34.—Burrows, 3, The Crescent, Hockley, Birmingham.

WESTERFIELD, 4 h.p., J.A.P., Druid forks, new tyres and belt: £12/10.—Hawthorne, Pollard St., Kettering.

ZENITH-GRADUAS, 3 1/2 h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester.

DOUGLAS, Model D, in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester.

GEO. MAIN and Co., Hotel St., Leicester, can make immediate delivery of Humber lightweight and 2-speed motor cycles.

JAMES, new 1911 T.T. model, with big engine (86x96), only run 200 miles, guaranteed perfect; bargain, £42.—Moss, Wem.

B.S.A. Motor Bicycles; immediate delivery.—Watkins, the B.S.A. agent, Showell Green Corner, and Stoney Lane, Sparkhill.

1911 2 1/2 h.p. Humber Lightweight, 2 months old, Palmer trees, no fault: £33 cash.—Box No. 7749, The Motor Cycle Office, Coventry.

TRIUMPH, 3 1/2 h.p., magneto, h.b. control, lamp, horn; £20, or exchange cash for 1910 free engine.—Whitehead, Brannstone Gate, Leicester.

DOUGLAS, Motosacoche, and Premier Lightweight; inquiries invited; prompt delivery.—Midland Cycle Depot, 15, Hales St., Coventry.

HUMBER, 3 1/2 h.p., 2 speeds, free engine, new July 21st, 1910, not run 700 miles: £34.—J. E. Mountney, 45, Ashby Rd., Loughborough.

2 1/2 h.p. 1911 Lady's Singer Moto-Velo, slightly soiled; 30 guineas, or exchange 3 1/2 h.p. Triumph or other good make.—Main, 36, Parade, Leamington.

4 1/2 h.p. Twin Minerva, new condition, standard model, 42 spring forks, magneto, Mahon free engine adjustable pulley: £50.—Bent, 99, King Richard's Rd., Leicester.

1 h.p. Lady's Motosacoche, standard model, spring forks, magneto, only ridden 6 miles; cost £42, sacrifice at £32.—Bent, 99, King Richard's Rd., Leicester.

2 1/2 h.p. Minerva, fast, reliable, condition as new, 24 X1/2 all forks and saddle, Kempshall, Clincher, and Stanley belt, all new: £18.—Pearson, painter Cleethorpes.

Farrar's Motor Exchange

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes from G.P.O.)

Telephone 919.

SINGLE-CYLINDER REXES.

1 1/2 h.p., low, Rex spring forks, 1910 Amac	£14 0
1 1/2 h.p., 1910, with 1911 spring forks	£35 0
1 1/2 h.p., 1910, black finish	£32 0
1 1/2 h.p., 1910, grey finish	£32 0
1 1/2 h.p., 1909, Tourist, very good	£28 0
1 1/2 h.p., 1908, Featherweight magneto	£18 0
1 1/2 h.p., 1906, Tourist, M.O.V., spring forks	£14 0
1 1/2 h.p., 1905, low machine, M.O.V.	£11 0

TWIN-CYLINDER REXES.

5 1/2 h.p., 1908, two-speed, and sidecar	£32 0
5 1/2 h.p., spring forks, 26in. wheels	£16 10
5 1/2 h.p., special model, 1909, magneto	£27 10
5 1/2 h.p., de Luxe, clutch model	£24 0
5 1/2 h.p., two speeds and free engine, Bosch	£28 0
5 1/2 h.p., de Luxe, 1908, two-speed model	£28 0
5 1/2 h.p., de Luxe, 1908, two speeds, special, good	£29 10
5 1/2 h.p., 1908, two-speed de Luxe, 1909 engine	£32 0
5 1/2 h.p., 1907, Tourist, Bosch magneto	£21 0
5 1/2 h.p., 1907, Lloyd's variable gear, Bosch	£23 0

N.S.U.'s.

N.S.U.'s.

N.S.U.'s.

3 1/2 h.p. Magneto, 2 speeds	£25 0
1908 Lightweight, Bosch magneto	£17 0

OTHER MAKES.

OTHER MAKES.

1909 Triumph, clutch model	£35 0
1911 New Hudson, three speeds	£47 0
3 h.p. Triumph, M.O.V., very good	£18 0
3 1/2 h.p. Falmer, M.O.V., grand goer	£12 0
3 1/2 h.p. P. and M., magneto, 2 speeds	£27 0
5 1/2 h.p. Twin Antoine, Bosch, 1910, B. & B.	£21 0
1910 Twin Moto-Reve, almost new	£29 0
3 h.p. Singer, Bosch magneto, V belt	£16 0

SIDECAR COMBINATIONS.

5 1/2 h.p. Clutch Model Rex and new sidecar ..	£29 0
5 1/2 h.p. Two-speed 1909 Rex and sidecar ..	£40 0

All fitted with Magneto and Spring Forks.

£3 DOWN SECURES ANY OF THESE. BALANCE 5/- WEEKLY.

3 1/2 h.p. Brown Bicar, M.O.V.	£11 0
2 1/2 h.p. Minerva, good	£7 0
2 h.p. Humber, good goer	£7 0
2 h.p. Minerva, M.O.V., spray carburetter ..	£7 0
3 1/2 h.p. Rex, vertical, M.O.V., 26in. wheels ..	£11 0

£4 DOWN SECURES ANY OF THESE. BALANCE 6/- WEEKLY.

3 1/2 h.p. low Rex, 1908, spring forks	£14 0
3 1/2 h.p. Falmer, M.O.V.	£12 0
3 1/2 h.p. 1906 Rex, M.O.V., spring forks	£14 0
3 h.p. Singer, Bosch magneto, V belt	£16 0

CARS AND TRICARS.

5 1/2 h.p. Humberette car, 2 seater	£18 0
5 1/2 h.p. Hecette, two-speed, a beauty	£24 0
One ditto, re-varnished	£20 0
6 h.p. Rover Tricar, good goer	£17 0

MISCELLANEOUS BARGAINS.

Cowey Speedometer, only done 582 miles ..	£3 3
Second-hand sidecar, rigid	£3 10
Mills-Fulford Castor Wheel Sidecar	£6 6
Vertical Frame, with 26in. back wheel, etc. Prested accumulators, new, 15 amp.	£15 15
Tricar Frame, suit 6 h.p. engine	9/6
Lycett's Tubular Carriers, new	4/11
New Lycett's Saddle, coil springs, L/100 ..	15/-
New Frame for vertical engine	30/-
New Sidecar Baskets, green or red	22/-
New Prested Midget Trembler Coils	15/6

WANTED.

WANTED.

Triumphs, Rexes, Minervas, N.S.U.'s, Douglas's, Moto-Reves, and other magneto machines.

Cash waiting.

MOTOR BICYCLES FOR SALE.

WILTON Cyela Co.,
VICTORIA S.W.—See bargains below; all best makes in stock.
WILTON—Bradburys in stock, free engine models; £54/10.
WILTON—Clyno; sole S.W. agents; trial by appointment.
WILTON—Matchless; sole S.W. agency; early deliveries.
WILTON—1911 Kerry-Ahingdon, 3½h.p.; £45.
WILTON—1911 Moto-Reve, 2½h.p.; £45.
WILTON—1911 Indian, 7h.p., with accessories; cost £70 a week ago, accept £58.
WILTON—New Enfield; £36.
WILTON—1910 Douglas, new condition, 1911 improvements; £32.
WILTON—1910 Moto-Reve, 2h.p., with accessories; £25.
WILTON—7h.p. Brown, twin, Bosch magneto, B. and B. carburettor, just overhauled; £32.
WILTON—1909 5h.p. Sarolea, Chater-Lea, 4 speeds, new Druid forks, B. and B. carburettor, Bosch magneto, new Rom on back; £30, bargain.
WILTON—3½h.p. Excelsior, B. and B. carburettor, £28/10; 2½h.p. Precision-Enfield, £26/10.
WILTON—Triar, 6h.p. International engine, water-cooled, Renold patent 2-speed gear, Renold silent chains, wheel steering, 760x90 tyres; £30.
WILTON—Humber triar, chain drive, free engine, good order; £20/10.
WILTON Cycle Co., 110, Wilton Rd., Victoria, London, S.W. Phone, 5115 Westminster.
ENFIELD, 2½h.p. twin, both models in stock; exchanges entertained.
DOUGLAS, Model D, in stock, immediate delivery.
HOBART, 2½h.p., in stock; exchanges entertained; good prices given for magneto machines.—The Croydon Mart, 86, South End, Croydon. Tel.: 797 P.O.
12 1½h.p. Motosacoche, magneto, Druids, spares; £22.—Dr. Hodges, Walton, Herts.
22 1½h.p. Dualops, accessories, low, powerful; £28/10.—54, Ruskin Av., Manor Park.
MOTO REVE; £20; 1909, 1910 magneto, twin, 2h.p.—24, Albert St., Regent's Park.
FOR SALE, a 4h.p. Jap-Chater-Lea—Apply, Mr. Wynne, 27, Nelsand Rd., Cufford, S.E.
24 1½h.p. F.N., new condition, fast, reliable.—16, Coleridge Rd., Finsbury Park, £11.
V.S., 3½h.p., as new; £24; day time.—Roberts, 3, Alpha Place, Manor St., Chelsea, S.W.
4/10—Minerva, 1½h.p., h.b. control, good condition.—May, Electricity Works, Leatherhead.
SCOTT, 1910, 2 speeds, Jones speedometer, horn, tools, etc.; £43.—Bridge Rd., Walthamstow.
MOTO REVE, 1910, twin, perfect condition; cheap.—Alma, 52, Streatham Hill, London.
32 1½h.p. Kerry engine; will give sidecar trial; £5/10.—Carpenter, Motor Wks., Stamford Hill.
REY, 5, Heath St., Hampstead, can give immediate delivery of following 1911 machines:
BRADBURY Standard Free Engine or 2-speed Model; immediate delivery from stock.
HUMBER, 1911, 3½h.p., two-speed and free engine model; immediate delivery.
BAT, 7-8h.p., 1911, new, for immediate delivery; £60.
TRIUMPH, 1911, standard model, for immediate delivery; £48/15.
DOUGLAS, 2½h.p., 1911, standard, model D; immediate delivery.
DOUGLAS, 2½h.p., 1911, model E, two-speed and handle starting; £48.
KERRY-ABINGDON, 3½h.p., 1911 model; for immediate delivery.
F.N., 4-cyl., 5-6h.p., 1911, and lightweight, two-speed; immediate delivery.
LINCOLN Elk, 3½h.p., 1911, £34; or 2½h.p. £28/10; no waiting.
HANDY Hobart, 3½h.p. twin, 1911, or 2½h.p.; no waiting.
RUDGE T.T. Standard and free engine now in stock; no waiting.
B.S.A., 1911, 3½h.p., for immediate delivery; no waiting; £50.
BAT, 5-6h.p., in stock, for immediate delivery.
TRIUMPH, 1911, free engine model, for immediate delivery; £55.
ALL the Above for immediate delivery; terms, cash, exchange, or extended payments.—Only address, Rey, 5, Heath St., Hampstead. Tel.: 2678 P.O.

.. ALBANY ..

Motor Cycle Clothing



A grand Coat if you are Camping Out.

"ALL-SEASON" JACKET.

Guaranteed absolutely waterproof. In Grey-green Double-texture Cloth to match "Special" and "Standard" Overalls. Double-breasted and fitted with best Detachable Fleece Lining. You may put away that Leather Waistcoat and Jacket, which are very bulky and far too heavy. The Fleece Lining will keep you warm in the coldest weather and if too hot can easily be detached. It is light in weight but very warm. An ideal Jacket for Touring.

Price **25/-**

ALBANY "STANDARD" SUIT.

Guaranteed absolutely waterproof. In Grey-green or Fawn Double-texture Cloth.

JACKETS only. Double-breasted, deep storm collar and adjustable strap to exclude rain and dust from neck. Inside and outside wind cuffs, etc., etc.

18-LEGGINGS only. Leather adjustable boot straps. V-shaped gussets and patent dome fasteners to keep out dust, rain, and wind. Extended gaiter, etc., etc. No tireless buttons. Easily slipped on and off. **8/-**.

Complete Suit **25/-**

The Albany 'Special' Leggings.

A new design to protect stomach from wind and rain. Made in Grey-green Cloth to match "All-Season" and "Standard" Jackets, and also in Fawn. These Special Leggings include every desirable improvement. They come well up over the stomach and have Leather Adjustable Boot Straps, also Gussets and Patent Fasteners. Without Seat, **13/11**. With Seat, including fly and special convenience, **15/11**. Our correspondents tell us these are the best designs and value on the market.

These Leggings, together with an "All-Season" Jacket will protect you from the severest weather.



VULCANISING & RETREADING.

Don't throw your Old Tyres away because they have burst. Send them to us and we will examine them and let you know whether they are worth repairing. No charge will be made for advice given.

Terms, nett cash with order. Goods, if stock sizes, sent by return. Send chest measurement and length desired for Jacket, and inside leg measurement only for Leggings. Send now for Catalogue & samples of cloth to

G. RAWES & SONS,
 Motor Clothing Specialists,
 The Albany, Oldhall St., Liverpool.

MOTOR BICYCLES FOR SALE.

EAGLES—Humber, 1911, 3½h.p., 2-speed model, Palmer tyres, as new; £40.
EAGLES—Triumph, 3h.p., Hellenes ignition, h.b. control, many improvements; £12.
EAGLES—N.S.U. 4h.p. twin, 1910, Bosch magneto, m.o. valves, 1911 spring forks, 2-speed gear, free engine; £35; nearly new.
EAGLES—N.S.U. 2½h.p., 1910 twin, Bosch magneto, m.o. valves, under-gear pulley, climbs Dashwood and Rectory Hills, as new; £25.
EAGLES—N.S.U. 3½h.p. magneto ignition, spring forks, fine condition; £17/10, 1908 model.
EAGLES—Singer Velo lightweight, 1910, Bosch magneto, Druid forks, adjustable pulley, latest improvements; £21.
EAGLES—Motosacoche, 1910 model, nearly new Palmer tyres, Whittle belt; £20.
EAGLES—Moto-Reve lightweight, 1910, single-cyl., little used; £18.
EAGLES—Bradbury, 3½h.p., 1911 model, in stock; immediate delivery.
EAGLES—We have a few brand new single-cyl. N.S.U.'s, magneto ignition, spring forks, improved carburettor, h.b. control, tool case, full set of tools, 3h.p. £27; 3½h.p. £31 net cash; deferred payments arranged.
EAGLES—Immediate delivery of the N.S.U. 2-speed gears, all sizes in stock; £5/15.
EAGLES—Any of the above can be had on approval; deposit system.
EAGLES and Co., High St., Acton, N.S.U. West London district agency.—Early delivery of 1911 models; liberal allowances for machines in part payment.—Tel.: 556 Chiswick.
HAMPSTEAD Bargains.—Rey, 5, Heath St., Hampstead. Tel.: 2678 P.O.—As below.
HAMPSTEAD—1909 Douglas, splendid condition; £24 and £22; all accessories.
HAMPSTEAD—Douglas, 1911, any models, from stock; 5 per cent. extra for easy payments.
HAMPSTEAD—Bradburys, 1911, any models; immediate delivery; cash or extended payments if desired.
HAMPSTEAD—Triumph, 1911, free engine model, almost new; £50 with accessories.
HAMPSTEAD—1909 P. and M., good order, with accessories; bargain price, £30.
HAMPSTEAD—1911 Lincoln Elk, shop sorted only; special price, £30.
HAMPSTEAD—1910 Lincoln Elk, magneto, good condition, with accessories; bargain, £15.
HAMPSTEAD—1910 Scott, 3½h.p., late, good condition, with accessories; bargain, £35.
HAMPSTEAD—Motosacoche, good condition, new Dualop tyres; £13; all accessories.
HAMPSTEAD—1911 brand new standard Triumph in stock; only house in London for immediate delivery.
HAMPSTEAD—Sole London wholesale and retail agents for Lincoln Elks; in stock.
HAMPSTEAD—1911 F.N., 4-cyl., latest type, only few weeks old; £44.
HAMPSTEAD—F.N.'s, latest models, 1911, in stock; no extra for easy payments.
HAMPSTEAD—3h.p. Advance, fine condition, all accessories; a bargain, £8.
HAMPSTEAD—2½h.p. F.N., latest model, all accessories; £24.
HAMPSTEAD—3h.p. N.S.U., magneto; £12; all accessories.
HAMPSTEAD—Triumph, 1910, splendid order, all accessories; £38.
HAMPSTEAD—1909 Rex, 3½h.p., spring fork, magneto; £20; all accessories.
HAMPSTEAD—1911 5h.p. Indian, blue, almost new; £50; all accessories.
HAMPSTEAD—Humber, 1910, 2-speed; £30; good order.
HAMPSTEAD—1911 Bradbury, splendid condition; £35; all accessories.
MOTO REVE, 1909, new condition, with accessories; £18.
HAMPSTEAD—Royal Enfield, late 1910, splendid condition, all accessories; £26, special bargain.
HAMPSTEAD—1911 Douglas, almost new, with accessories; £36; condition like new.
BRADBURY, 3½h.p., late model, condition like new; special bargain; £33.
HAMPSTEAD—3½h.p. 1911 two-speed Humber, almost new, with accessories; £45.
HAMPSTEAD—Only house for great bargains and quick delivery of new 1911 machines you cannot get elsewhere; agents for all makes, and makers of the famous Rey's "dear and exhaust whistle"—Only address, 5, Heath St., Tel.: 2678 P.O., Hampstead.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

- WANDSWORTH.—Indian, late 1910, 5-6h.p. twin, m.o.v., magneto, as new; 40 guineas.
- WANDSWORTH.—V.S., late, 5-6h.p. twin, magneto, Truifault forks, Whittle, practically new; £29.
- WANDSWORTH.—Roc, 4h.p., m.o.v., magneto, 2 speeds, Whittle, absolutely unmarked; sacrifice £28/15.
- WANDSWORTH.—Roc, 4h.p., m.o.v., magneto, 2 speeds, good order; cheap; clearance, £23/10.
- WANDSWORTH.—Roc, 5h.p., magneto, fixa engine clutch, running order; must sell; offers.
- WANDSWORTH.—F.N., late 1909, 5-6h.p., magneto, guaranteed, 60 m.p.h., like new; £28.
- WANDSWORTH.—F.N., 4½h.p., magneto, spring forks, good order; extra cheap, £19/19.
- WANDSWORTH.—F.N., 4½h.p., magneto, spring forks, excellent condition; bargain, £22/10.
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- WANDSWORTH.—Quadrant, running order; £4/15; ex-hanges.—Wandsworth Motor Exchange, Ebner St., Wandsworth.
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- MOTOR Cycles, second-hand, all prices; write for lists.**—H. E. Kettle, Smarden, Kent.
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- MOTOSACOCHE**, late 1910, as new; £25.—Moffatt, 406, Garratt Lane, Earlsfield, Surrey.
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- 11 Triumph, free engine; immediate delivery.—Apply, Poxon, North St., Ashford, Kent.
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- 3h.p. Minerva throughout, good as new; £18.—2 Young, 241, High St., Berkhamstead.
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- 3h.p. Wolf Cycle, grey, footboards, spares, low; £10/10.—114, Markhouse Rd., Walthamstow.
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- 2h.p. Minerva, Amac, h.b. control, light, low, perfect order; £9.—Aust, 864, High Rd., Tottenham.
- 1h.p. Triumph, new condition; £30, or near offer.—2 Willard, builder, Tangmere, near Chichester.
- 1908 Triumph, splendid condition, magneto, and speedometer; £35.—Hubcock, St. Mawes, Seaford.
- 3h.p. Rudge-Whitworth Motor Cycles; immediate delivery.—Salter, 9, Pavement, Crouch End, N.
- 6h.p. Twin De Dion Cycle, £12; forecar, £2; after 8.—12, Rose Villas, Devonshire Rd., Merton.
- TRIUMPH**, 2h.p. Jap engine, new tyres; sacrifice, £6/10.—395, Southwark Park Rd., Bermondsey.
- 7h.p. 1911 Wilkinson, T.A.C.; cash offers wanted.—Box 7,828, The Motor Cycle Offices, Coventry.
- 3h.p. Rex, magneto, fast and comfortable, good 2 tyres and belt; £15.—13, Cedar Rd., Cricklewood.
- 2h.p. Minerva, B. and B., h.b.c., spring forks, just re-bushed; £8/10.—L. Marshall, Ferndale, Staines.
- BRAND New Moto-Reve**, just been left on our hands accept £31/10 clear.—Barker, High St., Kensington.
- 5h.p. Brough, Peugeot, Chater-Lea 6, Bosch, 1911 Barlow, amart; £32.—84, Rodenhurst Rd., Clapham.
- N.S.U.**, 3h.p., 1911, spring forks, ridden 900 miles; £23/10.—Bodley, 2, Tavistock Rd., Westbourne Park.
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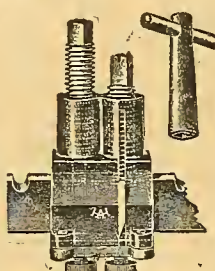
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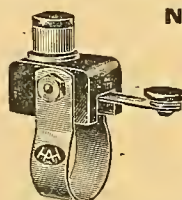
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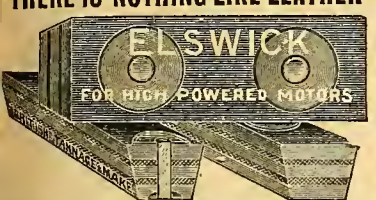
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- 7/10.—2h.p. Minerva, Palmer corded tyres, in perfect condition, ready for the road.—51, Claremont Rd., Forest Gate.
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- TOTTENHAM**—Bradbury, 3h.p., 1911, standard, £48; clutch model, £54/10; 2-speed model, £55; delivery from stock.—Below.
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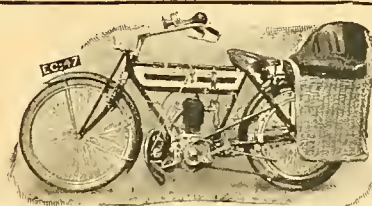
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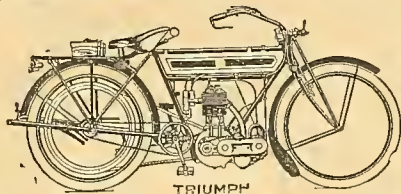
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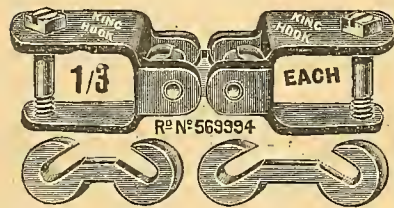
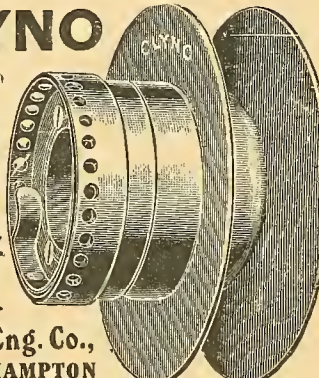
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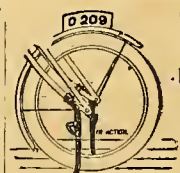
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THE MOTOR CYCLE

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What the T.T. Races Teach.

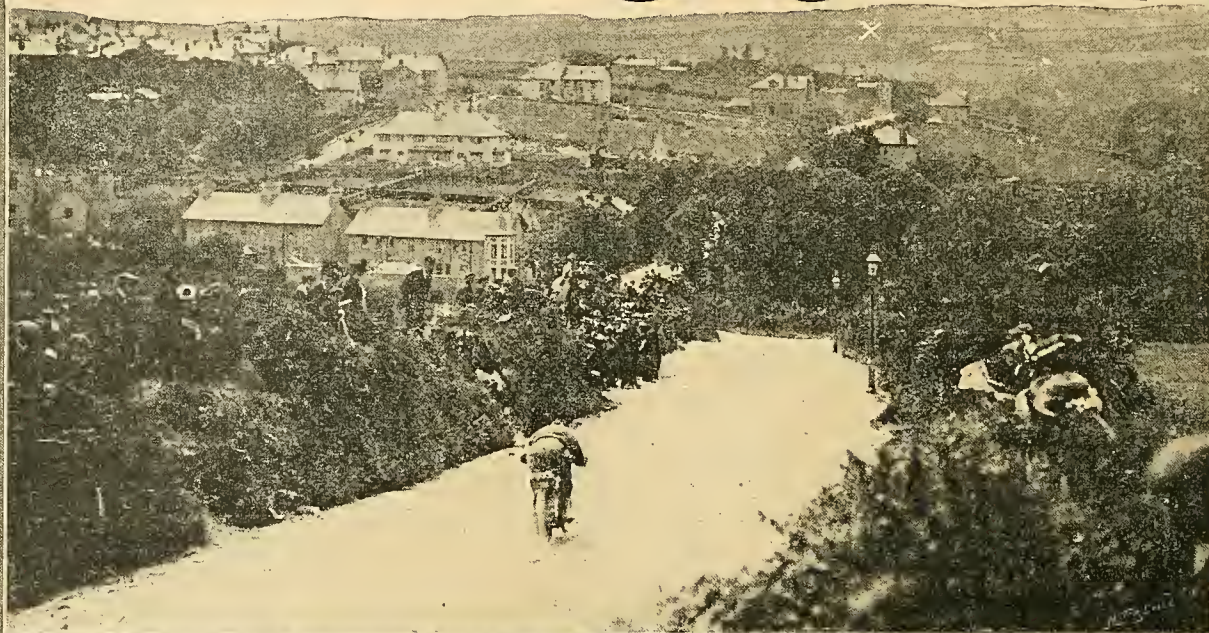
“WHAT a farce it is to call the race a *Tourist Trophy*!” was an expression occasionally heard in the Isle of Man, the critics proceeding to enlarge upon the freak character of the machines which contested the two thrilling races.

The secret history of the Junior T.T. gives the lie direct to this criticism. The Junior Race has simply been forced upon a very largely reluctant industry by the wisdom and firmness of the A.C.U. It is simply an educational experiment, brilliantly planned and executed by a coterie of individuals, whom some critics term “unpractical.” Twelve months ago the trade was almost entirely concentrated upon the $3\frac{1}{2}$ h.p. touring roadster. Good business was being done, and if certain firms considered that another type of machine might secure an even larger demand they dared not face the certain cost and possible disappointment which go with the designing, the advertising, and the popularising of a novel type. Here the A.C.U. stepped in. They believed that a variably-gearred mediumweight would in time secure an even larger riding public than the best 180 lb. single gear could ever hope to command. They knew that the individual firms in the trade dared not experiment. They knew that any bold pioneer, ploughing a lone furrow, might fail, and even if he did not fail, was sure to make ground slowly. So they planned a special race for variably-gearred mediumweights, and the hands of the trade were more or less forced. A few firms were already selling machines conforming roughly to Junior T.T. outlines; their rivals had to enter the breach in self-defence. We do not suppose that any of the A.C.U.

prophets expected half such a brilliant success, and we doubt if so many entries were anticipated. The winning machine's average speed of nearly 42 m.p.h. over so stiff a course has surprised everybody, and the most sanguine anticipated that the inevitable variable gears would be freakish in design, and unreliable in the race. Now that the race is over, you have to hunt for the A.C.U.'s critics with a searchlight. For the fastest Juniors—riding variably-gearred mediumweights—beat more than half the field of the Seniors for sheer *speed*, and so far as reliability goes, in the Junior event, 21 starters out of 34 finished four laps, *i.e.*, 61.80%, and in the Senior event, 33 starters out of 60 completed four laps, *i.e.*, 64.51%. The race has, therefore, shown that over as difficult a course as can be found the variably-gearred lightweight is the equal of the standard touring roadsters, the advantages of the latter being increased speed and power for passenger work.

Compared with the Junior event, the Senior Race can only claim a sporting interest. Its technical and evolutionary value is small by contrast. The “ashes” have gone to America, and if there is a Senior Race next year, it will give British manufacturers an opportunity to recover lost kudos from foreign shores. America has always concentrated on the big twin. We in England plump for the ultra-efficient $3\frac{1}{2}$ h.p. single. America thirsts for speed before all else; we rank touring efficiency and convenience foremost, and racing is the pastime of a small minority. A remunerative share of our motor cycle market can only be secured and kept by thrashing us with the $3\frac{1}{2}$ h.p. single-cylinder, and the Americans have a very long furrow to hoe before they can approach us in that direction.

The T.T. Races Reviewed.



An amateur, H. Lister Cooper (Triumph) ninth to finish, descending Bray Hill, which is situated just outside Douglas. The starting and finishing point is seen below the X.

AFTER the Tourist Trophy Races a leading manufacturer asked what in our opinion was the most striking feature, and we did not hesitate to reply the wonderful efficiency of the small twin-cylinder engine, and the advantage derived from a good but light change-speed gear. Think of it, the winner of the Junior Race, using a twin engine of only 339 cubic centimetres capacity, averaged $41\frac{1}{2}$ miles per hour (included in this are three stops), and the winner of the Senior T.T., with a twin engine of 584 c.c., averaged $47\frac{1}{2}$ miles per hour, with only one stop. The comparison is most certainly favourable to the lightweight, and in using the term we should like to make it clear that the twin Humber was as much a lightweight as any machine in the race. It may not be generally known that some of these so-called juniors weighed fully 180 lbs.—more, in fact, than the weight of a T.T. single-gear $3\frac{1}{2}$ h.p. From a study of the valuable tables published in our last issue, giving the specifications of all the machines used by the survivors, together with the individual lap times, some interesting and instructive data are obtainable. Four belt-driven machines led the vanguard in the Junior T.T., and, what would cause no consternation to those lucky enough to possess them, all four had Armstrong-Triplex gears. The next three machines in order of speed had two ratios, two of these employing chains

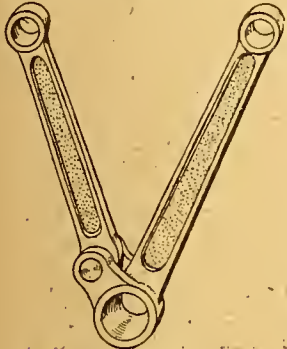
for the transmission. It is clear from the results that the present day single of 300 c.c. is no match for the twin of 340 c.c., for eight of the first nine machines were twins, and seven of these were of the V type.

The Originality of the Winning Humber.

Four of the eight were by no means of conventional design, and in view of the superiority which they demonstrated, it gives one furiously to think whether there is not more in the off-setting of the cylinders than the average motor cycle manufacturer supposes. We all know the wonderful efficiency of the 2 h.p. single-cylinder Humber, and the makers ascribe a great deal of its successes to the *désaxé* cylinder, and consequently adopted it in connection with their new twin. Another reason why I admire the Humber victory so much is the fact that the engine is a genuine tourist—in other words, a broken valve head would not necessarily fall into the cylinder as in the case of most overhead valve engines—and, further, each valve is independently and much more readily removable when placed side by side. As we pointed out last week, flat faced valves are a feature of Humber engines, and here again one must pause for a moment and consider whether valve troubles are not the very least source of trouble with Humber engines. They certainly did not go through the practising without over-

The T.T. Races Reviewed.—

hauls and replacements being needed, but no case of valve breakages came to our ears. A single piston ring. Why are more ever used? queries the reader. Well, there is this to be said, that, although admittedly more efficient, a broken single ring would place a machine *hors de combat*, but with a reserve ring the loss of compression would be less noticeable. We have not yet exhausted the original features of the Humber engine, for the connecting rods are mounted in a manner different from those of other engines of the same type. One of the rods has side supports formed on it to receive the bearing of the other rod. Thus a double bearing is used, and although the bearing surface is increased the crank pin bearing can be much narrower, and the crank case more compact as a consequence. The Humber engine is the work of a clever young designer in H. H. Rush, who is also responsible for the Humber quadcar.



The double-hinged bearing of the T.T. Humber.

drive, and the remaining two were chain-driven throughout.



On the mountain road. J. T. Bashall (4 h.p. Bat-Jap) is seen approaching the "goose neck." J. T. took no risks, as, although accomplishing a non-stop, he was beaten by his brother Harry, who had three stops to change belt.

The Winning Senior Machines Reviewed.

Like the Junior Humber, the two-speed $3\frac{3}{4}$ h.p. Indians were specially designed and built for the T.T. Race. Hitherto it has been impossible to buy a two-speeded twin Indian under 7 h.p., so that this fulfilment of a general demand may be directly ascribed to the adoption of the Snaefell course—always so strongly urged by this journal. It is not going too far to say that in the seven months which have elapsed since the mountain course was decided upon, three years' pro-



A. H. Alexander ($3\frac{1}{2}$ h.p. water-cooled Rex) on the outskirts of Kirkmichael.

gress has been made in the change-speed gear movement, taking the former rate of advance as a basis. Why only two single-gear lightweights finished the race, and neither of them gained gold medals! In the Senior Race there were eleven single-gear machines among the twenty-eight which survived, and the first one was seventh in order of speed. In direct opposition to the Junior event, chain transmission scored decisively, three of the four fastest machines having chains. Although disqualified, we must take C. R. Collier's times into account in this treatise, as they must remain for all time, and the fact that he stopped six times for petrol and tyre troubles, yet was only sixty-three seconds slower than O. C. Godfrey, proves how fast he travelled when on the move. Seven in all of the twenty-eight employed chain transmission.

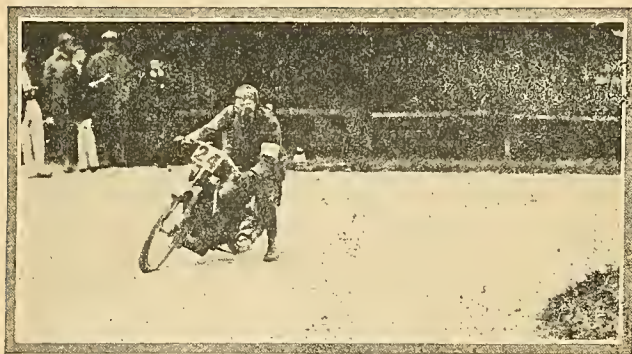
Singles v. Twins.

In the battle of the cylinders, the twin easily won, and created no surprise, for it was long ago realised that the single-cylinder was too heavily handicapped. It is a strange fact that, although each year the capacity of the multi-cylinder machines has been reduced, the speed has been increased in inverse proportion. Another year it is felt that equal cylinder capacity will provide a most sporting race, and Mr.



At full speed on the mountain road from Ramsey—J. D. Corke ($2\frac{1}{2}$ h.p. A.J.S.) leading, followed by V. Wilberforce ($2\frac{1}{2}$ h.p. Douglas.)

The T.T. Races Reviewed.—



Eric S. Myers (4 h.p. Scott) at the famous hairpin bend on the Snafell road.

M. J. Schulte, managing director of the Triumph Co., mentioned to me in conversation that in his opinion the twin would have to give the single-cylinder an advantage in a year or two. It is an open secret that the average twin of 1909 was hopelessly inefficient, and it is only in recent years that this type of engine has received the attention it deserved.

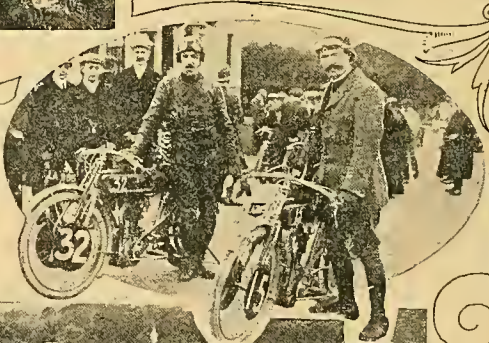
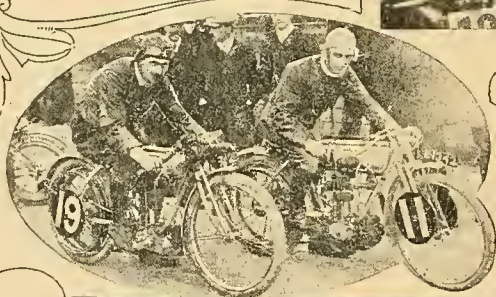
The Bore-stroke Ratio.

Turning to the ratio of bore and stroke, we are forced to the conclusion that there is little or nothing in it. I have heard Mr. S. F. Edge say that he considered speed was governed solely by cylinder capacity, and he thought little or nothing was to be gained in this connection by adopting a long or short stroke. And his remarks are absolutely confirmed

by the result. In the past, it has usually occurred that a short stroke engine led, with a long stroke engine a close runner up; this year the conditions were reversed. Further, though a 70 by 76 mm. engine won, a 74 by 62 mm. engine accomplished the fastest lap, and but for trouble might have kept the lap times consistent, but we desire to contradict the statement that Frank Phillips's retirement was due to trouble with his timing gear as reported to the press steward, Mr. F. A. Hardy! Again in the Junior Race there is a perfect medley of bores and strokes. A twin of equal bore to stroke won, a short stroke single was second, and a long stroke twin third. It is worthy of mention that for the first time on record a two-stroke twin proved itself the fastest machine.

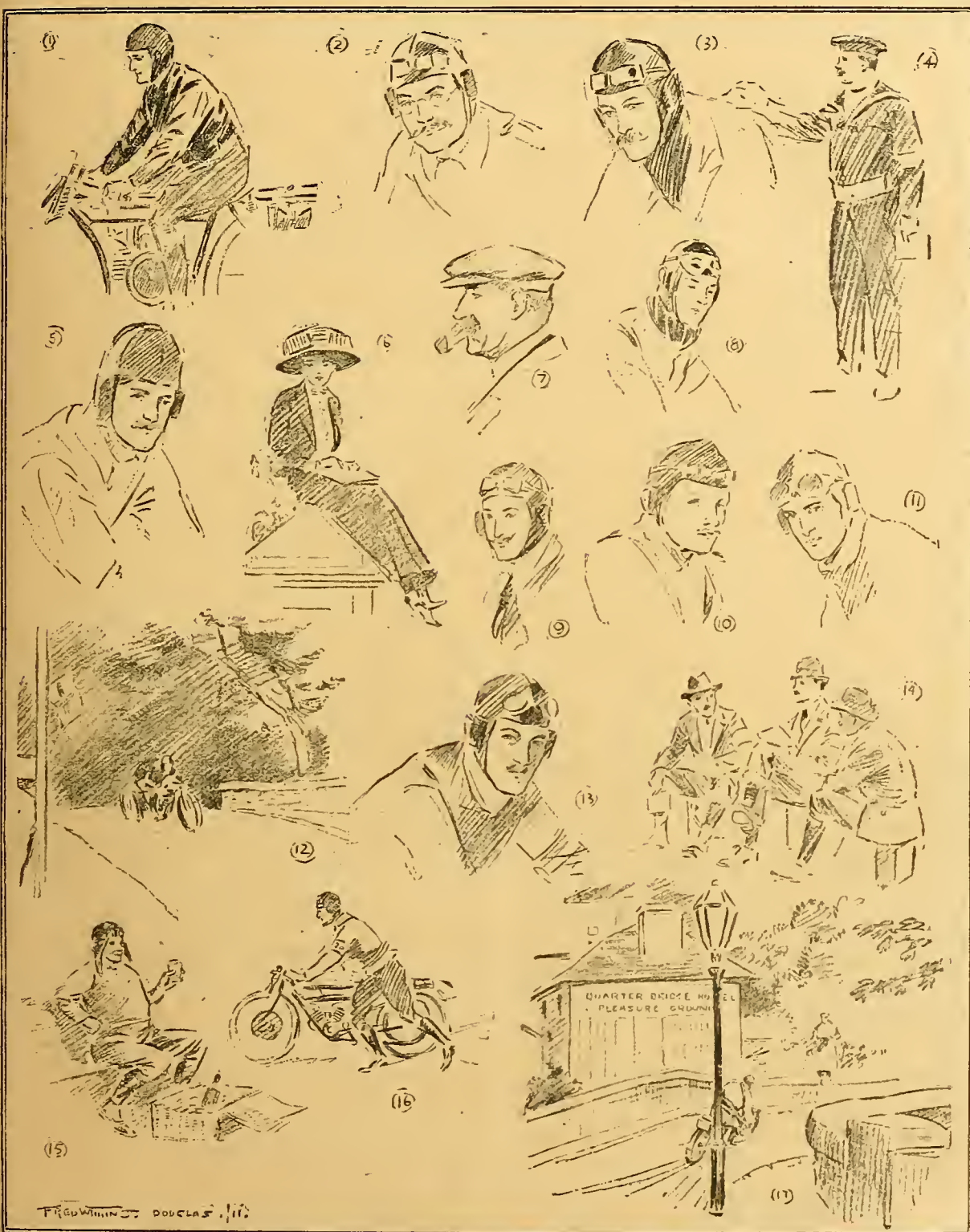
In a nutshell, the small twin-cylinder engine has received a magnificent advertisement. Change-speed gears have demonstrated their worth, and, above all, their reliability—of a 75% proportion the troubles with gears did not total half a dozen. There are few other striking lessons. Take, for instance, the burning question, which is the best position for a change-speed gear? In the Junior Race, the first four had three-speed gears in the rear hub, but the designer would pardonably waver in his mind on turning to the Senior Race, in which the winner used a counter-shaft two-speed gear, the second to finish a variable engine pulley (as opposed to the *adjustable* engine pulley), the third and fourth counter-shaft two-speed gears, fifth and sixth variable engine pulleys. Finally, the go-anywhere mediumweight is among us, and threatens to become a rival to the 3½ h.p. s.c. single-gear mount. G.S.

SOME OF THE TEAMS IN THE T.T. RACES.

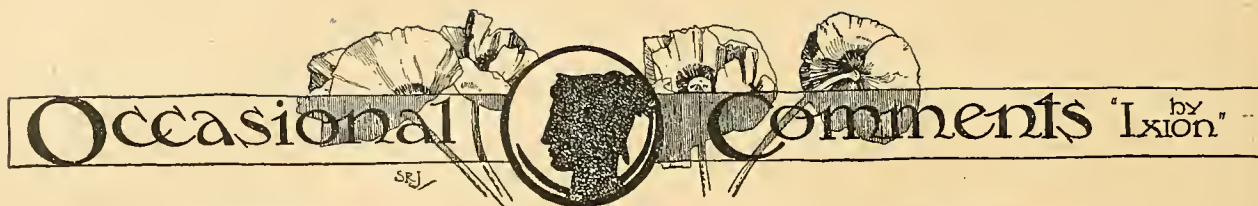


(1) The victorious Humber riders—S. Wright, D. Brown, P. J. Evans (winner), F. P. Johnson, and A. G. Fenn. (2) H. Martin and D. C. Bolton (three-speed Martin-Jap riders). Bolton won his class in the kilometre speed trials. (3) H. A. and C. R. Collier with their Junior T.T. Matchless-Jap machines. (4) The Douglas team: G. L. Fletcher, W. W. Douglas, V. Wilberforce, and E. Kickham. (5) The N.S.U. riders—K. Gassert, W. Heaton, A. Boldt, R. Drechsler, and J. F. Sirett.

COMPETITORS IN THE TOURIST TROPHY RACES, AND INCIDENTS CONNECTED THEREWITH.



- (1) W. W. Douglas. (2) H. A. Collier. (3) Hugh Gibson. (4) A signaller. (5) Fraceois Saio. (6) A pretty gate ornament. (7) Lord Razlan.
 (8) V. Wilberforce. (9) The winner of the Junior race. (10) R. Drechsler. (11) D. Bolton. (12) O. C. Godfrey, winner of the Senior race, crossing Quarter Bridge.
 (13) C. R. Collier. (14) Petrol tanks make good seats. (15) A German rider refreshing himself. (16) D. Brown pushing his machine past the post.
 (17) A Senior T.T. competitor grazing the footpath at Quarter Bridge.



Valve Position.

One detail received further enlightenment in the T.T. Races. It has long been a commonplace of motor engineering that the "overhead" type of inlet valve makes for greater engine efficiency, and some critics have wondered why some of our leading firms retain the side-by-side type on their touring engines. The answer was plain to any observer in the Isle of Man. If anything goes wrong with the exhaust valve, it is much simpler to remove a cap than to extract an overhead valve and its top hamper. One or two riders, using side-by-side valves, rectified slight exhaust valve troubles inside three minutes. Others, who had to unfasten a petrol pipe or inlet pipe, a valve dome, and a long tappet, spent nearly a quarter of an hour over the same job. Moreover, the side-by-side valves are more getatable; present designers, therefore, make their selection between convenience and efficiency.

The Open Frame.

Somebody said last year that the Scott machine "stuck to the road at racing speeds like a postage stamp." This is a slight exaggeration, as anybody who saw Frank Philipp with both wheels clear of the ground for ten feet at Ballig Bridge, or heard the thump with which he landed, can testify. Nevertheless, there is no doubt these open-framed machines do not bounce and buck like the diamond, and one wonders why other firms do not experiment with similar patterns. The open frame has very obvious advantages from the winter clothing aspect; the Scott outlines prove that it need not look freakish or ugly, and its smooth travel seems to claim pronounced comfort for it. Who will be the first to give us an open-frame four-stroke?

Success of the Armstrong Hub Gear.

For ten years past the industry has been trying to produce an epicyclic two-speed hub, which should be absolutely reliable; and though of late years a few hubs, such as the Roc, Nala, etc., have made good, as the Americans call it, yet there still exists a distinct prejudice against internal hub gears, bred of the troubles of the past.

If anything could slay this blind unreasoning prejudice, the giant-killer should be found in the T.T. Races. In the Junior event no fewer than sixteen Armstrong hubs stood up so well in practice that they were used, and used successfully, in the race. Six of the hubs also figured in the Senior Race, although when first brought out the makers only recommended the gear for use with small engines.

During the race a certain rider was slow in appearing on one of his laps, and a voice was overheard to speculate that his Armstrong hub had gone amiss. An Armstrong director immediately offered to bet the voice £20 to £1 against hub trouble being the cause of the disappearance. This sporting method of denial shows the confidence existing in the minds of those who are responsible for the production and sale of the gear.

Junior Weights.

Several publicists were doing their level best to persuade the gentlemen at the head of firms which figured well in the Junior T.T. to publish the actual weights of their victorious machines. One wily person asked leave to have a certain machine weighed to settle a heavy wager he professed to have made, but apparently his astuteness went unrewarded, for nobody seems to know at all accurately what the "light-weights" really scaled. This concealment is really rather foolish, for the heavier any particular machine weighed, the more creditable are its speed and hill-climbing.

Nobody supposes the Junior machines weighed as little as 80 lbs.; probably no single mount used in the race came within measurable distance of 120 lbs., unless maybe the Alcyons—they looked—and "hefted"—light. Probably the average was a solid 155 lbs. at least. It was a distinct omission not to weigh all machines entered for both events, though without fixing a weight limit. Next year the A.C.U. will probably insist on the weights being verified and published, even though no limit is imposed.

Petrol Reserves.

A refinement which deserves more attention is the safeguarding of the petrol supply. In these long distance days no motor bicycle can be said to carry as much fuel as is desirable; and since a huge tank disfigures a machine, it is well that some method of warning the rider that his tank is nearly empty should be universally adopted. Several three-way petrol taps have been patented, but you will have to search hard to find one on a standard make. One machine is fitted with a small trap-wall in the petrol tank, which holds up a few ounces of petrol; the idea is that when the engine stops, you lift the front wheel in the air, the reserve petrol overflows the dam, and you go on rejoicing to the next garage.

Relying on this fitment in a trial run the other day, I neglected to verify my petrol, and my engine stopped only six miles from a garage. But the patent trap only trapped enough petrol to take me four miles.

Spider Quads.

Our correspondents appear to concentrate their attention on the commercial and manufacturing aspects of this problem. The argument surely is that there is and always has been a steady and extensive demand for a vehicle which does not skid and which provides better protection from the weather than the average motor cycle. The desire to accommodate an extra passenger also is a factor in the question. These three demands cannot well die out, and my own impression is that they will continue to press the idea of a three or four-wheeled motor cycle upon the trade until sooner or later a capitalist and an engineer succeed in solving the serious technical problems involved. There may be delay—long delay, possibly—but the demand will some day create a supply.

Dutch Motor Cyclists' Visit.

THE party of Dutch motor cyclists who visited this country for the Tourist Trophy Races have now returned to their native land, and on their way to Harwich we were afforded an opportunity of again meeting them, this time at the Enfield Cycle Co.'s works at Redditch, where they had been invited by the directors to make a halt in their journey from Liverpool to Cambridge on Wednesday of last week. Soon after eleven o'clock in the morning the advance guard from Kidderminster rode in at the works gates. The remainder journeyed from Newport (Salop) and Chester, and arrived later. The names of the riders and their machines are:

A. Citroen (6 Matchless-Jap)	N. Ruyter (2 M.R.)
J. Ferwerda (5 F.N. 4-cyl.)	P. Raymakers (2½ Vulkaam)
J. C. Neurdenburg (3½ Rudge)	J. M. Bergmans (4 Simplex)
A. J. Kerbert (2½ Douglas)	A. Mannheim (3½ Humber)
G. Eweg (4½ Minerva)	C. W. Wilson (3½ P. and M.)
H. de Vos (5 F.N. 4-cyl.)	

One of the F.N. machines has the carrier specially strengthened with wood supporting stays, to enable a very heavy touring bag to be carried; otherwise the machines presented no special features. The Vulkaam is a Dutch machine with Z.L. engine, and the Simplex is also Dutch with a 4 h.p. German engine. One member carried a small cinematograph apparatus, and several had hand cameras.

C. W. Wilson is the captain of the Cambridgeshire M.C.C., and met the Dutchmen at Cambridge on the outward journey, and accompanied them right through.

A. Citroen is the hon. secretary of the Dutch M.C.C., which has about four hundred members out of the 3,000 motor cyclists in Holland. He told us the party thought the tour the finest they had undertaken, and the roads were a great improvement on those they were accustomed to ride on. Greatly to their surprise, they found the steepest hills in

Douglas, and nowhere on their route in England did they find the steep hills which they had read about in *The Motor Cycle*. We explained that these hills were exceptional, and if they had had to cross Wales or Scotland to get to the Isle of Man they would have told a different tale.

Questioned regarding the T.T. Races, our friends from Holland said the most surprising thing to them was the high speed of the Junior machines, and the great popularity of the change-speed gear in both events. The smoking concert at the Selton, where they met the A.C.U. members, was much appreciated, and they wished to thank through the medium of these pages all who had assisted them in connection with their tour; on all sides they had met with the greatest kindness.

After exchanging cards and greetings, the guests were conducted over the clean and well ordered Enfield factory by Messrs. R. W. Smith and J. W. Davis (directors), and appeared to take a keen interest in all that was shown them. The track was also visited, and trial runs were made on a 2½ h.p. chain-driven Enfield, whilst some tried their hand at batting in the centre of the track, the bowling being performed by an ingenious machine which has been made at the Enfield works to ensure a middle stump every time!

At the luncheon, which was served in the board room, Mr. Davis proposed the toast of "Our Dutch Visitors," and said how pleased they were to see them. Mr. Citroen replied, and called for a Dutch cheer, and a responsive "Hiep, hiep, hoera" immediately followed. The menu card was printed in the Dutch colours, and among the items were "chickens from our own 'En-field'"—a little joke which was fully appreciated.

Soon after 3 p.m. a start was made for Northampton *via* Daventry, where we bade goodbye to our Dutch *confrères*, who crossed from Harwich to Amsterdam next day.

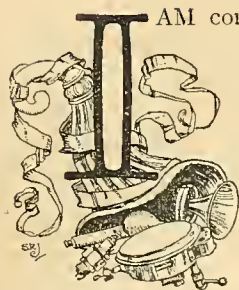


Six members of the Dutch M.C.C. at the Enfield Cycle Co.'s Works on their return journey from the Isle of Man. The party consisted of ten in all.

THE MOTOR CYCLIST'S MECCA.

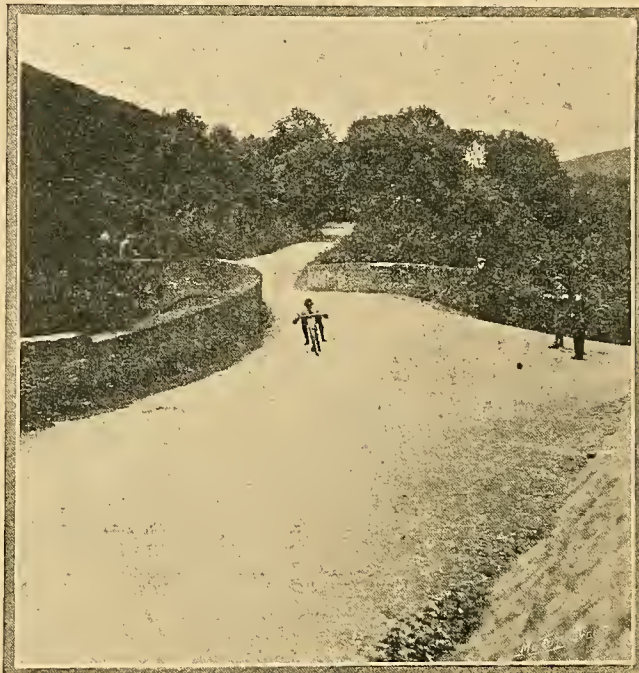
A WEEK IN THE ISLE OF MAN.

By B. H. DAVIES.



I AM coming to regard the Isle of Man as the motor cyclist's Mecca. What a contrast it provides with England. As I rode up from Northampton to Birkenhead on the Wednesday before the race, my T.T. Rudge won many a sour look along the road—the dust it kicked up, the nervous tremor its healthy bark sent quivering down the spinal cords of horses, the peculiar confusion its mere presence on the highway occasioned in the timid bosoms of elderly ladies; we felt we were only tolerated on the roads, and that a majority of the populace would possibly welcome our entire suppression. This was especially the case in Cheshire, where every point policeman took our time and number—most unwelcome attention, for I had broken an inlet valve, and a large circular piece blew clean out of Geoffrey Smith's back tube and completely disappeared, so that we had to hustle to catch our boat. It is true the voyage across is an unpleasant business; it grieves the heart to see thirty or forty machines chucked in a bristly mass against a bulkhead, and roughly lashed together. It is an odious business to lug a heavy machine up a hundred steep steps at low tide, and haggle with a surging crowd of cadging Manx porters. But once landed, one forgets the disagreeables. The sporting islanders welcome us with enthusiasm, and tacitly suspend their speed laws for

our benefits. They *prefer* us to roar through their villages at forty miles an hour; the buxom Manx wives kiss their hands, the men cheer, the kiddies wave.



P. J. Evans (2½ h.p. Humber), the winner of the Junior T.T., at Ballig Bridge. It was noticeable that the bigger machines jumped much further than the lightweights.



At the examination of the competing machines. We need hardly say that the paper which the group in the centre (which includes the brothers Collier) are busily perusing is "The Motor Cycle."

They *prefer* us to remove our silencers, so that they may know from the clean sharp bark of the exhaust what tune our engines are in. The horse drivers keep to their proper sides—even the pigs seem anxious to apologise for that defect of temperament which makes their progress at times a trifle wayward. Yes, the Island is the motor cyclist's Mecca, and T.T. or no T.T., I hope I may often revisit it. I am a patriot to the backbone, and my old friend Billy Wells will pardon me for saying I should like to have seen an English machine first as well as an English rider; but one crumb of comfort we all got from the red Indian's smashing victory—there had been talk of bringing the T.T. series to an end; but now, after its licking, the English trade cannot decently dispense with at least one more race.

The Procedure on Landing.

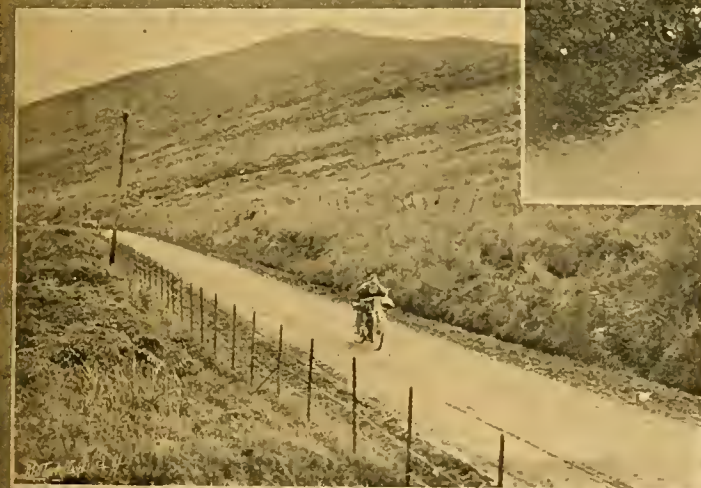
Once landed in the Island, there is much to be done in the intervals of waiting for the great day. The younger and more sportive visitors remove all impedimenta from their carriers, tie a gaudily coloured cushion thereon, and spend their leisure giving free pillion rides to dashing little flappers from the card-rooms of the Lancashire cotton mills, who spend their "wakes" week in Douglas, and have susceptible hearts where a handsome youth in gaiters is concerned. I leave it to my colleague "Road Rider" to prepare some useful hints on this subject before 1912. I will

The Motor Cyclist's Mecca.—

only mention two incidents. One youth secured his fair passenger in Atholl Street, and having no free engine, was fain to first of all seat her on the carrier, then push off, step on his foot-rest, and throw his right leg forward over the tank. In this process he

SCENES DURING THE ASCENT OF SNAEFELL.

Picking up speed after rounding the "gooseneck."



A fast stretch of road, near the Bungalow Station Hotel. The gradient at this point is approximately 1 in 15.



A twisty section of the mountain climb. The beads are just too severe to be taken at full speed. The coast line is discernible in the background.

the probable winner. We went the round of the quiet depôts far from the madding crowd, and were granted secret peeps at weird fakements and at portentous pistons, resembling the Irishman's coat.

An Experience with Wired-on Tyres.

On the Saturday I had an instructive road experience. I was using wired-on tyres, and my Rudge was in her best "sixty" form, and just about all out, when "bump, bump, bump," betokened a back wheel puncture. As everybody knows, a wired-on cover spins round in the rim like a Gnome engine as soon as the tube is deflated, and before I could pull up, the cover had worked round for 180°, and the place where the valve of that tube used to grow was a long and fearsome slit. Perhaps that is why the Colliers seldom if ever use one. A passing Triumph courteously fetched me a new tube from the Rudge depôt. I fitted it, and began to make up time. Within a mile the same thing happened again, and a passing Motosacoche fetched me yet another tube, to the great amusement of the Rudge

was a long and fearsome tusk, which projected frightfully from an otherwise no doubt beautiful mouth. So, "Road Rider," before the next T.T., publish a few notes about the superior safety of sidecars, and the wisdom of surveying Lancashire lassies by daylight before putting a carrier at their disposal for a week!

More sedate and elderly riders like myself found other modes of occupation. We had our half-dozen "blinds" round the course. We foregathered with old acquaintances from every corner of England, Scotland, Ireland, and Wales. We visited the lovely glens of the Island. Each—if you can trust its proprietor—is "the beauty spot of Mona." We saw the early morning practice, if we woke in time. We went hill-climbing along freak by-roads; we talked till all was blue about

kicked his handle-bar. He flew off towards the port side, she towards the starboard, and the bicycle continued alone, though not for far. Remounting, an Irish terrier fetched them both off again within ten yards. But the sporting lassie fra' Lancashire did not mind in the least, and when I next sighted the intrepid couple they were taking a beautiful toss at the Ramsey hairpin in an effort to surmount Snaefell. Another rider of repute was foolish enough to make the acquaintance of a lady of the shuttle late one night during the fireworks; and when they met next morning by daylight, he discovered her most striking feature

The Motor Cyclist's Mecca.—

mechanics. Friday's race has already been reported in great detail, and is now stale history. I will only say with what glee a veteran variable gear enthusiast saw the long-delayed apotheosis of the multi-speed machine. The riding was of a much higher class than has ever before been witnessed. Most of our races have been disfigured by the presence of a lot of mad young fools who expect to win at record speed the first time of asking. This year nearly every man rode as though he wanted above everything to finish. The restraint at the corners was magnificent. I am still quite undecided as to the best method of viewing the race. I always adopt the policy of mobility, and using my machine along the by-roads contrive to see the race from half a dozen different points each year: this pays from the spectacular standpoint, but if the race is as tight as Monday's event, it is difficult to be quite sure what is happening. To follow the race with certainty, one must squat opposite the scoring board at the start.

Unequal Conditions.

The great disappointment of Monday's race was that the twins had not been handicapped down to the level of the singles, as practice had already warned us. Some people say the singles were quite as fast uphill as the twins, and that the twins only scored on the level and downhill by touching seventy or seventy-five, as against the sixty of the singles. I am personally quite certain that the twins snatched a few seconds wherever *acceleration* was demanded, especially on the uphill corners, such as the "Goose-neck" and the hairpin. I have seldom heard such a heart-breaking exhibition of conking as some of the quite fast singles gave at the hairpin, and even at some of the flat corners. There was a very marked difference in pick-up between the two types. My contention is rather borne out by the times taken in the flying kilometre on the promenade. The entries were few, but the twins did not show a very marked superiority in speed on the level. I believe they scored in the race almost exclusively by dint of superior acceleration; and, if this is so, the twins may continue to win even if they race against singles of equal cubical capacity. One point deserves mention, which is that the roads were distinctly faster on Monday than on Friday. In the Senior event they were practically perfect throughout;

in the Junior event several quite long patches were not dry until after a couple of laps, and a skid was quite feasible on one or two portions of the mountain road, and along three avenues of the Kirkmichael to Sulby road, where interlacing trees meet overhead for a mile at a time.

A Tribute to Jake de Rosier.

In the Senior event, I think Jake de Rosier showed himself to be as fine a rider as there is in the world. He handled his machine magnificently, and his riding position is absolutely perfect. We must remember it is rather a task to ride in a foreign land, through crowds of spectators who would obviously prefer to see their own countrymen victorious, and Jake put up a very fine race. In two points he has something to learn. He is by no means as good a cornerman as many of our own boys, for his speed experience has mostly been gained on the track, and he seems to know very little about "cutting in," though in wide work he is probably faster than any English rider who takes his bends far out. It further struck me that he is more of a rider than a mechanic. It may be unfair to judge a man on a performance accomplished when he has said good-bye to all chance of a win which he has travelled thousands of miles to gain, and when he is physically exhausted by four trying laps at 45 miles an hour, but Jake's work in the endeavour to put two or three very trifling details to rights at the Ramsey control was very poor. He fumbled and muddled and lost a deal of time that might have been saved. His flying kilometre on the Wednesday morning ridden against the wind was a great deal better than 75 m.p.h. sounds, riding on a narrow curving track slippery with rain. His famous 7 h.p. "No. 21" is a beautiful machine, lighter than most low-powered touring machines, and wheeling with extraordinary ease when the valve lifters are in operation.

This year I made the experiment of travelling by the midnight boat. It is only to be recommended when necessity compels it. The bar is situated at the end of the sleeping saloon, and there is apt to be noise, while in hot weather the atmosphere is intolerable. If the night boat is used on the return journey, some arrangements should be made for petrol at the landing stage, for all Liverpool is asleep when the boat gets in. It would pay a wideawake garage to send a cartful to meet the returning night boats next year.



R. Drechsler
(N.S.U.)
at Ballig Bridge
The
three German
riders greatly
impressed the
spectators by
their fine corner
work.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

The Motor Cycle in Ceylon.

[5725.]—Motor cyclists do not know what they are missing by not touring in Ceylon. The hills, scenery, and places of interest in this beautiful and prosperous island would well pay anyone to make Ceylon their holiday resort. Petrol is kept at a good many of the rest-houses *en route*, and I could furnish a list of petrol depots to any intending tourists.

A. M. WRIGHT.

Ceylon.

Stolen Machines—A Suggestion.

[5726.]—Reading letter 5705 in the issue of June 29th, I came across your footnote in which I see you raise an objection to have numbers on the crank cases as suggested by your correspondent. I think his idea sound, and send you a method which we used to employ at a small foundry where I worked. Some of our castings were numbered, and to do this the numbers were carved separately, and gummed lightly on to the pattern for the casting, so that to change from No. 11 to No. 12 all we had to do was to remove the "1" and fasten a "2" in its place, and so on. Might not this idea be applied to motor cycle crank cases?

H. C. TREHERNE, R.N.

Vulcanising Inner Tubes After Punctures.

[5727.]—I have read with interest the remarks of your contributor "Ixion" on the necessity of vulcanising inner tubes after punctures, and beg to differ. For the last three years I and two friends have never used anything but Chemico solution and pieces of old inner tube, and have never had trouble from patches working loose, and we have had our share of punctures. We cover from 4,000 to 8,000 miles each per annum on the following machines: 2½ h.p. De Dion and trailer. 3½ h.p. Matchless-Jap and sidecar. 5 h.p. Matchless-Jap and sidecar. I think you will admit that this list is fairly representative.

J. CAMPBELL.

Lady Motor Cyclists' Performances.

[5728.]—I notice that comparisons are being made in the press between two performances by ladies on motor cycles, the first being the record set up by Mrs. Baxter at New Brighton race track, the other being a performance at Clipstone.

Without going into the question of the power of the machine or the advisability of ladies entering such events as these, I think it would be fairer and better taste if the comparisons mentioned above had been omitted when the reports were sent to the papers. If the comparisons were necessary, it should have been stated fully that, whereas Mrs. Baxter's performance was made on New Brighton track (on which male motor cyclists are not accustomed to travel at speeds much over forty miles per hour), the second performance was made on a straight road, without the bends and other dangers attending the track performance.

Personally, I do not think that such performances will increase the popularity of motor cycling. I trust, however, that you will find room to insert this letter in fairness to Mrs. Baxter. I may say that my only interest lies in the fact that we both live in Liverpool. I have only met the lady once, and have no other interest whatever.

S. W. PHILLPOTT.

Insurance.

[5729.]—Quite recently I had an accident to my motor cycle and sidecar through slipping and running into an obstruction when starting.

I advised my insurance broker, Mr. Ernest Bass, of Bishop's Stortford, next day, and he immediately came and saw me, with the result that an estimate which I had in the meantime got from a firm of repairers, amounting to £8, was passed, and I received the cheque the following morning.

E. LEWIS.

A Dastardly Trick.

[5730.]—Myself and friend had a slight accident on the Knutsford Road between Pickmere and Tabley which necessitated our leaving the machine and sidecar for the night, and when we went for it the following morning, the engine, which was a 1911 twin J.A.P., was removed from the frame and found in a field a quarter of a mile away.

Every wire was cut, the petrol and oil pipes were torn in two, and various other parts were strewn about the road. In fact, the machine, which was a 1911 Zenith-Gradua, was a complete wreck.

Trusting you will give this a prominent place in your paper, as a warning to any other motor cyclist who may be obliged to leave his machine, to place it under lock and key, or otherwise remain with it if at all possible,

P. E. TETLOW.

P.S.—A reward of £5 is offered for information which will lead to the arrest and conviction of the offender or offenders.



Arnold Keyzer, our Cape photographer, who won the first open hill climb promoted by the Cape Peninsula M.C.C., on the Red Hill, gradient 1 in 4. He used a 1910 Scott, but now has a 1912 model on order

Great Retorms in the Scottish Six Days' Trials.

[5731.]-In your issue of the 29th ult., I notice a letter from "T.S. 345," *re* hill-climbs. "T.S. 345" states that immediately after the six days' trial riders had passed over Amulree, J. W. Adamson, of Perth, made a clean ascent with a passenger on the carrier. J. W. Adamson got as far as the hairpin bend, when his passenger dropped off, and Adamson finished the ascent alone. I believe Adamson is quite capable of taking the hill with a passenger, and would have done so on that occasion, but I think his passenger's nerves must have got the better of him, and he decided he had had enough. When J.W.A. is well exceeding the limit—especially round corners—it is not quite a picnic for his passenger.

AD SUM.

Change-speed Gears and Sidecars.

[5732.]-I enclose two photographs of my sidecar combination, which I think might be of interest to a section of your readers. The machine is a 6 h.p. N.S.U. I have owned this machine for eighteen months, and driven it in all weathers over all sorts of roads, and I cannot praise it or its N.S.U. two-speed gear too highly; in fact, nothing ever does go wrong with it except a new clutch spring now and then costing a few pence. Tyre troubles and belt slip are practically all my worries, and it is not surprising, seeing that the combination is weighty, and very often there are three full-sized people on board.

I often think, when reading in your paper of disappointed users of two-speed gears, that they have not had experience of the N.S.U. gear. I have never met any but satisfied owners of it as yet.

My sidecar is a Montgomery; the body I built myself. The top lid lifts up on hinges, carrying the wind screen (celluloid) and the horn with it; there is a side door allowing easy entrance for passenger. It is very roomy inside, contains two large cupboards for spare tubes, etc., and is padded all over, making it very cosy in cold and rainy weather. The screen is adjustable up or down. I can easily do 40 m.p.h. (by the Cowey) on the level.

I suppose it is hardly necessary to say I am only interested in the N.S.U. and Montgomery Companies to the extent of being a very satisfied private owner. Wishing your paper the best of luck,

A. BAKER.

[5733.]-In your issue of June 15th there appeared a grumble about two-speed gears and high h.p. machines used with sidecars.

As I have ample experience of above combination in an 8 h.p. Matchless and rigid type M. de L. Montgomery sidecar which I had delivered to me in March, I think in justice I should relate my brief though varied experience.

I have ridden a considerable distance since then (two to three thousand miles), and that over the worst roads in Christendom (as admittedly some Irish roads are), without the slightest mechanical trouble. In particular the two-speed gear fitted on my Matchless is a very fine piece of mechanism, enabling me to glide off with a full load of from 3 to 4 cwt. from low speed as smoothly as the most efficiently clutched car I know. The change to top when under way is a very simple and convenient procedure, and with the high horse-power one can run almost constantly on top even in fairly hilly parts—a great advantage.

I have had no trouble from slipping on top, and as this gear is arranged I don't see how slipping could take place. *Re* tyres. Your correspondent's experience is not mine, having had a car. I grant you the non-skid tread wears off smartly, but with a sidecar there is no danger of skidding. I would remind your correspondent that there is a difference in the strain of 14 to 15 cwt. (weight of most small cars) coming down on a tyre in a pothole in the road and the 3 cwt. of bicycle and sidecar.

A 30

Re transmission. To my mind the twin belt of the Matchless is perfect, no slipping, and in wear it equals a single belt machine of half this h.p. In short, it fully justifies any claim laid down for it by Messrs. Collier. My wife and two children, who frequently accompany me, are not acrobats, and for my part I consider the steering smoother than that of a car.

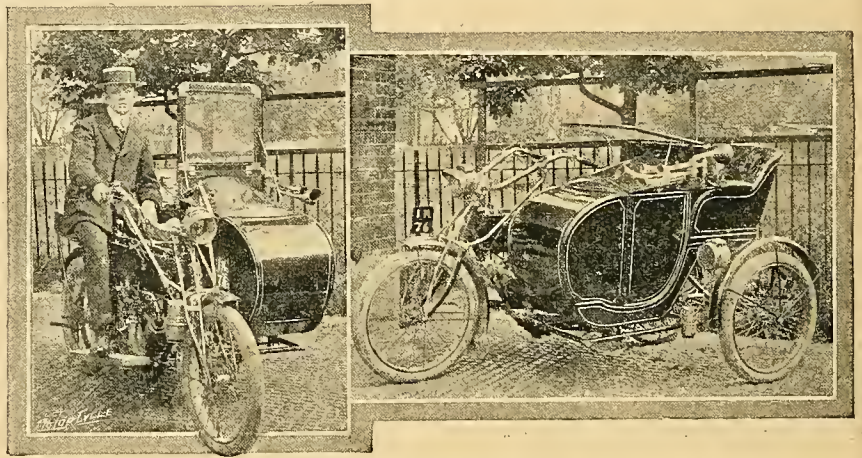
As a medical man I use my machine night and day, and in all weathers and on all roads.

F. C. WRIGHT.

The Tourist Trophy Races. Are they Instructive?

[5734.]-It is such an easy matter to moralise and be after-wise, that if it did not seem essential one would not like to refer to the fatal and other serious accidents in the practice for the T.T., but it is quite time we asked ourselves the question, "Is it worth the risk?"

That we have derived much benefit by road racing in the past and that experiences thus gained have helped to evolve the present motor cycle no one can deny. There is, however, no further need to take such risks, and such spectacles as these are only for the morbid. What the would-be motor cyclist wants is not to know if a certain make of machine, properly faked and as much unlike a



A 6 h.p. N.S.U. with two-speed N.S.U. gear and special Montgomery sidecar, belonging to Mr. A. Baker, of Brighton. (See accompanying letter.)

standard machine as possible, can peg along at sixty to seventy miles an hour for a short distance, but if a standard machine with full touring kit will take him anywhere at a good average speed.

It only requires a good lead from motor cyclists for the A.C.U. to doom such misnamed sporting events as the T.T. and to support in a whole-hearted manner the genuine attempt to bring out the best in all makes of machines in such genuine competitions as the A.C.U. Six Days' Trial.

G. PHEBY.

[We publish our correspondent's letter as an evidence of what some motor cyclists think about the T.T. races. With regard to the accusation respecting standard machines, we refer readers to our leaderette page in this issue.—Ed.]

Riding in Long Coats—A Warning.

[5735.]-Perhaps this letter may be of warning to other motor cyclists, who, like myself, wear long macintoshes or coats. I have ridden thousands of miles with a long coat, and always preferred it to a short one, and I did not think they were dangerous. The other day, while returning home *via* Saxmundham, I was sailing along when without the slightest warning my coat tail caught in the chain (5 h.p. Indian) and I was hauled off the motor backwards, and had a very bad spill. Should have been in a very poor plight if it had not happened near some cottages, as motor was on top of me, and I was pinned to the ground and quite helpless. I should like to thank the rider of a Triumph who helped me in every possible way, as he must have stopped some considerable time in effecting repairs to motor.

Trusting this letter will act as a warning,

IL 126.

Change-speed Gears and Sidecars.

[5736].—Anent the correspondence with reference to the power and reliability of machines for sidecar combinations, I am running a $3\frac{1}{2}$ h.p. N.S.U. for touring work with every satisfaction. The engine is 80×80 mm., thus being somewhat smaller than this year's model and most of the standard $3\frac{1}{2}$ h.p. machines. The sidecar is a rigid Millford. The weights of passengers are 11 stones and 8 stones respectively, to which must be added a small luncheon basket, a photographic outfit, and frequently a kit-bag weighing close on 2 stones when packed, while the dog weighs a stone and a



The $3\frac{1}{2}$ h.p. sidecar combination referred to, by H 8376.

half. I can do 20 m.p.h. on good average give and take roads, and riding recently from London to Ross-on-Wye, the only hill I could not climb to the top with full load was Dashwood Hill. Returning, the long hill out of Stroud necessitated discharging the passenger, and White Hill, on the London side of Henley, had to be negotiated by running alongside the machine for the last half of the climb.

A friend has a $3\frac{1}{2}$ h.p. two-speed Humber with sidecar which he has used extensively for nearly two years, and he finds only an occasional hill he cannot climb. The other day we rode from Brighton to London together in the rain and with heavy roads, and he had a total load of 28 stones. There are times when we should welcome a little more power, but on the whole we score in the matter of simplicity and economy. Belts seem the heaviest item, an inch rubber belt only doing about 1,000 miles. Regular lubrication is essential, and thick engine oil is preferable to grease for gear lubrication.

H 8376.

Conduct in the Isle of Man.

[5737].—I cannot help referring to the disgusting and dangerous conduct of many of the motor cyclists attending the T.T. meeting in the island—conduct which must eventually close to us the only roads open for speed trials.

The way the promenade was crowded with mad motorists was certainly most dangerous, but luckily no accidents occurred to those immodest women who seemed to let all decency fly.

Possibly these motor cyclists will remember that the Sahara Desert will soon become the only speed trial ground left to us if such conduct is persisted in. Where were the police?
SUNLIGHT.

Foreign Machines and English Riders.

[5738].—The success of three American machines in the T.T. race must be rather a disappointment to natives of Great Britain. It certainly is to me, and on looking at the results I find that the riders are all English, and that the American machine ridden by Americans did not make nearly so good a show.

As a designer of things myself, I would be sorry to belittle the winning machines. They must have been good to succeed; also I would give any credit for their riding ability to the pilots of them, but greatly regret that their patriotism is not in the same class. If a foreign machine ridden by a foreigner of any nationality can win, by all means let us congratulate him, and then learn what we can from his victory, but for our best riders to select such machines for their mounts to assist the astute Yankee to sell them here, instead of allowing him to demonstrate their merits himself, is poor patriotism and commercial lunacy.

Let us hope that by next year a few new stars will have arisen with equal ability and more love of their own country, and I am sure their success will be applauded as it will deserve.
A. C. DAVISON.

Acetylene Gas as a Fuel.

[5739].—In your issue of the 15th ult. we find some very interesting remarks under the heading "Acetylene Gas as a Fuel."

We would like to point out that the fears expressed in your footnote are a little over-stated. There are dozens of stationary engines in this and other countries which have been working for years with acetylene alone, and they work quite satisfactorily. The reason why acetylene has not been adopted on a much larger scale for motors is simply one of cost, elaborate experiments having shown that the cost for the fuel is 50% to 100% more than if petrol or petroleum be used. The high temperature obtained through the combustion of acetylene, while making it an economic medium of light, does not play so important a rôle when used in explosion motors.
CHAS. BINGHAM AND CO.

Will the person who recently wrote to J. B. Dall, Ladybank, Fife, from the Post Office, Talybont, Talycafn, N.W., enclosing a remittance, kindly forward his correct address to Mr. Dall?



THE INVERNESS AND DISTRICT M.C.C. HILL-CLIMB.

A group of competitors and members.



R. Campbell, who made fastest time on his $3\frac{1}{2}$ Triumph.

M.C.C. Third Race Meeting at Brooklands.



Competitors speeding round the track in the first lap of the club championship race for touring motor cycles.

BEAUTIFUL weather, which was at times almost intolerably hot, especially to those whose point of vantage was the shelterless fork, favoured the M.C.C. third race meeting and gymkhana which was held at Brooklands last Saturday. The meeting provided good fun to a very creditable number of spectators, the principal attraction being Jake de Rosier's successful attack upon world's records, and there was also some excellent flying during most of the afternoon and evening. The programme embraced altogether no less than thirteen events, including three gymkhana competitions.

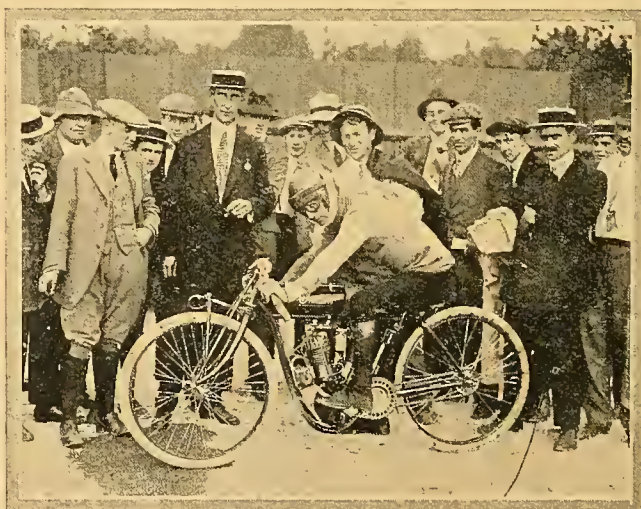
Jake de Rosier, who had been sitting in the shade of the judge's box, and viewing the events with a non-committal complacency, got his 7 h.p. Indian "21" out shortly after 6 o'clock, when the sun had been robbed of most of its penetrative powers, and there was little or no wind. It was announced that he would make attempts upon world's record times for the flying kilometre, flying mile, and flying five miles. The two former were timed over the railway straight, and in order to give the spectators at the fork a show of speed Jake de Rosier got a start some little distance up the track and came past them all out.

At the first time of asking it was perfectly clear that his machine was in good fettle, and he skimmed over the track with a musical purr that to the practised ear indicated plenty of power and thorough lubrication. Taking the bank under the members' bridge fairly high up he got a fine down-hill start on to the straight, and with his helmeted head tucked well down upon the handle-bars disappeared from view behind the railings, only to reappear again in a remarkably short space of time in the neighbourhood of the aeroplane sheds. This preliminary effort was apparently abortive as Jake de Rosier fell a victim to his besetting sin of bumping his chin upon the handle-bars, and as soon as he arrived at the fork several handkerchiefs were tied round the bars and another round the rider's chin to act as a buffer.

Owing no doubt to the fact that in the programme Jake de Rosier was merely announced to go for world's record, the majority of spectators failed to realise the exact nature of the kilometre trial, and were quite under the impression that

he would go all out for several laps, instead of which, he, of course, slowed down immediately after passing the kilometre finishing line.

With the improvised protection over his chin he was soon off again, and this time got going thoroughly well, and succeeded in covering the kilometre in 26½s., or at the rate of 85.32 m.p.h. As soon as these figures had been put up by Mr. W. H. Wells upon the blackboard there was quite a considerable outburst of cheering, and it was realised by the "doubting Thomases" that the great Jake was fairly in earnest and meant doing things. This was further



Jake de Rosier (7 h.p. Indian), who broke three world's records at Brooklands last Saturday, the highest speed he reached being 87.38 m.p.h.—the best ever accomplished on a motor cycle. When confirmed, this performance will supersede Henri Cissac's long-standing record of 87.32 m.p.h., made on a machine of greater capacity.

M.C.C. Third Race Meeting at Brooklands.—



Lining up for The start of the 560 c.c. handicap race.

ensured by the next run round, in which, after getting away past the spectators, he went out for the flying mile. Evidently his motor was improving rapidly, for under the same weather conditions as he had for the kilometre he succeeded in covering a mile in 41½s., or at the rate of 87.38 m.p.h. From the spectacular point of view, the five miles was the best distance of any, as de Rosier came twice past the fork at full speed. Crouching low over his machine, and sitting it as though riveted to the saddle, he flew along as if the track were as smooth as a billiard table. The engine, although very highly-gearred, was fairly humming round, the machine leaving behind it a faint trail of blue smoke. In an incredibly short space of time he again passed the spectators, and, bearing towards the inside of the track, was hugging the railings on the big banking.

The five miles was covered in 3m. 43s., giving a speed of 80.72 m.p.h. The 7 h.p. "21," with the exception of the latest type of spring forks, looked for all the world as though the big twin engine had been planted in the frame of a path racing push cycle. Only such things as are absolutely necessary find a place on the machine, and there are no throttle or brakes. The engine is standard in every respect except that the valve tappets are lighter and not adjustable, and that auxiliary exhaust ports are drilled in the cylinder walls.

Jake's costume is also worthy of note. He wears a padded steel helmet, a brilliant blue sweater, black tights, brown leather gaiters, and black sand shoes. He used the American Blue Streak tyres.

The Touring Machine Classes.

The first event on the programme, the Class A motor cycle race for ordinary touring machines with single-cylinder engines not exceeding 560 c.c., brought out seventeen starters, the distance being three laps of the track. The result was:

Rider and machine.	Handicap.
	m. s.
1. E. A. Colliver (3½ Zenith-Gradua) ...	1 15
2. G. T. Gray (3½ Rudge) ...	0 18
3. G. E. Purchase (3½ Triumph) ...	0 18

A. W. Brittain (3½ Rudge) ran into second place, but was disqualified for not using mudguards. Class B race was for touring mounts with engines between 400 and 1,000 c.c., for the same distance. There were only two starters, Dr. C. J. Stanley (5 h.p. Indian) giving 18s. to C. Percival (6 h.p. Zenith). The latter won by 300 yards, after a good race.

Any Type Class.

The next event was for single-cylinder motor cycles, any type, not exceeding 560 c.c., for three laps of the track, and open to any member of the M.C.C. McNab, on a 3½ h.p. Trump-Jap, looked like winning this race, but towards the end of the last lap the belt rim picked up a stone, which caused the belt to jump off. The first three positions were:

Rider and machine.	Handicap.
	m. s.
1. A. Baker White (3½ Trump-Jap) ..	0 21
2. Alan Hill (3½ Rudge) ...	0 36
3. Rex G. Mundy (2 Alcyon) ...	2 54

The fifth event was an inter-varsity race, Oxford v. Cambridge, but, unfortunately, no Oxonians were present to defend their *alma mater*, and the competition became therefore a two-lap "scrap" between half a dozen Cambridge men, the winner being A. E. Sheppard, with — Gray second.

Class E motor cycle race was an open event for motor cycles with multi-cylinder engines of between 400 and 1,000 c.c. capacity, distance four laps. There were only three starters, and the result was S. Tessier (5 h.p. Bat-Jap), scratch, easily beat V. Oisson (8 h.p. Oxted-Jap).

The ten-lap club championship, for the "Harry Smith" Gold Challenge Cup, open to ordinary touring motor cycles, under handicap, produced twenty-two starters.

B. M. Mariani (2½ h.p. P. and M.), O. L. de Lissa (2½ h.p. Motosacoche), and J. Holroyd (2½ h.p. Motosacoche) were given a liberal handicap, and went a considerable distance before anyone else started. At the end of the first lap, de Lissa was just leading Mariani, but a lap later both the Motosacoche had dropped out of the race. N. D. Slatyer (2 h.p. Alcyon) went very well, but the lap and a half he had had to give to Mariani was more than he could pick up.

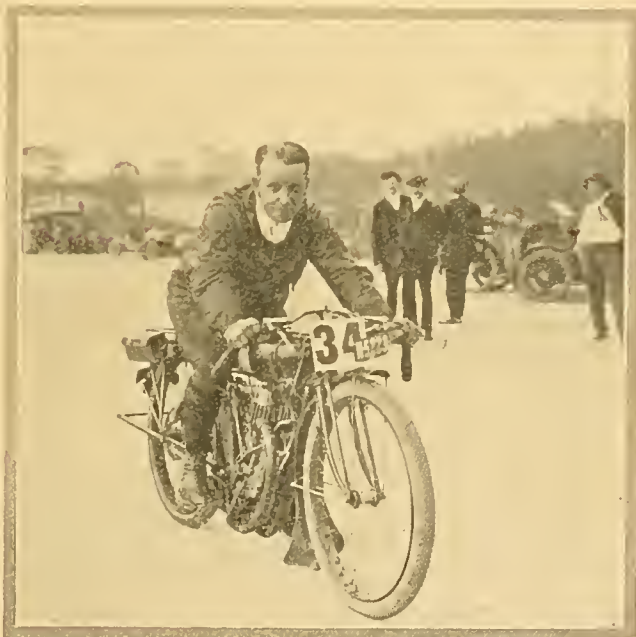
A big bunch of singles went off at 5.40 p.m., or nearly a quarter of an hour after the first lightweights, and of these A. W. Brittain (3½ h.p. Rudge) was easily the fastest, and travelled very consistently. The scratch man was Arthur Moorhouse (7 h.p. Indian), who was giving some minutes away to S. T. Tessier (5 h.p. Bat-Jap). Moorhouse immediately got going at a tremendous speed, and overhauling competitor after competitor easily came home first. Result:

Rider and machine.	Handicap.
	m. s.
1. A. Moorhouse (7 Indian) ...	SCR.
2. B. Mariani (2½ P. and M.) ...	19 30
3. L. A. Baddeley (3½ Brown) ...	5 40

Brittain ran into third place, but was again disqualified.

Breakdowns were extremely common, and a bare half of the starters completed the distance.

After the racing was over there were three gymkhana events. The first was a motor cycle "Life Belt" race, in which the competing machines were placed on a line, the driving belt having been removed to the satisfaction of the judges. The competitors, starting from a line of about one hundred yards from their machines, had to run to them, carrying the driving belts and their fittings, refitting the belt, and riding the machine back to the finishing line. Some extraordinarily quick work was seen. The result was: 1. H. A. Cooper (3½ h.p. Bradbury); 2. A. W. Brittain (3½ h.p. Rudge); 3. W. F. Guiver (3½ h.p. Kerry-Abingdon).



Arthur J. Moorhouse (7 h.p. Indian), winner of the M.C.C. club championship, which carries with it the "Harry Smith" gold challenge cup.



THE greatest event of the year in the motor cycle world is the International T.T. Race, which assembles the cream of the best competition riders from all parts of the United Kingdom, as well as riders from Europe and America. The course of 37½ miles has to be covered five times, and competition is so keen that many of the entrants spend a fortnight or even more in so accustoming themselves to the course that they can take corners and bends at almost twice the speed that the average tourist ever attains in similar circumstances.

A Practice Day.

A few words on a typical day's work during this preliminary practice. Our headquarters are in a quiet little hotel close to the course, but away from the bustle and distraction of town life, so that rest can be obtained after strenuous work, for, as Jake de Rosier remarked, practising for the T.T. Race is no "tea party." Roused by the Boots at 3 a.m., wet or fine, we growl and go to sleep again. The unrelenting Boots, however, returns just as one is enjoying a few minutes' "cosy," and you have to get up muttering unkind anathemas against this rude disturber. A few minutes for dressing and donning racing cap and goggles and we are soon down in the workshop; machines are quickly wheeled out, with a hurried glance to see that everything is in order, and we are on the course, petrol and oil tanks having been filled overnight.

On the Mountain Road.

It does not take long to reach the foot of Snaefell, the mighty hill that everyone thought no single-gear machine hot from racing could climb. The hairpin corner soon comes into view, and speeds are slackened to about 15 m.p.h., safely to negotiate the bend. Just as I am gathering speed again the sound of an overtaking machine reaches my ear, and it passes in a few seconds at a good pace, for is it not one of the machines fitted with two or three gears, which can do such splendid corner work on account of the "pick up" on the low gear? But I know my machine is fast and well up to its work this morning, and before another mile is travelled I have passed this rider, and have the road to myself again. The "Goose-neck" is the next difficult corner to get round, but by keeping well out till half-way round and then cutting close in it is soon conquered, and then for the next few miles the mountain road is narrow and very loose, but after several days' practice little notice is taken of the surface. The fog or mist which is frequently met with on the mountain is very disconcerting, and unless great care is taken one finds oneself approaching an acute bend in the road "all out"—brakes have to be jammed on in a most uncomfortable manner, and the corner taken with perhaps a nasty skid, which may or may not result in a fall.

Leaving the mountain past the last gate, where the gatepost on the left seems to stand out in the middle of the road, the fastest part of the whole course is reached, and the machines tear down the hill at speeds close on 70 m.p.h. The single-gear engines are literally shrieking as they revolve at tremendous speed owing to the comparatively low gear used to make the ascent of Snaefell possible.

However, pumping in oil every four or five miles, one lap of the course is completed, and I stop where my timekeeper

is located, who reports still further progress, and I am pleased to find that another two minutes have been docked off my previous best.

There is no riding at high speed on the road after six o'clock, as farmers' carts, cows, and sheep are about, and so make practice dangerous. There is, however, time for another lap to be done at medium speed, just to get used to the course, with sundry stops here and there to greet old acquaintances. The morning's work is, however, not yet done, as the hotel yard is quickly filled by other competitors arriving, and is transformed into a crowd of workers, all striving their utmost to make their engines just 1 m.p.h. faster.

Hence an hour or so is spent in cleaning and making adjustments to the machine, and the gong goes for breakfast, which of all meals throughout the day is the most acceptable.

The forenoon is occupied, as a rule, in taking off and examining cylinders, cleaning pistons, and truing up valve seatings and other odds and ends, although sometimes the greater part of the day may be occupied in remedying a bad mechanical breakdown. Such is an average day's work whilst preparing for the race.

The Race—Starting.

The eventful day at last arrives, and as the start does not take place until 10 a.m. we decide, as our machines are quite ready, to remain in bed until 7.30 a.m., and get all the rest we can to prepare for the coming ordeal. After a good breakfast and one or two sandwiches taken to the start, to be consumed before the race commences, by 9.30 o'clock we are on the road at Quarter Bridge, which presents a scene of animated excitement. Some competitors, of a nervous temperament, are still busy adjusting their machines and tinkering here and there, and all is hurry and bustle.

At last, thank goodness 10 a.m. arrives, and the first two men are despatched with a hearty send off.

A few minutes elapse before I get the word to go, but it nevertheless seems a lifetime; at last, however, the signal is given, and with one final look at the machine I am soon off amid cheers from friends and well-wishers, but before I have thoroughly got going, the brakes are jammed on and speed reduced to about 10-15 miles an hour to enable me to get round the right angle bend at Quarter Bridge. Once over this and the race has begun in earnest, for the road is fairly straight up to Ballacrairie Corner.

My engine is behaving splendidly and is pulling well. I endeavour to catch the man that started half a minute in front of me, and so get at least one position better. Giving the engine a good pumpful of oil and crouching low down on the machine, the engine begins to roar and I soon overtake the one in front, which proves to be a single-cylinder of a different make from my own but fitted with a gear.

Passing and repassing each other for the next few miles, I am at last able to show him my back wheel for good, past Ballacrairie Corner, which is taken in the opposite direction to that of last year. Through Glen Helen I tear at almost full speed, for I know this part of the road well, being part of the old course. After Ballig Bridge, where the machines are thrown into the air, comes the ascent of Creg Willey; the bottom corner is taken with care, for the

The T.T. Races from a Competitor's Point of View.—

fatal accident to Surridge during the practising is remembered, and we are determined to run no risks.

The Intoxication of Speed.

The road down hill to Kirk Michael corner is very fast with a good surface, so down this portion I grip the handle-bars, hold the tank with my knees, and tear along with engine doing over 3,000 revs. a minute. I begin to wonder whether the engine will really stand it, so great is the pace.

The sensation is superb and yet appalling, for the intoxication of speed is on me as I am launched forward like a human projectile, but I have full command of my senses, and know that the perils of this very race for life, so to speak, are like skating on the thinnest of ice.

On and on, rounding a bend in the road and almost skidding round a corner, I proceed, passing a competitor here and there by the way side, until Sulby Bridge is reached, where brakes are frantically jammed on, pace slowed down as the bridge turning is made, and, bearing to the left, speed is again increased. Another pump of oil and we come to what is perhaps the roughest part of the road, that leading into Ramsey for about four miles.

My front wheel is jumping all over the road, caused by the potholes—veritable death traps—but wrists are strong. Ramsey is reached at last, and turning to the right and again quickly to the left we are soon past the depot, where supplies of petrol and oil will be taken in on our next round.

At the foot of Snaefell I am wondering how I shall be able to take the hairpin bend and also the goose-neck further on with a hot engine. However, these are conquered in succession, and the rest of the mountain climbed, swerving first to the right, next to the left, and slowing down to a bare 20 m.p.h. for some of the corners on this wild mountain road among the clouds.

Further down the other side can be seen a gate, the post of which stretches well into the middle of the road, and necessitates a slackening of pace. Hark! what is that crackle in the rear that gradually seems to get nearer and nearer as I race down the mountain helter-skelter, full of forebodings. It passes, and I see it is one of the Indians with their two-speed gears, ridden by Jake de Rosier. On top gear the machine is several miles an hour faster downhill, but nearing the bottom I hold him for the next mile or so on the straight and uphill, but later he gets clear.

A Keen Eye and Steady Nerves.

In the distance is a bend in the road that I know from previous practice can be taken all out, but this is where careful judgment and cool nerve are required, for the miscalculation of an inch or two means the end of all things.

On and on I go, until I reach the start again. Shall I finish another four laps? Rounding the Quarter Bridge and giving another pumpful of oil to the engine, I again get ready for another few miles of speed work on towards Ballacrine Corner, and on again through Glen Helen, up Creg Willey's Hill, down again to the corner in Kirk Michael, where last year so many spills were recorded. This year we take an easy bend to the right instead of the difficult turning to the left, and then on through the narrow streets, of which the houses appear almost to touch both sides as I tear through at fully 55 m.p.h. I feel sure of myself and the road, for have not notices been sent round to all those living on the course that all children and domestic animals must be under proper control, under the penalty of a heavy fine? Sulby Bridge again is heralded by three large red banners across the road at intervals to warn competitors of its extreme danger.

It is just here that I am passed by another twin rider who has been hanging on for a mile or two. He was not quite so fast on the flat, but has evidently had some practice on the corners, for he takes the corner beautifully, and is away in the distance before my machine can pick up its speed. This does not worry me unduly, for it is only the second lap, and I may meet him again on the roadside doing a repair job. Who knows?

Over the bumps again, one sits tight for very life. The front wheel jumps over the road, and only with herculean strength is it every time brought back to its correct track.

Who is it that thinks it does not require an athlete for T.T. racing under these conditions? The palefaced, over-nicotined youth who spends his spare time in the billiard saloons or in front of hotel bars would not stand ten miles

of this gruelling. A broken arm or leg is easily earned, and it requires the teeth to be set hard and a watchful eye kept on the road at every moment if life and limb are to be preserved and a finish well up in the list to be achieved.

Rounding the bend at Ramsey we remember that a stop has to be made at our depot and petrol and oil are quickly taken in. At the same time the chance is taken to remove a slipping belt.

With cheery words from my helpers I again make a start and soon reach the foot of Snaefell, and further along the mountain we come up to our friend on the twin who has landed himself into the ditch by taking a corner too fast and going wide. A mile or two of this searching, bumpy, perilous riding over the rough mountain roads and all at once I detect some slight irregularity of running which soon slows the engine, and as the machine races down the side of the mountain I can hear an occasional and annoying misfire. What can it be? Is it an inlet valve spring weakened? a seating warped or cracked? or perhaps it is a defective plug? It becomes worse. Quickly jamming on brakes and dismounting, the plug is examined first, and though almost red with heat it is extracted with gloved hands and examined. The central electrode has given way under the furious battle of flame, so another one is inserted, and I am on once more, retarding the spark a shade to prevent that ominous "konk" that engines will give when their load is great at starting and they are tired. Fingers gradually advance the ignition lever, and the engine is once again coaxed to put forward its best—a pumpful of soothing oil is given and it responds. Further along the mountain top come the bumps which nearly throw one clear of the bicycle altogether.

The Desire for Sleep.

Passing through the last gate on the mountain which is taken with caution, we give a furtive glance at the spot where a number have collided with the bank.

On and on, passing one after another, till the procession grows thinner, the weaker ones falling out by the roadside. Past the start again, the course seems to get harder and bumpier: the muscles soften and tingle as the thoughts of welcome rest and sleep force themselves upon me, but bracing myself together and steeling my nerves for one more dash, putting desire for comfort and sleep on one side, the corners and bends are taken with a little more recklessness, and visions of houses, hedges, people, etc., scurrying past in their headlong flight come to me as I am launched forward for the last time through Glen Helen and over the bumpy Ballig Bridge, which is taken with a daring leap right into the air, landing on the other side with a sickening thud. The tired engine is not emitting that healthy crackle of the exhaust denoting perfect fettle, but its note seems to the rider more like one long drawn out sigh, as though it would fain take a long, long rest, but it turns over and over, still as fast as ever, obeying the will of its master.

One or two riders pass me on this lap, but as I have also in my turn passed many I know I am still holding a good position. Will my trusty steed take me through the next twenty miles? I have great confidence in it, for it rarely plays me false. After rounding Ramsey corner for the last time, the brake is jammed on, and the machine is brought obediently to a standstill for more petrol. Supplies are taken on in a few seconds.

Quickly making a start, I am sure my wrists are beginning to feel the strain, though they are good for more hard work before they give out. A sharp corner on Snaefell is taken too fast, and my heart leaps into my mouth as I ride for several yards on the edge of a ditch, but lifting the valve has slowed the pace and enabled me once more to gain the right track. After this the next corner is taken a shade slower, for I am riding to finish, and the slightest swerve may put me *hors de combat* at any moment.

Two more miles and with luck it will be over and the race run. One last pump of oil is given, soothing the bearings of the engine already very very tired, the valves badly charred and burnt and their springs robbed of all their vim, softened by the punishing work they have done. Up the last hill we tear, and finally hurl ourselves past the winning post. Friends rush forward to shake hands, machine and rider are carried away amid cheers from the crowd. We enjoy the feeling of perfect rest for some minutes, whilst refreshments are tendered and eagerly taken.

And so ends the T.T. Race. The reward—a gold medal! Hurrah! Thus is the curtain rung down upon the ever memorable battle of cylinders in 1911.

PETROL.

CURRENT CHAT

SPECIAL FEATURES.

M.C.C. RACE MEETING AND GYMKHANA
AT BROOKLANDS.

THE T.T. RACES REVIEWED.
NEW LADY'S MODEL.

Police Traps.

Caution should be exercised in Walsall and district; the police are active owing to several accidents which have occurred lately.

Thieves at Work Again.

A 1909 8 h.p. Matchless with Nala two-speed hub gear was stolen from a garage at Croydon on the evening of the 30th ult. The owner is R. Snee, 18, Canning Road, Croydon, who will be glad to have information respecting it.

Sidecars and Change-speed Gears.

The Enfield Cycle Co. are placing a 4 h.p. sidecar machine on the market for next year, but have not yet decided whether this will have a twin or single-cylinder engine. However, the Enfield change-speed gear and chain transmission will be used, which are particularly suitable for passenger work.

First Open Hill-climb at the Cape.

The first open hill-climb organised by the Cape Peninsula M.C.C. was held at Red Hill the usual A.C.U. formula being adopted. The distance of the climb was 1,600 yards. The competition resulted in a win for A. Keyzer (4 h.p. Scott), the second being J. Thornton (3½ h.p. Bradbury).

Proposed Record Attempt.

In preference to riding in the T.T. S. A. M. Witham has been spending his time tuning up for a record a 5 h.p. twin Bat-Jap. It is much on standard lines, except for a huge petrol tank. This rider is also expecting delivery shortly of a new pattern 8 h.p. overhead valve Matchless-Jap. The bore and stroke of the engine on this new machine are 90 x 77½ mm.

Lyons M.C. Race Meeting.

The Motor Cycle Club of Lyons held a meeting at the Velodrome Lyons on the 2nd inst., which resulted as follows:

Hour Race (quarter litre).—Escoffier (Magnat-Debon), 61.3 kilometres = 38 miles.

Club Championship (five kilometres).—Debeaune (René Gillet), time 3m. 55½s. = 47¼ miles per hour.

Hour Race.—Mazue on a machine of his own construction, with engine not exceeding .333 c.c., succeeded in covering just under 46 miles in the hour, which does not compare very favourably with the British hour record for 350 c.c. engines (52 miles 1,650 yards) made by Colver on a British-built Matchless.



A Correction.

The lady in the photograph published last week on page 696 is Madam Frasseti. We offer our sincere apologies for the error in the inscription, and for any annoyance which may have thereby been caused.

Spanish Road Trial.

At Tarragona, on the 2nd inst., the Sama Cup, which was competed for in a road trial, was won by De Vay on a 2½ h.p. Magnat-Debon in five hours, distance 210 kilometres, equivalent to 130.4 miles.

TIME TO LIGHT LAMPS.

July 13th	...	...	9.10 p.m.
" 15th	...	...	9.9 p.m.
" 17th	...	...	9.7 p.m.
" 19th	...	...	9.6 p.m.

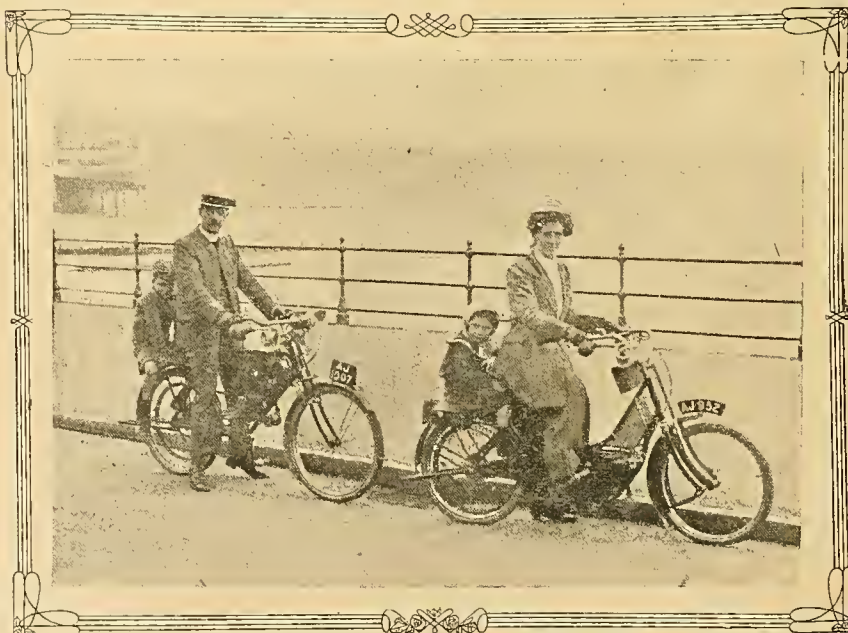
Slow Vehicles in London Traffic.

A draft byelaw has been prepared by the London County Council which will render it compulsory for slow-moving vehicles to keep to the left or near side of the road.

Speed Limits.

Local Government Board inquiries into the applications for ten-mile speed limits at Stony Stratford (Bucks) and Rhayader (Radnorshire) were recently held. Representatives of the R.A.C. and A.A. and M.U. who were present were ready to concede a portion of the main Holyhead Road in Stony Stratford where there are cross roads, but the remainder of the application was fought on the grounds that the conditions existing did not justify the imposition of a reduced limit.

With respect to Rhayader the application was strongly opposed, but finally an agreement was come to between the applicants and the objectors. Two portions of roads in Rhayader regarding which the applicants and objectors could not agree were left to the discretion of the L.G.B. inspector.



Our series of photographs "Married Couples who Motor Cycle" have created much interest. The above photograph depicts the Rev. J. Moreom Taylor and his wife and children, of Scarborough, on their 1911 Motoscoches. They ride a great deal, and often carry their children on cushions on their carriers for some distance, the children taking hold of a belt round the rider's waist.

Number of Motor Cycles in France.

According to the latest returns the total number of motor cycles in France in 1910 was 27,057, against 26,140 of the previous year, an increase of only 917.

World's Record Speed.

Only for the second time in England was 87 m.p.h. exceeded on a motor cycle last Saturday. Henri Cissac was the first motor cyclist to attain such a speed, when at Blackpool on July 27th, 1905. he covered a flying kilometre in 25 $\frac{3}{4}$ s. = 87.32 m.p.h. Cissac rode a 12 h.p. Pengeot. Last Saturday, Jake de Rosier, riding a 7 h.p. Indian, was timed to cover a mile in 41 $\frac{1}{2}$ s., which is equal to a speed of 87.38 m.p.h.

French Road Race.

The Grand Prix des Motocyclettes, organised by the Moto Club de Marseille, will be held on August 27th on a fifty kilometres course, which has to be covered four times, making a total distance of 124 $\frac{1}{2}$ miles. The event will be divided into four classes—Class I., machines with engines not exceeding 250 c.c.; Class II., 333 c.c.; Class III., 500 c.c.; and Class IV., engines of any power.

A Novel Track Racing Event.

During the first week in August the Sutton Coldfield A.C. will hold a race meeting on the Aston track for light-weight machines complying with the T.T. regulations as regards size of engine. There will be scratch races and handicaps, and the principal event of the day will be the half-hour efficiency race, prizes for which will be awarded for the best performance on a formula which will take into consideration the four following factors: Total weight of machine and rider, distance travelled, size of engine, and petrol consumption. The last-mentioned event should arouse a great deal of interest, for it is believed to be the first of its kind ever held.

British Imports and Exports of Motor Cycles.

For the last three years the value of French imports of motor cycles and parts were:

1909.	1910.	1911.
Motor cycles—		
£5,413	£6,389	£5,973
Parts thereof—		
£1,951	£4,615	£4,144
£7,364	£11,004	£10,117

The exports during the month of June in each year are represented by the following figures:

1909.	1910.	1911.
Motor cycles—		
£3,293	£7,859	£13,408
Parts thereof—		
£2,258	£3,569	£3,731
£5,551	£11,428	£17,139

The Figures for Six Months.

For the six months ended June 30th the imports showed a total of—

1909.	1910.	1911.
Motor cycles—		
£23,624	£26,974	£28,528
Parts thereof—		
£11,736	£28,344	£33,413
£35,360	£55,318	£61,941

FUTURE EVENTS

July 13—Irish End-to-end Run.
 „ 15—North Middlesex M.C.C. Open Hill-climb.
 „ 15—B.M.C.R.C. Open Race Meeting.
 „ 15—A.C.U. Mid. Centre Open Hill-climb at Much Wenlock.
 „ 22—A.C.U. Quarterly Trial (Northern).
 „ 22—Torbay and District M.C.C. Open Hill-climb.
 „ 22-23—Bradford M.C.C. Open Reliability Trial to Dunbar and back.
 „ 24-29—Scottish Six Days' Reliability Trial.
 „ 29—Bradford M.C.C. Third Annual Open Hill-climb.
 „ 29—R.A.C. Associates' Gala Day at Brooklands. Cars and motor cycles.
 Aug 7-8—Dublin and District Open Two Days' Reliability Trial.
 „ 14-19—A.C.U. ANNUAL SIX DAYS' RELIABILITY TRIAL. HARROGATE AS A CENTRE.

The British exports are given hereunder:

1909.	1910.	1911.
Motor cycles—		
£19,814	£44,019	£95,878
Parts thereof—		
£16,522	£19,006	£30,393
£36,336	£63,025	£126,271

It will be noticed that the exports for the first half of this year are double the amount they were in 1910.

Yorkshire Open Hill-climb.

The Bradford M.C.C. will hold its annual open hill-climb at Baden Moor, near Easby, on Saturday, July 29th, commencing at 2 p.m. Nine classes are included in the programme, embracing every type of machine. An electrical timing apparatus will be used this year. Entry forms may be obtained from the sec., Albert Bldgs., Victoria Sq., Bradford.

Saturday's Open Hill-climb.

A big and representative entry has been received for Saturday's open hill-climb at Much Wenlock, organised by the Midland Centre of the Auto Cycle Union. Contestants will again race in pairs.

International Motor Cycle Races.

The international match at Brooklands next Saturday between C. R. Collier on a British Matchless-Jap machine, and Jake de Rosier, the American champion on an Indian machine, is creating great interest. Great keenness is being displayed by both riders, and a purse of £130 is being given in addition to other prizes, to the winner of two of the three races over five, ten, and twenty-five miles. In addition to these contests there will be a full racing programme by the British Motor Cycle Racing Club, while, weather permitting, there will be flying by the aviators engaged in the forthcoming £10,000 circuit of Great Britain.

Parties of motor cyclists are being arranged in different districts to travel to Brooklands for the Collier v. de Rosier match next Saturday. There is every promise of a big attendance, and the B.M.C.R.C. deserves all support for its enterprise.

The Barnet Shooting Case.

The mysterious outrage which occurred near Barnet, when S. Splitters, a motor cyclist, was attacked by a pedal cyclist named G. D. Hay, and dangerously wounded, was solved on Saturday last at the Old Bailey. Dr. Dyer, of Brixton Prison, described the case as unique, and in reading extracts from Hay's diary, said he had no doubt he was of unsound mind. The prisoner appears to have been conscious that he was suffering from a mental infirmity, and struggled against it. The jury returned a verdict of guilty but insane, and Hay was ordered to be detained during His Majesty's pleasure.



Essex M.C. Hill-climb at Bottledown. Councillor Leymann changing gear on his twin-cylinder N.S.U. and sidecar.

A Criticism of the New 2 h.p. Lady's Humber.

With a view to giving the new model 2 h.p. lightweight lady's Humber an exhaustive test, Mrs. M. C. Cooke, the well-known Triumph rider, has been riding the machine for some weeks, and has kindly written the brief criticism which appears below. The 2 h.p. lady's Humber will eventually be listed as a standard model.

IT is now some years since I had my first Humber featherweight push-cycle. I little thought then that some evening I should find waiting for me a Humber motor cycle, built on as graceful lines as those of its predecessor. It is said "Everything comes to him

the down tube, and are a marvel of neatness and compactness. The beautiful curve of the down tubes from the steering head to the seat-pillar gives the impression of great strength and gracefulness.

There is little need for me to describe the power unit, for it is exactly the same as used on the now well-known 2 h.p. men's lightweight. The cylinder, which is offset, has a bore and stroke of 60 by 70 mm.

Although single-geared, it is one of the easiest machines to handle, for several of my non-motoring friends (who had not been on a motor cycle before) have tried it, and the ease with which they mounted, started, and dismounted was quite a revelation.

The machine is most comfortable to ride, and runs very quietly and smoothly, while its ability to carry a lady almost anywhere at a speed well over the legal limit, if need be, or even at a walking pace, makes it a most accommodating and desirable acquisition. I understand that future machines will be fitted with the Armstrong three-speed gear.

All the parts are well protected, and there is no danger of getting a dress oily

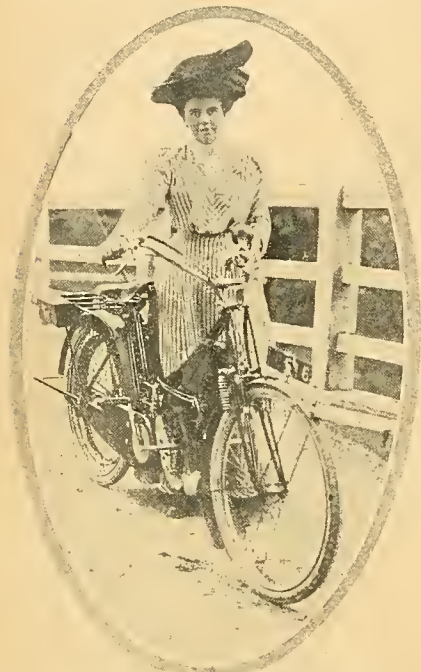
on the engine. The dressguard on the back wheel is of cord, to which I rather object, as the cord so soon gets dirty and untidy looking. With a little arrangement, however, this can be dispensed with.

Several motor cycling friends are asking if I have joined "the light brigade," and my reply is "to a certain extent, yes," in that I have discarded the push cycle altogether in favour of the lightweight motor cycle. Nine out of every ten ladies who ride a pedal cycle would do the same if they once tried the easier and more modern motor.

On the other hand, those of us who scour the country, sometimes for days together, and whose husbands drive T.T. Triumphs, or other equally fast machines, have to be equally well balanced with them in respect of power for everybody's peace of mind.

In conclusion, may I say that Messrs. Humber, Ltd., are to be congratulated on the excellence of the design, the simplicity of the working parts, and also for their enterprise in thus catering for the ladies.

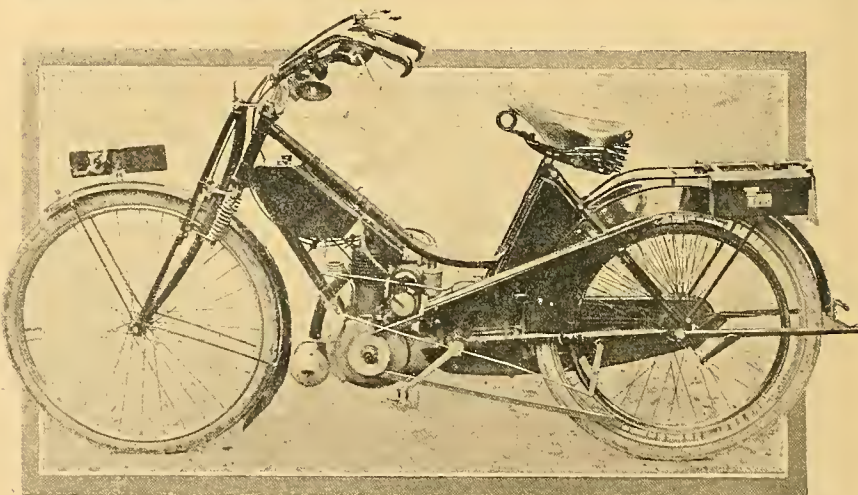
(Mrs.) M. C. COOKE.



Mrs. M. C. Cooke with the new model 2 h.p. lady's Humber.

who waits." At the Olympia Show last November I had a chat with the designer of the Humber products, and from what I gathered then I formed an idea of what the machine would be like. The first one has been made, and I am not disappointed, nor have I any doubts that when placed on the market it will be the lady's mount *par excellence*.

The model in question is fitted with a 2 h.p. engine, and weighs about 100 lbs. The engine and magneto are fitted under



Showing the neat design of the lady's Humber lightweight.

Essex M.C. Hill-climb.

On Saturday, the Essex Motor Club will hold a hill-climb at Upminster Common Hill (near Harold Wood), starting at 4 p.m. There are five classes on the programme.

Woolwich, Plumstead, and District M.C.

The competition for the President's Challenge Cup took place on the 9th inst., the winner being S. C. Davis (Kerry), 3½ marks lost; 2nd, J. Tassell (6 h.p. Matchless-Jap), 4½ marks lost; 3rd, C. Busbridge (4 h.p. Chater-Jap), 6½ marks lost. The special prize presented by Mr. J. Tassell for the best performance by a passenger machine was won by E. Philpot (5 h.p. M.O.B.M. and sidecar), 16½ marks lost.

British and American Times.

Some months ago when reports from America spoke glibly of speeds of ninety miles an hour on motor bicycles, and more than one competitor riding identical machines were unable to get within ten miles of such a speed at Brooklands, we suggested that probably it was "in the air." O. C. Godfrey, it will be remembered, pleaded that the rough state of the surface at Brooklands was the cause, and offered a wager that the member of our staff who wrote the paragraph could not exceed 76 m.p.h. at Brooklands, although his machine is capable of quite 80 m.p.h. Needless to add, the challenge was not accepted, but an animated discussion followed, a number of readers offering to accept the wager under certain condi-

tions. We are reminded of this amusing incident by a telegram signed "Indian Wells" which reads: "See *The Motor Cycle*, November 25th, it is not the air, it is the engine." Many thanks, Mr. Wells. English people were always sceptical. We are convinced.

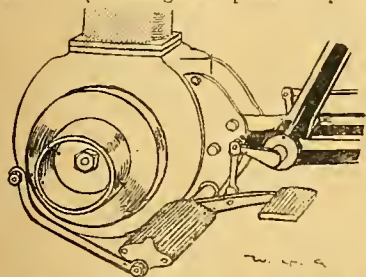
Hill-climb on Mont Ventoux.

This famous Continental hill-climb will be held on August 5th and 6th, and a class for motor cycles has been instituted. The entry fee is £2 per machine, and application should be made to the secretary, 9, Place Crillon Avignon, France. The hill is approximately 13½ miles long. The steepest section, near the summit, averaging 1 in 7½ for five furlongs, provides a searching test, after climbing for nearly thirteen miles.

Mechanical Details of T.T. Models.

WE continue our description and illustrations of the special mechanical features of Tourist Trophy machines used in the Isle of Man.

As we have already indicated, practically all the T.T. machines were provided with a brake pedal, which, instead of being mounted on the footrests, and therefore standing a chance of being thrown out of action by a spill, was arranged quite separately. The old arrangement of carrying the brake pedal on the footrests was adhered to in the Matchless machines, but in order to prevent any damage a special stay was

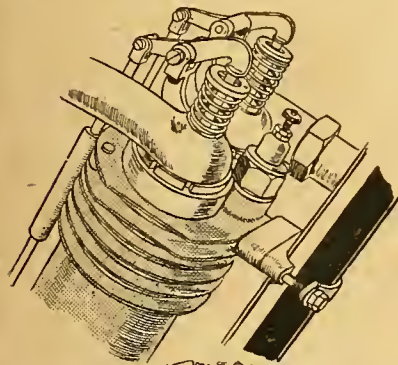


Matchless girdered footrest, to prevent damage in case of a fall.

arranged, as shown in fig. 1. The same sketch also shows how the foot brake was applied through a rocker arm working on a pivot carried inside the pedal bracket of the frame.

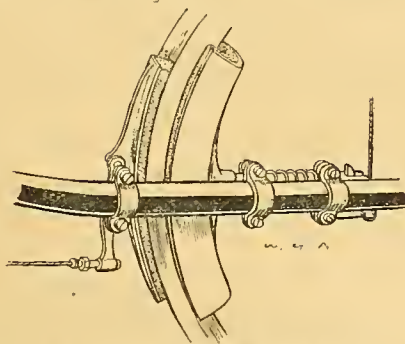
New Model M.R.

The little 4 h.p. M.R., whose rider deserves very special mention for his remarkable corner work, was a new model full of good points. Perhaps the chief feature of interest was its lightness, weighing, as it did, only 110 lbs. ready for the race. Unlike the smaller twin Moto-Rêve, which has its valves arranged one above the other, the 4 h.p. engine has both valves in the head, where they are worked by adjustable rocker arms and tappet rods, as shown in fig. 2. The



Overhead valve gear on the new model 4 h.p. M.R. ridden by A. Berlie in the Senior Race.

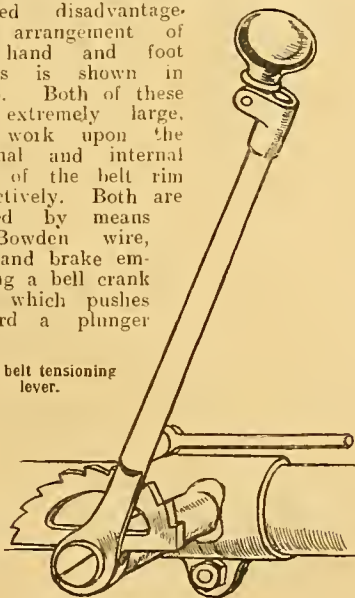
attachment of the cylinder to the frame tube by means of the lug shown is most unusual, and we are inclined to doubt its advantages if the clip be held tightly, as there is no means of allowing for the expansion of the cylinders. However, it proved no disadvantage in the race itself, and the little engine kept buzzing along



M.R. trakes operating on both sides of the belt rim.

with most commendable regularity, and it was only belt troubles which prevented Albert Peirie from getting a higher place than twenty-fifth. The engine has a bore and stroke of 63×80 mm., and a total cubic capacity of 499 c.c., so that compared with other twins it was at a decided disadvantage. The arrangement of the hand and foot brakes is shown in fig. 3. Both of these are extremely large, and work upon the external and internal sides of the belt rim respectively. Both are applied by means of Bowden wire, the hand brake employing a bell crank lever which pushes forward a plunger

M.R. belt tensioning lever.

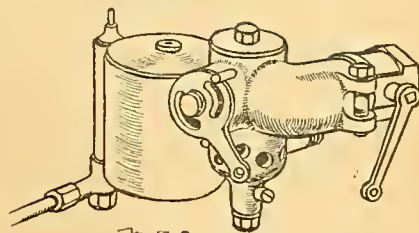


on the end of which is mounted the brake shoe. The drive is by means of a V belt, which passes over a jockey pulley, a free engine position being obtained by slackening the latter so that the belt slips over the engine pulley. The lever for this purpose is illustrated in fig. 4 and is provided with a very neat internal pawl which engages with the ratchet shown.

The new Alexon carburetter is shown in fig. 5. This is of the single jet type, with the main air inlet below the jet, and an additional inlet above. The throttle is of the plain butterfly type, and is contained in the short inlet pipe. It will be noticed that the main air is drawn through a series of holes drilled round the base of the jet chamber, and not as is the usual practice, through a semi-annular orifice around the base of the jet.

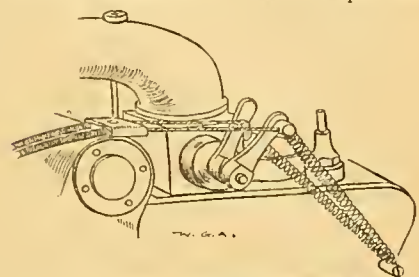
Features of the T.T. Scott.

We have already described some of the innovations on the 4 h.p. Scott which put



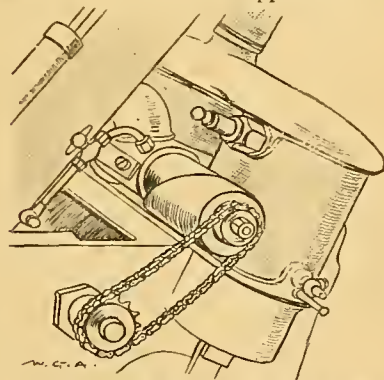
Alexon carburetter.

up such a remarkable performance in making the fastest lap. Figs. 6 and 7 illustrate the principal points. The first is an exterior view of the carburetter, and illustrates the control in which both air and throttle levers are worked from one side, and both are worked from the handle-bar. There are two separate jets, each of which has its own independent



The carburetter control mechanism on the T.T. Scott.

automatic air valve which abuts on the further side of the engine. It will be seen that for greater security the spring-on inlet pipe is held down to its seat by a small thumb nut. The illustration also shows the end plate of the rotary distributor, the arrangement of which is shown in more detail in fig. 7. It is contained in a casing cast on to the cylinders, and is driven by a light chain. We are not at liberty to explain the distributor in full detail, as we understand the patents are not yet completed, but the principal point is that its use allows a very rapid opening of the inlet ports. At all events it appears to work



The new distributing valve used for the first time on the T.T. Scotts.

extremely well, to judge by the manner in which the Scott negotiated the mountain. The lubrication of the distributor is effected very simply, as it draws in its own lubricant when the tap connecting its casing to the oil tank is opened.

A Long-distance Ride without a Toolbag.

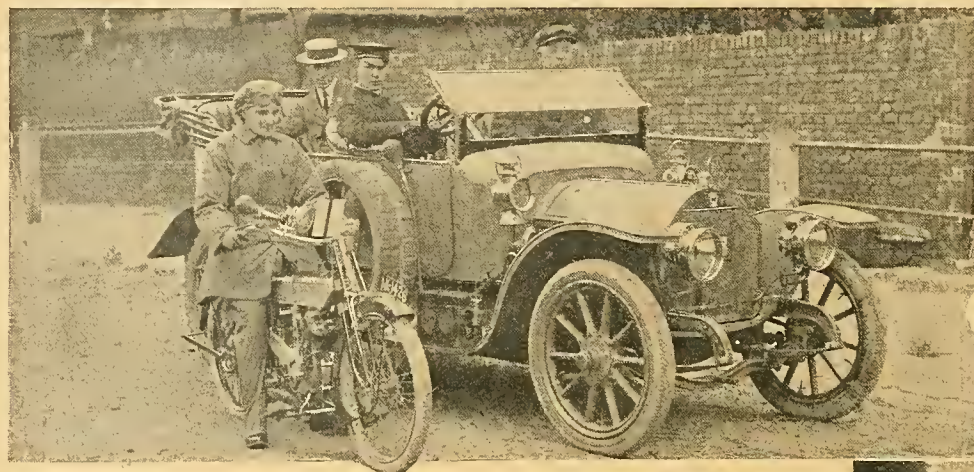
Punctually at 9 a.m. on Monday last, W. Pratt, on a P. and M. motor bicycle, started on his long distance ride which he hopes to accomplish without the use of any tools. Punctures do not count. Mr. Martin Duncan observed on behalf of the Auto Cycle Union, and followed the rider in a car lent by the Kempshall Tyre Co.

At the time appointed for the start the weather was cool, but later the sun shone forth, and the remainder of the day was ideal for the purpose.

On Tuesday morning Pratt continued his ride *via* Watford, Aylesbury, Aynho, and Banbury, to Leamington, where a halt was made for lunch. The ride throughout was undertaken in a blazing sun, and there was no incident. The afternoon run was *via* Stratford, Oxford, and High Wycombe to Uxbridge.

On Wednesday, Tuesday's route was retraced to Enstone, where the left-hand road was taken for Broadway, Evesham, to Worcester for lunch.

AN ATTEMPT TO RIDE 1,000 MILES WITHOUT A TOOL.



W. Pratt ($3\frac{1}{2}$ h.p. two-speed P. and M.) who is this week attempting to cover 1,000 miles without a toolbag.

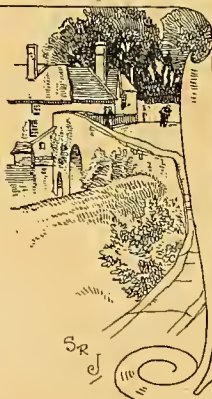
In the official car are Mr. M. G. Duncan, the A.C.U. official observer, and Mr. F. A. Hardy, the press representative.

The first day's route selected by the Royal Automobile Club was *via* Rickmansworth, Watford, St. Alban's, Hatfield, Hertford, Ware, Standon, Bishop's Stortford, Quendon, Newport, Great Chesterford, Cambridge, Huntingdon (where lunch was taken), Caxton, Godmanchester, Royston, Baldock, Stevenage, Welwyn, and Hatfield back to Uxbridge, the total distance being 155 miles.

Pratt found the road very dusty after the recent dry weather. A remarkable feature of the first day's ride was the regularity with which Pratt kept to scheduled time in spite of the fact that he carried no speedometer.

Lunch was taken at Huntingdon, which was reached at 1.15 p.m., and a stop for tea was made at Hatfield.

Several motor cyclists turned out on the route to give Pratt a cheer. Apart from this the ride was without incident, and the first day's run was accomplished without the aid of a tool of any description. The petrol consumption for the day's run of 155 miles was just under one and a half gallons. The P. and M. machine is fitted with Kempshall tyres.



Leaving the Chequers Hotel yard, Uxbridge, followed by the official car.

SIX DAYS' LIGHTWEIGHT RIDE.

The six days' lightweight record, held by H. V. Swift ($2\frac{3}{4}$ h.p. Douglas), who rode 2,025 miles, has, we understand, been beaten by James Merton ($2\frac{3}{4}$ h.p. M.R.), who rode 2,157 miles—132 more than the former total.

Merton started at three o'clock on Saturday, the 1st inst., and finished on Friday, the 7th inst., at three o'clock. The route was in the Eastern Counties, starting from London to King's Lynn, Yarmouth, Newmarket, Cambridge, etc. Merton, who finished in very good condition, had not previously ridden more than 200 miles in one day. The distance covered on the first day was 410 miles—an excellent performance.

Merton's M.R. was fitted with Simms magneto, Amac carburetter, Hutchinson tyres, Stanley Dermatine belt, Bluemel plugs, Cowey speedometer, F.R.S. lamp, Middlemore saddle, and a Clair silencer. The engine was lubricated with Wakefield oil, and Pratt's spirit was used.

BRISTOL CLUB'S RELIABILITY TRIAL.

The results of the Bristol B. and M.C. reliability trial held on the 8th inst. to Bath *via* Gloucester, Birdlip, Cirencester, Faringdon, and back through Faringdon, Cricklade, and Malmesbury, were:

	Points lost
1. Eli Clark ($2\frac{3}{4}$ Douglas)	2
2. E. Kickham ($3\frac{1}{2}$ Rudge)	3
3. { W. W. Douglas ($2\frac{3}{4}$ Douglas)	4
{ G. L. Fletcher ($2\frac{3}{4}$ Douglas)	4

On the outward journey the competitors had to ascend Birdlip Hill, a task everybody was able to accomplish.

C. R. COLLIER'S NEW RACER.

In his match with De Rosier at Brooklands next Saturday, C. R. Collier will use a new type 8 h.p. J.A.P. twin engine on his Matchless, with a bore and stroke of 90 by 77.5 mm. The speed capabilities of this machine are not yet known exactly, but are enormous.

An Irish Lady Motor Cyclist.

Mrs. K. G. Townsend, of Ballyshannon, gives her Experiences.

A few months ago had anyone told me that I should shortly be riding a motor cycle I should have jeered at him or her with scorn and derision.

Now, having become an enthusiast, I wonder how I possibly managed to do without one for so long.

My husband is a civil engineer, with a practice extending into six counties, and railways here being few and far between, he does practically all his work by motor cycle. I often wished to accompany him and explore the country, and did try once or twice on my ordinary bicycle, but found it too hard to keep up at even slowest speeds when pedalling by myself, and too dangerous to be towed along owing to the bad road surfaces.

It was after one of these attempts that he first suggested a ladies' motor cycle, and I was horrified at the idea of attempting to ride so complicated an animal.

However, after turning it over in my mind (the idea, I mean, not the motor) for a few weeks, I finally ventured to sit on my husband's machine in the hall while he started the engine, and showed me how to manipulate the levers. I soon learned how to do this and then longed to try it on the road. Having arrived at this stage, it did not take long to induce me to order a motor cycle for myself.

My First Experience.

This arrived in due course by passenger train, and after having unpacked it and filled up the tanks with petrol and oil, I started off within an hour of its arrival for a run with my husband. We did twenty miles straight off, and I returned home simply charmed with the machine. The sensation of sitting still on the saddle and being hauled up and down hills without having any pedalling to do was delightful, and the levers which looked so complicated were really very easy to manage.

The next day being a holiday (St. Patrick's Day), we started off for a whole day's run to Killybegs and back, 66 miles. Altogether, during the first week the machine was in my possession, I did 300 miles without any trouble and with only one puncture, caused by a sharp stone.

I am sure more ladies would take up the pastime, if only they knew how easy it is to learn to control the machine, and how cheap it is to run. A gallon of petrol, which costs one shilling and twopence, will carry one from 120 to 140 miles, and the wear and tear of the machine is very small.

The Machine for Ladies' Use.

I am much interested in the discussion going on in *The Motor Cycle* between Miss Berend and

others anent the suitability of a lightweight or heavyweight motor cycle for ladies to ride, and with all due respect to Miss Berend, who rides a $3\frac{1}{2}$ h.p. Brongh heavyweight, I think that for ordinary everyday riding, a 2 h.p. lightweight, if suitably geared, is the proper mount. My machine is the new 1911 2 h.p. Motosacoché, weighing (unladen) about 90 lbs. It is geared seven to one, and with this gear I can get up any hills about here (and it is a hilly country with abominable road surfaces) without pedalling at all, not even the L.P.A., so frequently jeered at by heavyweight enthusiasts, and I can comfortably average over fourteen miles an hour on long runs; and, after all, what more does a lady want?

The Wearing Qualities of Lightweight.

With regard to the oft repeated statement that



Mrs. K. G. Townsend on her Motosacoché.

lightweights lose power badly after having run about 500 miles, my husband's experience shows very much to the contrary. He rides a lightweight Motosacoché, and his present mount is the third one he has had of this make, and they have proved most satisfactory. He is out in all weathers and frequently does 120 to 140 miles in a day. He has never yet been left on the roadside by his machine, and he finds two or three thousand miles make no difference worth speaking about to the pulling powers of the engine; it is still full of life. His machine is also geared to seven to one, and he can comfortably average eighteen miles an hour, and very rarely has to pedal on hills. I think also a lightweight must be a great deal easier to manage in grease. I have no difficulty at all in keeping mine going over the greasy limestone roads of Donegal, and they are very greasy, and there is no comparison between the ease of pushing about a heavyweight and a lightweight. I have tried both.

The Clothing Question.

The question of suitable clothing for ladies when motor cycling is very simple. On long rides I usually wear a short thick skirt, a flannel blouse, and over all an overcoat, about three-quarter length, made of blanket cloth, and in case of being overtaken by rain I have a light waterproof coat strapped on to the carrier. For head covering I wear a tweed hat and motor veil.

The large shields which enclose the engine on my bicycle are most effective in protecting my dress from oil and grease. Altogether, I am very pleased with my venture, and am looking forward to long tours all over Ireland this summer.

" THE INEVITABLE "

THE

Continental Tyre

VICTORIES IN BOTH

TOURIST TROPHY RACES

WERE

A FOREGONE CONCLUSION

To all who knew THE SUPERB
QUALITY of these famous Tyres.

1st DAY (Junior Tourist Trophy):

P. J. EVANS on a Light-weight "Humber" **FIRST**

2nd DAY (Senior Tourist Trophy):

O. C. GODFREY on an "Indian" **FIRST**

At the Speed Trials, July 4th:

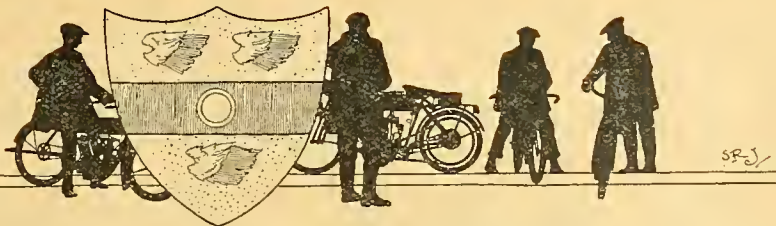
D. C. Bolton, on a Martin-Jap fitted with Continental Tyres, won the flying kilometre, accomplishing the distance in 39 seconds.

Write for Booklet, "The History of the Motor Cycle," post free.

CONTINENTAL TYRE & RUBBER CO. (GREAT BRITAIN), LIMITED,
THURLOE PLACE, SOUTH KENSINGTON, S.W.,
BIRMINGHAM. BRISTOL. DUBLIN. GLASGOW. MANCHESTER. NEWCASTLE-ON-TYNE.

In answering this advertisement it is desirable to mention "The Motor Cycle."

CLUB NEWS



Cumberland County M.C.C. (Western Section)

The postponed reliability trial of the above club will take place on July 16th, starting from Piel Wyke.

Westmorland M.C.C.

Next Saturday, speed trials are to be held in Lowther Park, Penrith, by favour of the Right Hon. the Earl of Lonsdale. Good prizes are offered for the three classes, and the proceedings commence at 4.30 p.m. prompt.

Mansfield and District M.C.C.

Twenty-two members turned out for the club's second run on the 1st inst. to Matlock *via* Chesterfield and Baslow, and back by way of Ambergate and Alfreton. With a membership of thirty-three, the club promises to be a flourishing institution.

York County M.C.C.

Awards in the Leeds-London and back run held on 24th and 25th ult. were: Langton (Triumph), silver cup; Grinstead, gold medal, and Moorfoot (Rex and sidecar), silver medal. The two days' run to Edinburgh and back will be held on July 15th and 16th.

Inverness and District M.C.C.

The first hill-climb was held at the Leachkin, a prominent ridge on the west side of the canal nearly half a mile long with two steep pitches well within single figure gradient and a water splash which required to be crossed with circumspection. The formula used was $\frac{W}{G \cdot T}$, and the winners were declared as follows: 1. R. Milne (Triumph); 2. R. Campbell (Triumph); 3. Jas. Marr (B.S.A.) R. Campbell was first on time with P. Douglas (8 h.p. Bat) second.

Hull and East Riding A.C.C.

A very successful hill-climb was held on Saturday last at High Drenton Hill, South Cave. There were eight classes and a very good number of entrants. Messrs. Plewes (3½ h.p. Calthorpe), Slingsby (3½ h.p. Rudge), and Ellis (3½ h.p. B.S.A.) made very fast times. The results are not yet to hand, having still to be given out by the committee.

Oxford M.C.C.

Social runs will be held on July 13th and August Bank Holiday to Deddington and Howberry Park respectively. In the first instance the club will be entertained by a vice-president, Mr. G. Horatio Jones, and in the second by the president, Mr. Harvey DuCros.

Essex M.C.

For the annual members' hill-climb next Saturday, on Upminster Common Hill, competitors must be ready to weigh in at three o'clock.

The 200 miles non-stop competition, postponed from June 24th, has been changed to 100 miles, and will be run off on July 22nd. Further information can be obtained from Mr. E. Bass, Bishops Stortford.

Ayr and District M.C.

On July 5th a speed-judging competition without watches or speedometers was run off from Cocker's garage to a point near Mauchline and back. First prize was awarded to Geo. Cocker (5 h.p. Rex), who drew 16½ m.p.h. and arrived 1m. 5s. late. Second, Jas. Gilchrist (3½ h.p. Triumph), 11½ m.p.h., 1m. 10s. too soon. Third, W. Lawson (3½ h.p. Triumph), 18 m.p.h., 1m. 15s. too soon.

The Coronation hill-climb postponed to the 28th of June owing to the inclemency of the weather, was held at Brae Avenue, and took the form of a flexibility test, the awards being two heavy non-skid tyres presented by Messrs. The Kempshall Tyre Co., Ltd. Electrical timing with supplementary telephones was used, and the results on the formula

$$\frac{T \times D^2 \times N \times \sqrt{S}}{W} \quad \text{and} \quad \frac{S - F}{F + S} \quad \text{are as follows:}$$

SINGLE-CYLINDER CLASS.

	Fig. of Merit
1. Jas. Senior (3½ Rudge) ... ..	.6039
2. Mat Brown (3½ Rex) ... ..	.5499
3. Wm. Allan, jun. (3½ Triumph) ... ..	.5496

TWIN-CYLINDER CLASS.

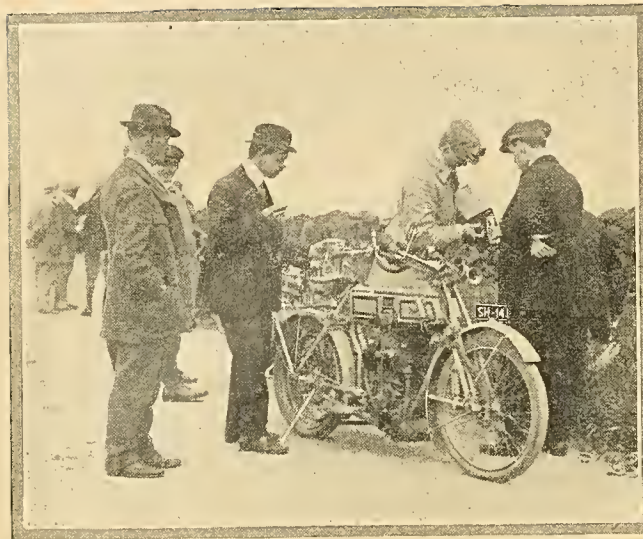
1. Miss May Senior (2½ two-speed Douglas) .5141
2. Geo. Cocker (5 Rex) ... .. .4795
3. Alf. Sommerville (5 Rex) ... .. .4724

Miss Senior was privileged to use a reduction gearing (about 10 to 1), the rest of the members having to use a direct drive.



Hull and East
Riding A.C.C.
Hill-climb at
South Cave
last Saturday.
Scene at the
starting point.

Club News.—



Measuring out the fuel allowance in the Edinburgh M.C.C. Petrol Consumption Test on Saturday last.

Mersey M.C.

The following riders won silver medals for non-stop runs in the 100 miles non-stop reliability trial held on the 9th inst.: F. C. Jones (Bradbury), V. S. Horsman (Bradbury), J. Morley (Triumph), S. W. Carty (N.S.U.), H. Kershaw (Douglas), S. W. Phillpot (Humber), and A. Mason (N.S.U.).

Purley and District M.C.C.

The result of the flexibility hill-climb, held last Saturday at Tilburstowe, was as under:

	Difference.
1. R. G. J. Charlesworth (3½ Zenith) ...	4m. 15s.
2. D. H. Ebbutt (3½ Precision) ...	3m. 56½s.
3. S. H. Routley (3½ Bradbury) ...	3m. 23s.

Zigzagging was allowed, and was largely responsible for Mr. Charlesworth's slow climb, although he had probably the lowest gear of any.

North-west London M.C.C.

The reliability trial for the Thomas challenge cup was held on the 1st inst., the course being through Guildford, Farnham, Basingstoke, Oxford, Buckingham, Cambridge, and Biggleswade, finishing at Jack Straw's Castle. Fifteen competitors started, of whom two retired—Williams (8 h.p. Chate-Lea and sidecar), engine trouble, and Printz (5 h.p. Bat). There was a very close finish, three competitors losing only one mark each; but F. A. Rose kept nearest to schedule time. Results:

1. F. A. Rose (Triumph), one mark lost, cup and gold medal; 2. G. H. Hollis (2½ h.p. Douglas), one mark lost, silver medal; 3. Hal Hill (5 h.p. Bat), one mark lost, silver medal; 4. Glynn Rowden (Triumph), two marks lost, silver medal.

Lincolnshire A.C. (Motor Cycle Section).

The hill-climb held on Walsby Hill last Saturday attracted an exceptional entry. The results were:

CLASS A. SINGLE-CYLINDERS.

	Position on time.	Position on formula.
W. J. S. Bament (3½ Rudge) ...	1	1
G. O. Brunwin Hales (3½ Triumph) ...	3	2
F. Richardson (3½ B.S.A.) ...	2	3

CLASS B. MULTI-CYLINDERS.

A. B. Gould (5 V.S.) ...	1	1
A. Sutcliffe (2½ Douglas) ...	3	2
W. Richardson (5 F.N.) ...	2	3

The formula used was $\frac{C \times T^{1.5}}{W}$

The prizes won during the present year will be presented at a social meeting to be held at Skegness on the 23rd inst.

Coventry and Warwickshire M.C.

The twelve hours run to Bath and back will take place next Saturday, starting from Station Hill, Coventry, at 7 a.m. There are over a score of entries. The awards are *The Motor Cycle* 50 guinea cup (to be held for one year) and a replica in silver presented by the Triumph Cycle Co., Ltd. Second, Humber gold medal; third, club gold medal; fourth, Rex silver cigarette case. The route is *via* Evesham, Cheltenham, Gloucester, Birdlip, Stroud, Nailsworth, and the total distance 200 miles.

Herts County A.C.

On August 5th-7th the successful precedent of last year will be repeated in a tour to the Lakes, combining with it a reliability competition for each of the six classes of entrants. Members desiring hotel accommodation at Kendal and Barnard Castle should at once communicate with the secretary, from whom full particulars of the route and conditions can be obtained.

Dublin and District M.C.C.

A series of speed trials was held on Saturday at Portmarnock, the three races resulting as follows:

One Mile Handicap.—1, C. Pardo Kird (3½ h.p. Triumph), 160 yards; 2, J. A. Carvill (3½ h.p. Triumph), 130 yards; 3, C. E. Murphy (3½ h.p. Triumph), 150 yards.

Four Miles Handicap.—1, P. Brady (3½ h.p. Rudge), 45s., time 5m. 32½s.; 2, J. Healy (3½ h.p. Rudge), 35s., 5m. 25s.; 3, C. E. Murphy (3½ h.p. Triumph), 35s., 5m. 28s. Won by 2s., there being 3s. between second and third.

Twenty Miles' Handicap.—1, P. Brady (3½ h.p. Rudge), 5m., time 28m. 11½s.; 2, J. A. Carvill (3½ h.p. Triumph), 4m., 27m. 26s.; 3, T. Green (4 h.p. Waverley), 4m. 27m. 43s.

Glasgow M.C.C.

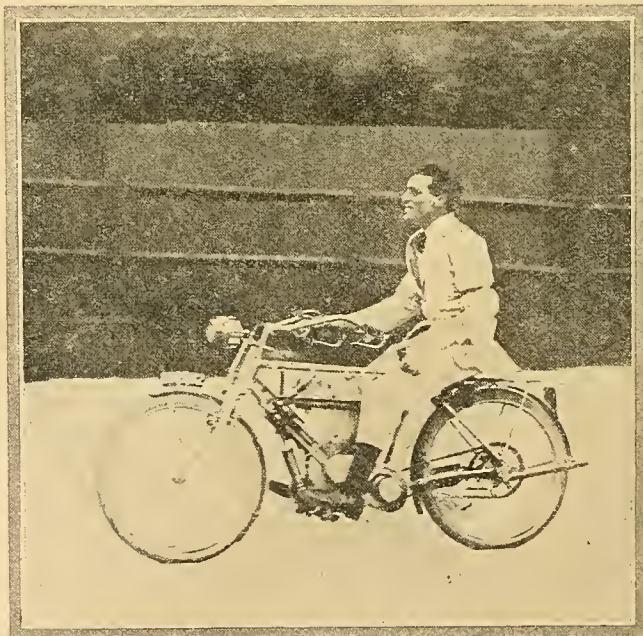
The fast and slow hill-climb was held on Saturday last at Gaitshake, near Dumbarton. The results were:

CLASS I. Singles.

	Slow.	Fast.	Fig. of Merit.
J. S. Grant (3½ Triumph) ...	10.51	32	3.04
— Wilson (3½ Singer) ...	9.41	27.7	2.94
D. S. Baddeley (3½ Rudge) ...	8.57	24.83	2.89

CLASS II. Twins.

— Hunter (7 Indian) ...	8.83	53.5	3.79
W. Deans (3½ Singer) ...	10.29	32	3.11
D. S. Baddeley (3½ Rudge) ...	10.69	29.4	2.79



M.C.C. Brooklands Race Meeting.

E. Mariani (2½ h.p. P. & M.) finishing second in the club championship ever

Club News.—

Streatham and District M.C.C.

The hill-climb fixed for Saturday has been postponed till August 5th in consequence of the B.M.C.R.C. Collier v. de Rosier match at Brooklands.

Woolwich, Plumstead, and District M.C.

Club runs for the month are as follow: July 16th, to Ashdown Forest and Brighton; July 23rd, to Winchelsea-on-Sea; July 30th, to Pulborough.

Surrey M.C.C.

The petrol-economy competition on July 5th, over a triangular course of 16½ miles (Guildford, East Horsley, Ripley, Guildford), which had to be covered twice, resulted as below: 1, E. Cox (3½ h.p. Zenith-Gradua and sidecar), 91½ m.p.g.; 2, F. Smith (3½ h.p. Zenith-Gradua), 133 m.p.g.; 3, H. R. Owtram (3½ h.p. Triumph), 140½ m.p.g.

Wolverhampton M.C.C.

At a most enthusiastic meeting of local motor cyclists at the Victoria Hotel, Wolverhampton, on the 29th ult., the formation of this club was decided upon. Any who may be interested are invited to attend a general meeting at the same place on the 14th inst., when officials will be elected and rules submitted for confirmation.

Worcestershire M.C.C.

The "President's Cup" 150 miles reliability trial resulted as below, subject to confirmation by committee:

	Marks	lost.
1. F. G. Boddington (4½ h.p. two-speed Precision) ...	0	0
1. S. Lewis (5-6 h.p. two-speed Rex) ...	0	0
1. J. Dudley (2½ h.p. three-speed Hobart) ...	0	0
2. H. E. Bryant (3½ h.p. T.T. Triumph) ...	1½	1½
3. F. Smart (3½ h.p. T.T. Rudge) ...	2	2

North Staffordshire M.C.C.

The result of the hill-climb held at Sandon on the 25th ult. was:

	Fig. of Merit.
1. H. J. Scale (3½ T.T. Scale-Jap) ...	73.1
2. A. Cotterill (3½ Zenith-Gradua) ...	76.68
3. R. J. Ashton (3½ Scott) ...	79.46

Scale was awarded a gold medal, together with I. W. Bentley (8 Dot-Jap), who made fastest time.

Westmorland M.C.C.

Teams of six each are being selected by the Newcastle, Lancashire, Bradford, Cumberland, and Westmorland Motor Cycle Clubs to represent their respective counties in the hill-climb on the Greyhound, near Kendal, on August 5th. There are to be no conditions. Valuable medals are to be presented to the winning team, and further information may be obtained from C. B. Robinson, hon. secretary, Ferney Green, Kendal.

Putney and District M.C.C.

The results of the reliability trial to Salisbury and back on the 2nd inst., for a pair of Kempshall tyres, and a Haslam belt presented by the manufacturers, were as follows in order of merit: 1, P. R. Shackel (8 h.p. Matchless and sidecar); 2, M. G. Drew (3½ h.p. Triumph); 3, A. Verdon Roe (3½ h.p. Humber); 4, H. H. Buckmaster (3½ h.p. Triumph). There were eleven starters.

The Motor Cycling Club.

The 100 miles non-stop run was held on the 29th ult., over a very stiff course, starting at Hatfield, and thence through Hitchin, Barton, Sharpenhoe Hill, Aston Hill, Princes Risborough, Missenden, St. Albans, and back to Hatfield. As the route was entirely unmarked, the competitors who did not know the course were at a considerable disadvantage. Of the twenty-nine entries, twenty-four started, and the following gained medals:

Motor bicycles. P. H. Bentley (3½ h.p. Triumph), R. B. Clark (5 h.p. Indian), R. C. O. Wells (3½ h.p. Bradbury), J. P. Le Grand (5 h.p. Rex), A. G. Peppercorn (3½ h.p. Bradbury), H. Karslake (4 h.p. Dreadnought), G. T. Gray (3½ h.p. Rudge), H. E. Davison (5 h.p. Rex), W. F. Guiver (3½ h.p. Kerry-Abingdon), and C. C. Cooke (3½ h.p. Triumph). C. S. Lake (2½ h.p. Arno), had one stop, petrol tap automatically shut off.

Sidecars.—C. F. Halsall (5-6 h.p. Clyno), B. A. Hill (3½ h.p. Rudge), and C. Percival (6 h.p. Zenith-Gradua)

Western District M.C. (London).

The results on formula of the Dashwood hill-climb held on the 14th ult. have been worked out as follows: 1, A. C. Robbins (2 h.p. Humber); 2, W. Tyndale (3½ h.p. Triumph); 3, E. Kennedy (3½ h.p. Triumph).

Chesterfield and District M.C.C.

The awards on the A.C.U. formula in the Hardwick and Amber hill-climbs were:

Hardwick Hill.—1, Lawrence Smith (3 h.p. N.S.U.); 2, J. S. Wilcockson (3½ h.p. Bradbury).

Amber Hill.—1, W. Wood (3½ h.p. Triumph); 2, B. Cutts (3½ h.p. Bradbury).

The next hill-climb is on Stanage Hill on the 19th inst., the programme including a sidecar class and a flexibility climb. For entry forms, apply the hon. trials sec., J. J. Kelly, Olive Mount, Newbold Road, Chesterfield.

Leeds M.C.C.

Below are the results of the Leeds to London and back reliability trial, which took place on the 1st inst. Fourteen of twenty-four starters finished in schedule time:

GOLD MEDALS.—1, T. Bullus (P. and M.), lost 18 points, wins Langton Cup; 2, F. K. Langton (Triumph), lost 25 points; 3, R. Ellis (B.S.A.), lost 26 points; and 4, A. C. Gray (Rover), lost 59 points.

SILVER MEDALS.—T. H. Dunstan, Doncaster M.C.C. (Rudge), lost 76 points, and E. Goult, Doncaster M.C.C. (Triumph), lost 77 points.

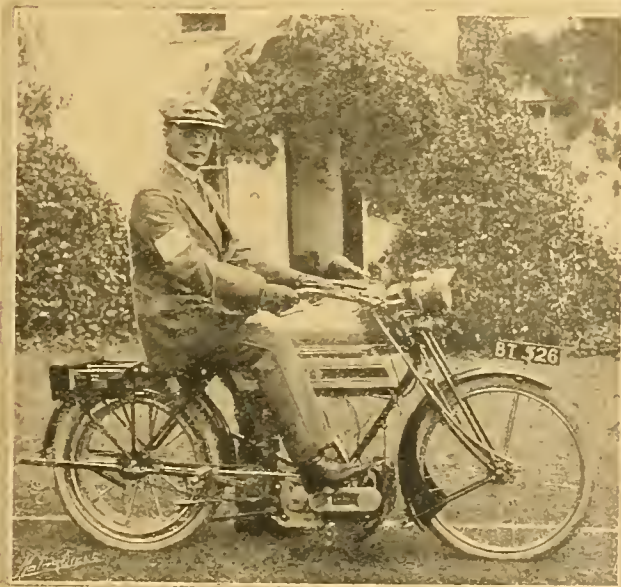
BRONZE MEDALS.—S. J. Woolley (L.M.C.), lost 81 points; S. Crossley (Rover), lost 86 points; J. Mackay, Harrogate M.C.C. (Singer), lost 86 points; J. Davis, Harrogate M.C.C. (Triumph); J. McConnochie (Rex); and A. Lunn (Rover).

SIDECAR CLASS.—C. Foster (Rudge and sidecar), lost 77 points, wins Kelly Cup, and W. Grinstead (Rex and sidecar), lost 86 points.

This invitation run included teams from a number of clubs in the North, the winning club being the Doncaster M.C.C., two of its members being placed fifth and sixth.

Pocklington and District M.C.C.

There was a large gathering of the club's supporters and their friends at the hill-climb at Kilnwick Percy last Thursday. Two events comprised the programme—(1) for single cylinders of under 500 c.c. and (2) any machine, and in both of these Dr. Fairweather, on a 3½ h.p. Triumph, made the fastest time, being followed in each case by G. Whitworth on a 3½ h.p. Zenith-Gradua in the first and 2½ h.p. Enfield in the second. The final results remain to be worked out on formula.



Dr. Angus Fairweather, who made fastest time in two events of the Pocklington and District M.C.C. hill-climb. Dr. Fairweather also owns a Napier car.

SOME QUERIES FROM MANXLAND.

IS IT TRUE——

THAT the Indian came home with a beltful of scalps?
That a certain well-known artist ran over a hen?
Or that he had only burst a carrier cushion?

That the Manx tradesmen were sold out of big straps and large cushions by Thursday, June 29th?

That the fair visitors could tell you why this famine arose?

That to get a skirt in the belt rim is a finer brake than the best rim shoe?

That some of the riders devoted more attention to tuning themselves than their engines?

That champagne proved less helpful to these riders than carborundum to a valve seat?

That our visitors from the Dutch club were real sports?

That for once Bowen was able to turn within the radius of the coast line?

That therefore his engine trouble was real, hard luck?

That the Bashalls have restrained themselves wonderfully, and might win outright next year?

That the Colliers will use bigger tanks in future?

That Murphy is advertising for a reliable sparking plug?

That some motor cyclists' affections are quite as inflammable as petrol?

That in response to Collier's latest protest everybody who finished has been disqualified?

That some engines used enough oil to add five per cent. to Price's 1912 dividend?

That Brooker smiled visibly whenever he saw the oil-squirts squeezed into a lubricating tank?

That we don't think anything of Ballacrairie now?

That Sulby Bridge wants rebuilding?

That the mountain road was laid out by an intoxicated corkscrew manufacturer?

That if you have no free engine you should carry nothing tenderer than a spare belt on your carrier?

That the Armstrong hub is rather more reliable than a saddle?

That a certain twin engine (by no means last to finish) was built up during the night preceding the race?

That another competitor could rattle the "innards" of his engine about by grasping the engine pulley?

That the brothers Collier had the thirstiest and fastest J.A.P. engines ever made?

That thieves pilfered the toolbag of a competing machine whose rider had been taken to hospital?



G. L. Fletcher (2½ h.p. Douglas) negotiating the awkward turning at Quarter Bridge.

That Norton is a tough old sport, and has the Old Age Pension?

That John Gibson treated Sulby Bridge with great respect on his third, fourth, and fifth laps?

That Triumphs cannot overheat easily if they can career round the new course all day on a 4½ gear?

That de Rosier's kilometre at 75 m.p.h. on a wet and crooked track was marvellous?

That one of the Bat riders had a bad back wheel skid in the kilometre at 60 m.p.h., and kept upright?

That Humber shares were freely wired for on Friday night?

That a racing lightweight can bark like a 1,000 c.c. if you know how to tune it?

That Arthur Moorhouse is the finest amateur rider in the country.

That not one single-cylinder machine finished the Senior Race without an involuntary stop?

That in race week the lower deck of the Manx steamer looks like a marine stores?

That our bicycles must be pretty tough to survive such heartless treatment?

That for three men to carry a 7-9 h.p. Indian and sidecar over a 2ft. gangway and up seventy-three steps is worthy of Sandow?



THE KILOMETRE SPEED TRIALS ON THE DOUGLAS PROMENADE.

(1) Jake de Rosier, who accomplished the best speed—75.57 m.p.h.—in the kilometre race on the Douglas promenade, riding his famous 7 h.p. Indian brought specially from the States.

(2) H. A. Collier (Matchless-Jap) crossing the finishing line.



QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

A Loss of Power.

? I am in trouble with my 5 h.p. twin King motor cycle, about six years old, accumulator ignition. It ought to do about 45 m.p.h., but it does not seem to go any more than about 20. The valves are right, everything seems right; machine fires regularly, and yet no power. Why? I have just fitted a B. and B. carburetter, h.b. control, but no difference is apparent. Could the piston and cylinder heads be covered with carbon?—H.R.L.

We should say, first of all, that the lift of the inlet valves is slightly too large; also, probably the valve springs are too weak. You should also take off the cylinders and remove the carbon deposit. You might get far better results out of the machine if magneto ignition were fitted.

Excessive Carbon Deposit.

? I am having some trouble with carbon deposit. About two months ago I cleaned the top of my piston thoroughly, and now I find quite a quarter of an inch of carbon deposit upon it. (1.) Does over-oiling cause this? (2.) Would new piston rings improve or stop it? for I noticed when I moved the piston up and down oil began to appear on the top of the piston. It worked past the side of the piston head and the cylinder. (3.) How often should the carbon deposit be

removed from average machines? (4.) Is there anything I can apply to the piston to stop the accumulation?—S.W.H.

Not only over-oiling, but the exceedingly dusty nature of the roads would cause the excessive amount of carbon deposit. A very large percentage of this deposit is road dust. All you can do is to clean the cylinder, from time to time. Some engines will carbonise as quickly as every 1,000 miles. New piston rings might mitigate the trouble to some extent.

Overheating.

? The 3½ h.p. White and Poppe engine on my tricar is giving me some trouble. After running a few miles, the exhaust pipe and the part around the valve gets very hot, and when a small hill is encountered the engine stops altogether through overheating. I have had new inlet and exhaust valves put in, and there is splendid compression. The top of piston head and end of cylinder have been cleaned, and are quite free from carbon. After current is switched off, engine continues to fire for quite a time when heated up. It is a Longuemare carburetter, and it will not take very much air. Can you suggest a remedy?—W.R.J.

We should be inclined to think that the trouble is due to too weak an exhaust valve spring. Be careful also to use a

spark plug, the points of which do not project too far into the cylinder, and use only the best quality lubricating oil. Too weak a mixture is also quite as likely to cause overheating as too strong a mixture, and you might try a slightly smaller choke tube, also check lift of exhaust valve.

Timing Exhaust Valve, etc.

? I have a 2½ h.p. motor cycle, accumulator ignition, plain coil, automatic inlet valve, and should be obliged if you would kindly answer me the following questions: Please give directions for timing exhaust valve of above. Will one platinum on contact breaker work with, say, a Jehron point, or must they both be alike? Does it matter if the points separate more than ¼ in., as in the case of a magneto? When the points make contact a spark appears between them as well as at the plug. I suppose this will burn away the points? How can I cure this? Of what use is a detachable circuit plug? Will size 7-22 electric cable do to make all necessary connections with? If not, what kind must I use? When retiming the ignition, at what position must the spark lever be?—P.E.M.

Set the exhaust valve to close at the moment the piston is on the top of exhaust stroke. We should advise you to have both contact points on the contact



A private owner, J. R. Haswell (3½ h.p. Triumph), at the first bend at Ramsey, leading to the hairpin bend and mountain climb. Although the Triumph machines had single gears they climbed the mountain each time.

breaker of the same material. With regard to the adjustment of these points you should so adjust them that, while a firm contact is made, it should be no firmer than necessary, otherwise you will have slight loss of speed. The best way to adjust the points is to screw up the contact screw so that a good firm contact is made, start the engine running, unscrew until misfiring begins, turn the screw in the reverse direction half a turn, and then lock it. Yes; the spark will burn away the points. A small amount of sparking cannot be avoided. The condenser in the coil, if it is a good one, will keep down the spark at this point. You are evidently referring to the old type of switch plug inserted in the low tension circuit of a battery ignited engine. When this was withdrawn it prevented waste of current if contact points were touching. For wiring connections use ordinary low tension wire, obtainable from any motor dealer. When retiming battery ignition it is best to have the lever threequarters retarded, and piston on dead centre.

Obstructive Cattle Drivers.

? I shall be very grateful for any information as to the legal responsibility of owners of cattle whose drovers refuse to clear the road for motor traffic. I was recently held up by a herd of cattle, the driver of which absolutely refused to clear the road, and rudely stated that if we found cattle in the road we must stop. I was obliged to do so, and even then he kept his cattle in front of me, and I could not get through, as the cattle were doing the same way as myself. I had a sidecar and passenger and had the greatest difficulty in getting along. This happens constantly, and I want to know whether there is any redress.—(REV.) C.O.R.W.

Our legal adviser writes: "Your correspondent can apply to the police court having jurisdiction for the district in which the cattle were obstructing the road for a summons against the drover for wilfully obstructing the free passage of the highway. If the justices are satisfied that the drover was not using the highway in a reasonable manner, and that he was, in fact, wilfully obstructing other users of the road, they could inflict a fine not exceeding 40s."



Miss Butterfield, of Birmingham, on her 2½ h.p. 62x70 mm. two-stroke Levis. The machine weighs but 85lbs., the wheels measuring 24in. diam.

Liability for Damage.

? I was recently riding on a motor cycle about twelve miles per hour on the left-hand side of the road, when I saw a pedal cyclist coming out of a side street on the same side that I was travelling on. I steered across to the right hand side of the road, and the cyclist went the same way, and a collision resulted. The man was not hurt, nor was the machine knocked over on the ground, but still he says that the impact buckled his rim and knocked his frame out of alignment. He made a lot of bother, so I took the machine to a cycle repairer, and left it there to be put right. I paid the man the price he asked. A few days ago the man I collided with came to my home and said the machine was not right, so he took it to the firm he was

buying it from on the hire system, and they state that it wants a new rim and a new down tube, which will cost probably about £1. If I pay the owner, not the hirer for the job, shall I cease to be liable?—I have heard that the hirer is going to make me pay for loss of time in coming to see me about it. Can he do so?—W.A.

Our legal adviser writes: "'W.A.' seems to have given away any chance he had of successfully defending an action for damages, as he has practically admitted liability by already having had the machine repaired. If the cycle repairer he employed is a competent man, he could see him and enquire whether he considered the cycle was put in as good condition as it was before the accident, and whether a new rim and a new down tube were really necessary. If the first cycle repairer put everything right your correspondent is not liable for any further bill. He certainly ought not to pay the bill for the second repair without obtaining a receipt in full discharge of all liability, and, under the circumstances, it would be best to get this signed by the owner and the hirer. The hirer cannot make your correspondent pay for loss of time in coming over to see him about it."

READER'S REPLY.

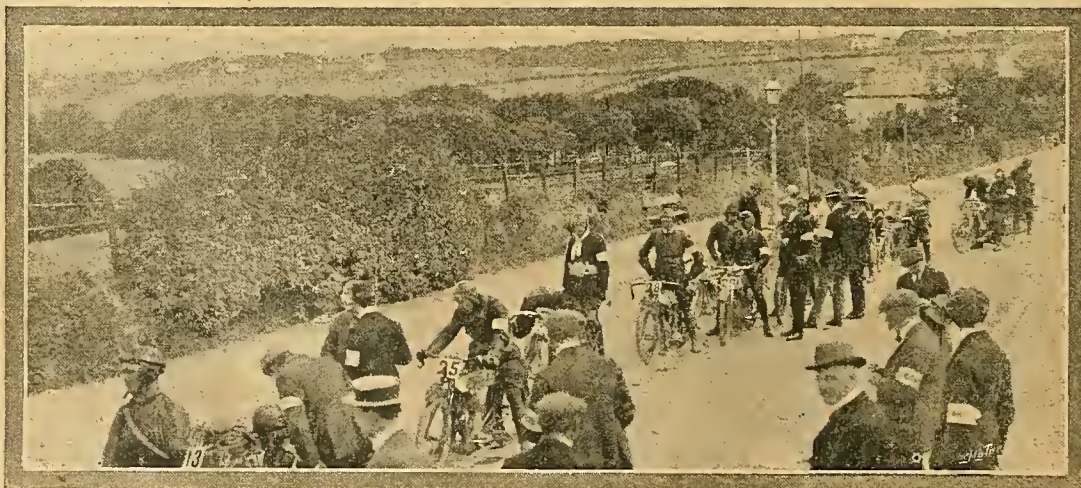
Exhaust Whistle or Horn.

I read the query from Mr. P. Mac Cann re the Exhaust Whistle and your reply. I have a whistle which will blow even when I wheel the machine. The great efficiency of this whistle is obtained by having two valves (butterfly), one in the exhaust pipe and the other at the base of the whistle, so that when the one in the exhaust pipe is open the other is closed and *vice versa*. By just pressing a pedal a mellow note is heard; it works just as well when the exhaust valve is lifted, better in fact, because at every up-stroke there is a charge sent through the whistle which makes a practically continuous note.—R. NEVILLE.

EXPERIENCES WANTED.

"C.M." (Birkenhead). The Armstrong and Millennium hub gears.
"G.H.T." (Godalming). T.A.C. 7 h.p. Indian, and Scott for touring solus.

Competitors
lining up for the
start of the
Senior Race at
Woodlands,
on the outskirts
of Douglas.
Bray Hill is seen
at the right hand
top corner.



FASTEST TIME OF THE DAY AND 2 FIRSTS

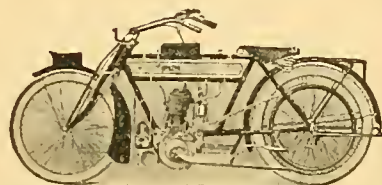
OXFORD UNIVERSITY M.C.C. HILL CLIMB, DED-
DINGTON. June 18, 1911, on a 3½h.p. T.T. NORTON.

Catalogue
free from—
NORTON
MANFG.
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Powerful. . .
Flexible. . .
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"THE UNAPPROACHABLE"
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... FOR ...
TERRIFIC
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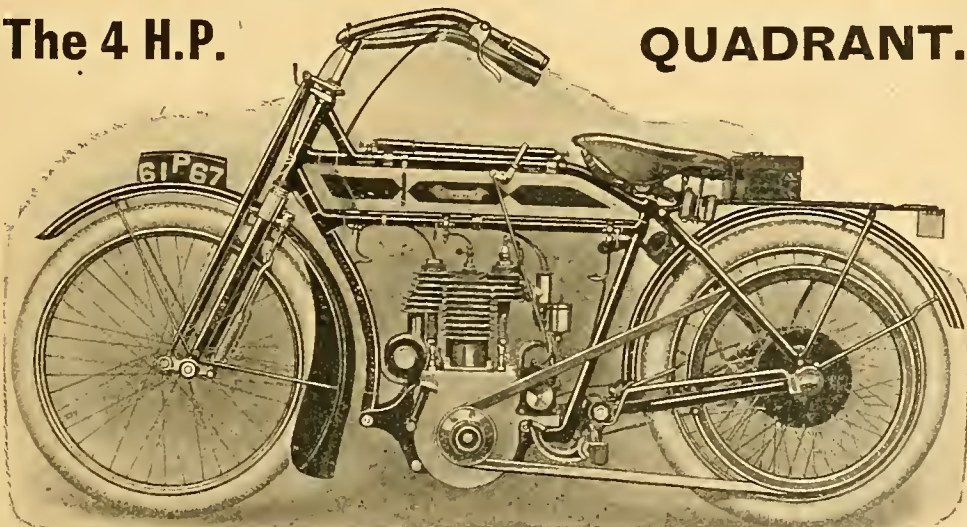
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A NEW PASSENGER MODEL WITH ALL THE ADVANTAGES OF A CAR.

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QUADRANT.

Write for particu-
lars of the famous
3½ h.p. Quadrant.
A perfect motor
cycle.



2 SPEEDS.

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BIRMINGHAM.**

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Macclesfield, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

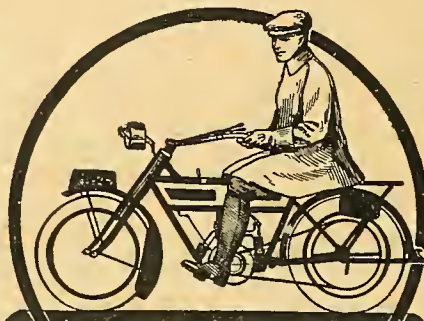
SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.



WAUCHOPE'S DAILY BARGAINS.

ASK FOR
TO-DAY'S
LIST.

London's Largest Selection,
new and varied from day to
day, but always the same for
satisfaction and unequalled
value.

TO-DAY'S OFFERS INCLUDE:

117.	5 h.p. 1910 Twin	REX DE LUXE	37 Gns
119.	3 1/2 h.p. 1909 Standard	TRIUMPH	\$32 10
120.	3 1/2 h.p. 1907 Standard	TRIUMPH	\$22 10
123.	2 1/2 h.p. 1910	DOUGLAS	\$30 0
125.	2 1/2 h.p. 1910	DOUGLAS	\$32 10
130.	3 1/2 h.p. 1910 Tourist	REX	\$25 0
133.	2 1/2 h.p.	ARIEL	\$8 10
135.	5 h.p. 1907 Twin	REX DE LUXE and sidecar	\$22 10
138.	6 h.p. 1909 Twin	REX DE LUXE (J.A.P. engine) and sidecar	40 Gns
	3 h.p. 1907	N.S.U.	\$15 0
	1 h.p. 1910 Lady's	MOTOSAGOCHE	30 Gns
3934.	2 1/2 h.p. 1910	ROYAL ENFIELD	\$27 10
3894.	1 1/2 h.p. 1910	MOTOSAGOCHE	\$22 10
4060.	1 1/2 h.p. 1910	MOTO-VELO	\$22 10
3509.	3 1/2 h.p. 1909	MINERVA	\$22 10
1040.	7 h.p. 1910 Two-speed	INDIAN	50 Gns
1110.	3 1/2 h.p. 1910 Free-engine	TRIUMPH	\$43 10
3923.	3 1/2 h.p. 1910	ZENITH GRADUA	\$40 0
1033.	5-6 h.p. 1909 Two-speed	F.N.	28 Gns
1051.	2 1/2 h.p. 1910	ROYAL ENFIELD	\$25 0
1078.	9 h.p. 1908 Twin	BAT	40 Gns
1004.	2 1/2 h.p. 1910	DOUGLAS	\$26 10
1107.	3 1/2 h.p. 1909	TRIUMPH	30 Gns
3933.	6 h.p. 1910 Two-speed	ROC & sidecar	\$47 10
3387.	6 h.p. 1909	EAGLE Runabout	\$35 0
1100.	6 h.p. 1909	CHATER-LEA Cigarette	28 Gns
4086.	5 h.p. 1910 Twin	REX DE LUXE and sidecar	\$46 0
3847.	3 1/2 h.p.	FAFNIR	\$16 10
4046.	1 1/2 h.p.	MOTOSAGOCHE	\$12 10
3507.	3 1/2 h.p. 1908 Two-speed	N.S.U.	20 Gns
3947.	2 1/2 h.p. 1909	DOUGLAS	\$24 0
4006.	2 1/2 h.p. 1910 Two-speed	F.N.	\$27 10
3812.	3 1/2 h.p. 1910	PREMIER	28 Gns
4093.	7 h.p. 1910 Two-speed	V.S.	\$55 0
1084.	3 1/2 h.p. 1910	KERRY-ABINGDON	30 Gns
3099.	4 h.p. Twin	N.S.U.	\$18 10
2095.	2 h.p. 1909	MOTO-REVE	20 Gns
1323.	2 1/2 h.p. 1910 Twin	N.S.U.	\$22 10
3937.	3 h.p. 1906	REX	\$12 10
3530.	5 h.p. 1910 Twin	V.S.	\$35 0
1092.	2 1/2 h.p.	MINERVA	\$17 10
3930.	3 1/2 h.p. 1908 Two-speed	N.S.U.	\$22 10
1455.	2 1/2 h.p.	J.A.P.	\$15 0
1045.	3 1/2 h.p.	ARIEL	\$10 10
1266.	2 1/2 h.p.	BRADBURY	\$10 10
1795.	2 1/2 h.p.	F.N.	9 Gns
1410.	3 1/2 h.p.	N.S.U.	\$18 10

Write for copy of List, which comprises the best 1911 models of all most famous makes, and great variety of genuine Second-hand Machines repaired, renovated, and fully guaranteed.

WAUCHOPE'S
9, Shoe Lane, Fleet St.,
LONDON, E.C.
Telegrams: "Opificier, London."
Phone: 5777 Holborn.

NUMBERED ADDRESSES.

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DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Hiffe and Sons Limited.

SPECIAL NOTE

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

TRIUMPH'S, Humbers, B.S.A., Royal Enfield motor cycles, lightweights, 2 speeds, free engines; write, wire, or 'phone for immediate deliveries.—Turvey and Co., The Motor House, Sunderland. Tel.: No. 626.

3 1/2 h.p. Triumph, Roc 2-speed gear and free engine, 1911, practically new, with Millford castor steering sidecar; owner just bought, but is now going in for a car; what offers?—D. c/o Turvey and Co., Motor Garage, Sunderland.

3 1/2 h.p. 1910 Triumph, only ridden 950 miles, practically no worse than new; for quick sale accept £35.—Turvey and Co., Motor Garage, Sunderland.

ENFIELD, 2 1/2 h.p., new Easter, 1911, only done 1,200 miles, splendid order; cost £40, first offer over £30 secures.—Full particulars, Winter Jackson, Galgate, Barnard Castle.

SECTION II.

York and Lancashire.

5 h.p. Twin Rex, new 45/- tyre on; bargain, £20.—17, Moorgate, Bury.

5 h.p. Indian, 1910, condition and tyres like new; £38.—18, Louis St., Leeds.

1909 Triumph, standard, not run 1,000 miles, as new.—King, Wigginton, York.

5 h.p. Twin Rex, accumulator, good condition; £15/10. Henshaw, wheelwright, Stockport.

£10.—Modern Motor Cycle, first-class condition.—Letters, 88, Rugby Place, Bradford.

TRIUMPH, 3 1/2 h.p., magneto, overhauled; 20 guineas.—140, Church St., Elsecar, Barnsley.

NEARLY New 3 1/2 h.p. Rex, 2 speeds, climb anything, perfect; £34.—6, Peel St., Oldham.

N.S.U., good order, £12, Rex, magneto, £16; new tyre, 14s.—67, Forest Rd., Southport.

1911 Bradbury; purchaser unable to take delivery; offers.—Booth, Artillery St., Heckmondwike.

1911 2 1/2 h.p. F.N., brand new; must sell; £44, or offers.—Hind, Rooks Mount, Wyke, Bradford.

4 1/2 h.p. Twin Minerva Cycle, good condition; £18, or exchange single.—26, Ventnor St., Rochdale.

ZENITH, 1911, 3 1/2 h.p., Gradua gear, immediate delivery, unpacked.—Fred Lee, Pocklington, York.

ENFIELD Lightweight.—Sole agents for Manchester and district, Newton's, Blackfriars St., Manchester.

2 1/2 h.p. Lloyd Lightweight, new tyres, re-bushed, excellent condition; £12/10.—68, Wellington Rd., Stockport.

2 1/2 h.p. Atlanta Lightweight, £10/10; 1 1/2 h.p. F.N. lightweight, £7/10; great bargains.—Mackwell, Masham.

SINGER, free engine, new Palmer cord tyres; what offers? owner going abroad.—93, Machon Bank, Sheffield.

NEW MACHINES FROM STOCK.

Call, write, wire or 'phone.

50 NEW MACHINES to choose from.

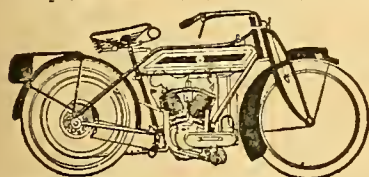
GREAT REDUCTIONS IN NEW 1910 REXES BRAND NEW AND UNUSED.

3½ h.p. Magneto Rex, M.O.V.	38 Gns
5 h.p. Twin, grand sidecar mount ..	42 Gns
3½ h.p. Plate Clutch, free engine, pedalling gear ..	45 Gns
1911 de Luxe Sidecars to fit these models ..	£6 6
1911 de Luxe Sidecars to fit these models ..	£6 6

CONSIDER THIS.

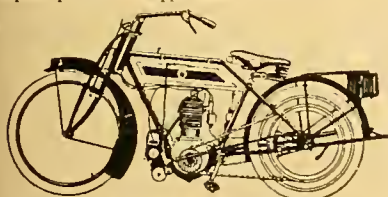
Brand New 1910 5 h.p. Two-speed Twin Rex de Luxe, 1911 cylinders, forks, M.O.V., magneto, and other 1911 fittings, fully guaranteed, 26 x 2½ in. non-skids

£54 10



SECOND-HAND REX BARGAINS. All Guaranteed.	
1911 3½ h.p. Tourist Rex	£37 10
1910 Twin Rex, special M.O.V. engine, very fast ..	£31 10
1910 3½ h.p. Magneto Rex, 8½ x 89	£32 10
1910 5 h.p. Magneto Rex	£35 10
1910 5 h.p. Rex de Luxe, fine sidecar machine ..	£44 0
1910 3½ h.p. Rex, very fast, special machine ..	£27 10
1909 5 h.p. Rex de Luxe	£38 10
1908 3-6 h.p. Rex Lightweight, mag. to	£16 10
1907 5 h.p. Twin Rex, spring forks	£18 10
1907 3½ h.p. Magneto Rex, spring forks	£19 10
5½ h.p. Twin Rex de Luxe, Rex clutch, spring forks ..	£24 10
1910 M.O.V. Twin Rex de Luxe, good	£43 15

We have a few special 3½ h.p. (new) REXES, as illustration, with pedalling gear; 35 Guineas. Descriptive pamphlet post free on application.



1911 REXES, RUDGES. BRADBURY'S, TRIUMPHS, PREMIERS.

2½ h.p. Viader, two-speed, mag.	£29 10
Quadrant, 3 h.p., nice order	£11 10
Humber, 2 h.p., splendid condition	£11 0
2½ h.p. J.A.P., light and handy	£10 0
6 h.p. J.A.P., twin, magneto	£25 15
Twin Werner, light and low	£19 10
3 h.p. Singer, 26 in. wheels, magneto, h.b. control, F.N. Magneto Lightweight ..	£19 0
1½ h.p. F.N. Lightweight, "GOOD" ..	£9 10
3½ h.p. Magneto Quadrant, spring forks ..	£24 0
3½ h.p. Magneto Minerva, special finish ..	£18 0

PASSENGER COMBINATIONS.

1910 Twin Coach-built Rex Sidecar, two speeds, very fine order and condition	£54 10
5½ h.p. Twin Rex de Luxe, magneto ignition, Rex clutch, handle starting and new rigid sidecar ..	£27 10
5½ h.p. N.S.U., free engine, N.S.U. sidecar, very smart turnout	£33 10
5 h.p. Two-speed Rextette, carries three ..	£25 0
Brand New 1910 7 h.p. Twin Rex de Luxe, 1911 fittings, and new 1911 de Luxe sidecar	£59 15
5½ h.p. Twin Rex, with shop-soiled sidecar	£19 10

The Halifax Motor Exchange

LARGEST REX DEALERS.

16, Westgate, HALIFAX.

'Phone, 766. Telegrams, "Perfection."

Business Hours, 9 a.m. to 6 p.m.

Australian Agent—Allen, 6, Westbourne St., Petersham, N.S.W.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1910, good order; owner going in for stronger machine for sidecar work; £37.—Baguley, Aston Manor, Newport, Salop.

3½ h.p. Humber, free engine, nearly new tyres, low, 32" powerful, and reliable; £11/10.—Seen at Station House, Adlington, Macclesfield.

1911 Models from stock; 2 h.p. Humber lightweight, 3½ h.p. standard B.S.A., 3½ h.p. free engine Bradbury.—Everitt's Garage, Dr. itwich.

ZENITH, 3½ h.p., 1910, standard, in exceptionally good condition, will take a sidecar up Sunrising; £40.—Jones, 283, Birchfield Rd., Handsworth.

MOTO-REVE, 1910, twin, adjustable pulley, lamp, horn, etc.; £27/10; buying Triumph—Geo. Sale, Cooperage, Newcastle St., Burslem, Staffs.

3 h.p. Fafair, Brown and Barlow, Bosch, Clincher non-skid, new Whittle, saddle, 28 in. high; bargain, £20.—Harris, 94, Lawrence Lane, Old Hill, Staffs.

ENFIELD Two Chain-driven 2½ h.p. Lightweights, 1911, for immediate delivery; 41 guineas.—A. Adams, Palatine Rd. Cycle and Motor Wks., Northenden, Cheshire.

TRIUMPH, actual winner 1910 Tourist Trophy race (single-cyl. class), practically 1911 machine, little used, belt and tyres new; £40.—A. R. Blockley, Hadley Park, Wellington, Salop.

1911 7 h.p. Indian, free engine, absolute new condition, and unscratched, month old; 55 guineas; too fast; or exchange lower power with cash.—Hallam, Baths, George St., Buxton.

1911 6 h.p. A.S.L. practically new, perfect condition, Peugeot engine, run about 800 miles, spares, will do 55 easily, ride 50 miles to purchaser; cost £60, take £42.—Malcolm Nicholson, Hignfield Hall, Leek.

3½ h.p. Antoine, m.o.v., spring forks and saddle, low, 32" h.b.c., 26 in. x 2½ in., French grey, every accessory, perfect condition, beautiful machine, fast, reliable; £13/10; photo and full particulars.—Poplar House, Madeley, Salop.

ENFIELD Twin, 2½ h.p. lightweight, Clincher tyres, bought May 2nd, 1911 model; cost 41 guineas cash, first offer over £36; bought sidecar and 3½ h.p. motor.—A. Adams, Palatine Rd. Cycle and Motor Wks., Northenden, Cheshire.

TRIUMPH, free engine model, new August, 1910, thoroughly overhauled by makers May last, condition as new, Jones speedometer, Lucas headlight, and horn, lock, tyres unpunctured, spare cover and tube, spare belt, unused, spare valves, etc.; £45.—Frank Dodd, Cholmondeley, Malpas, Cheshire.

THE North Wales Motor Exchange, Rhosiddu, Wrexham, Tel.: 283.—Here you are for sidecar machines. 5 h.p. Rex twin, Bosch magneto, handle-bar control, brand new Continental tyre and tube on back wheel, very low built, a bargain, £25; 5 h.p. Rex, Bosch magneto, handle-bar control, Rex clutch, handle starting, £25; 2½ h.p. F.N., Bosch magneto, chain driven, free engine, will climb anything, a beauty, £17; 6 h.p. Rover car, 3 speeds and reverse, all complete with lamps, hood, tools, etc., any trial, £55, motor cycle taken part; photo.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

1911 Bradbury, new Easter, little used; £39.—Oxley, Desford, Leicester.

REX, 3 h.p., good going order, grey finish, Whittle belt; £11.—402 Aston Lane, Witton, Birmingham.

WOODGATE for Triumphs; deliveries from stock of all models; no waiting.

WOODGATE for Sincers, clutch, standard and Moto Velo; immediate delivery.

WOODGATE for Ariels with decompressor; easiest starters on the market.

WOODGATE for Royal Enfield and Douglas lightweights; a fine range on view.

WOODGATE for a Splendid Selection of second-hand and trial models, ranging from £5 to £45; sidecars from £5/5; exchanges and payments arranged.—The Motor Cycle Depot, 643, Coventry Rd., Birmingham. Tel.: 372 Victoria.

1911 Bradbury (standard), ridden once only; £43.—Morris, Coton End, Warwick.

1910 3½ h.p. Ariel, free engine, easy starting device, all spares; £37.—Morris, Coton End, Warwick.

1908 4-cyl. F.N., good condition throughout; £18.—Morris, Coton End, Warwick.

3½ h.p. Rex, powerful, fast, reliable; £8, or nearest offer.—Hatfield, Edenham, Bourne.

1910 Bradbury, 3½ h.p., perfect condition, tyres new; £32.—M., 25, Chester St., Coventry.

DOUGLAS (1910), excellent condition throughout; expert examination invited; £29.—T. A. Morris, Bourne.

1909 Triumph, perfect condition; £28, complete, great bargain.—169, Station Rd., Long Eaton, Nottingham.

HUMBER, 3½ h.p., Tourist Trophy, only been ridden a few miles; £40, or offer.—23, King Edward Rd., Coventry.

MOTOR BIKE

BACK REST

Price
7/6



ACCESSORIES

to meet a long-felt want.

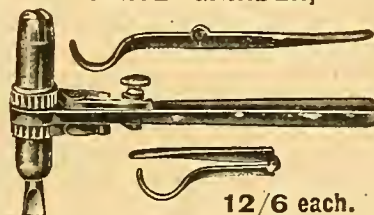
CHEMICO MOTOR-BIKE BACK REST,

as the name implies, has been produced as an antidote to that continual strain that the back is subjected to during motor cycling. The use of this ingenious contrivance will reveal the vast amount of support and comfort it is possible to get from a back rest.

The CHEMICO MOTOR-BIKE BACK REST releases the rider at will, the mere leaning of the body forward being sufficient to detach. Attached or detached instantly. Not unsightly or cumbersome. Undoubtedly a boon to the distance rider.

Price - 7/6 each.

CHEMICO MOTOR-BIKE VALVE GRINDER,



12/6 each.

an ingenious tool for the attention to Motor Cycle Valves, has been designed to supersede the clumsy and bulky devices at present in vogue. Worked upon the ratchet principle, it is possible to work at ease upon the most awkward positioned valves. A cam arrangement enables this tool to be used with a right or left-hand motion at will.

A Booklet further describing these articles can be had free on application and post free.

THE
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Ltd.,

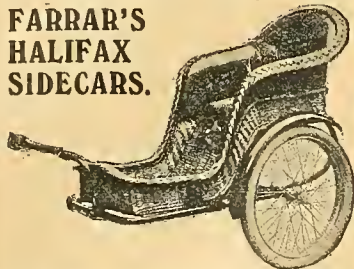
Chemico Works,
Bradford Street,
BIRMINGHAM.

London, Manchester, Glasgow,
Dublin, Cardiff.

E.D.A.

This is our Model de Luxe.
Complete £5 : 5 : 0 Complete

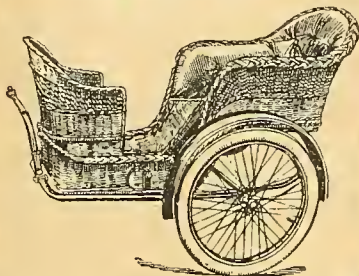
FARRAR'S HALIFAX SIDECARS.



Absolutely the finest value on the market.

This is our Model E for Adult
and child.

Complete £6 10s. Complete.



NOTE our front arm which grips the sidecar
CENTRE. Nothing lopsided about this attachment

All our Sidecars are now fitted with Farrar's
quick detachable joints and cranked back axles,
refinements found on very few other makes.
MODEL "DE LUXE" £5 5
MODEL "C," with cane body £6 0
MODEL "D," with coach-built body £7 0
MODEL "E," with reversible child's seat £6 10

All complete with mudguard and

HUTCHINSON or CONTINENTAL TYRES

Discount to the Trade.

Delivery from stock to suit TRIUMPHS, REXES,
N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE.
SPRUNG LIKE A CAR.

Sole Agent for Australia and New Zealand:
Mr. T. HARRIS, Hunter Street, SYDNEY, N.S.W.

TYRES. TYRES. TYRES.

Clincher Dreadnoughts, rubber-studded....	30/-
Continental, rubber non-skids, 26 x 2 1/2	30/-
Hutchinson, ribbed tread, 26 x 2 1/2	18/6
Continental, beaded, 26 x 2	18/6
Tubes, all sizes, guaranteed	9/6

ENGINES.

4 h.p. ROC and Bosch magneto	£9 0
5 1/2 h.p. DE DION Pattern, water-cooled	£7 0
5-6 h.p. SAROLEA, brand new 1910 model, fitted magneto, silencers, driving pulley, etc.	£14 14
BRAND NEW 5 1/2 h.p. Twin N.S.U.	£9 10
1 1/2 h.p. DE DION, air-cooled	£1 15
Phelon and Moore Engine and Frame	£5 10
4 1/2 h.p. HUMBER water-cooled	£6 10
2 1/2 h.p. MINERVA, good oulter	£1 10
2 h.p. SIMMS Engine (vertical) and Frame	£2 10

Other engines accepted in part payment.

NEW CARBURETTERS.

1911 B. and B., complete	28/-
1910 Amac, variable jets 5/- allowed for old carburetter.	22/-
1910 Amac, second-hand	16/-
1910 Amac, twin outlet	15/-

Farrar's Motor Exchange
19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes
from G.P.O.)

Telephone 919.

MOTOR BICYCLES FOR SALE.

OFFERS wanted for 6h.p. free engine J.A.P.—Apply,
67a, Osborne Rd., Sparkbrook, Birmingham.

DOUGLAS, December, 1910, perfect condition; seen
or tried; £32; offers considered.—Greg, 42, Murray
Rd., Rugby.

ZENITH-GRADUAS, 3 1/2 h.p., in stock for immediate
delivery.—Sole district agents, Paskells, Ltd., 62,
High St., Leicester.

DOUGLAS, Model D, in stock for immediate de-
livery.—Sole district agents, Paskells, Ltd., 62,
High St., Leicester.

GEO. MAIN and Co., Hotel St., Leicester, can make
immediate delivery of Humber lightweight and 2-
speed motor cycles.

2 1/2 h.p. Minerva-Chater-Lea, B. and B., latest tyres,
and everything in good order; £10.—Dickinson,
Stretton, Oakham.

1910 3 1/2 h.p. Humber, with 1911 Roe 2-speed, just
overhauled, and in perfect condition; £33.—Kerby,
14, Little Park St., Coventry.

B.S.A. Motor Bicycles; immediate delivery.—Wat-
kins, the B.S.A. Agent, Showell Green Corner,
and Stoney Lane, Sparkhill.

1911 2 h.p. Humber Lightweight, 2 months old, Palmer
tyres, no fault; £35 cash.—Box No. 7,749, The
Motor Cycle Office, Coventry.

DOUGLAS, Motosacoché, and Premier Lightweight;
inquiries invited; prompt delivery.—Midland Cycle
Depot, 15, Hales St., Coventry.

HUMBER Birmingham Depot, 78, New St. Tel.:
Central 7298. All models now in stock, including
French grey and all black 3 1/2 h.p. 2-speeds.

HUMBER.—We are now showing, and booking orders
for the famous "Twin Lightweight" T.T. winner.
Give us a call and see this marvellous solo touring
motor and hill-climber.

HUMBER, 2-speed, 3 1/2 h.p., ideal and economical for
sidecar work; trials and exchanges arranged;
Humber repairs executed on the premises.

HUMBER 2 Speeds.—One or two second-hands, always
on view, and in excellent condition, from £25.

HUMBER Depot.—A few second-hand motor cycles
taken in part exchange on sale from £10 upwards.

HUMBER Motor Cycle Riders.—If you are in want
of advice on any point, please give us a call.—78,
New St., Birmingham, or 'Phone, Central 7298.

SCOTT, 2-stroke, 1910, twin-cyl., free engine, 2 speeds,
handle-bar control, P. and H. headlight; accept
£38.—Brown's, 12, Bull Ring, Birmingham.

TRIUMPH, 3 h.p., magneto, 1911 B.B. carburetter,
tyres perfect; a genuine bargain, £15; also Ariel
coupling, new, cost 3 guineas, 30/.—T. Ingram, Med-
bourne, Market Harborough.

1910 Rex de Luxe, 5 1/2 h.p., twin, free engine, 2
speeds, handle starting, spring forks and seat
pillar, fitted with coach-built sidecar turnout; £45.—
12, Bull Ring, Birmingham.

N.S.U. 1910 Twin-cyl. 2 1/2 h.p. Lightweight, magneto,
handle-bar controlled carburetter, geared pulley,
spring forks; bargain, £25/10.—Brown's, 12, Bull Ring,
Birmingham.

REX Tourist, 1910, 3 1/2 h.p., m.o.v., Bosch magneto,
B. and B. carburetter, spring forks, condition
as new; bargain, £29/10.—Brown's, 12, Bull Ring, Bir-
mingham.

F.N. Lightweight, 2 1/2 h.p., magneto ignition, under-
geared pulley, spring forks; accept £16/10.—
Brown's, 12, Bull Ring, Birmingham.

MOTO-REVE, twin-cyl., 2 h.p., magneto, Druid spring
forks, Brooks saddle; accept £19/10.—Brown's,
12, Bull Ring, Birmingham.

LIGHTWEIGHT Rex, 2 1/2 h.p., magneto ignition, Amco
carburetter, low oult; bargain, £15/10.—Brown's,
12, Bull Ring, Birmingham.

1911 3 1/2 h.p. Tourist Rex, magneto, done 200 miles,
as new; £38.—W. Adams, 94, Alcombe Rd.,
Northampton.

HUMBER Lightweight Motor Cycle, 2 h.p., 1911 pat-
tern, been used once; will accept £35 for im-
mediate sale.—R. M. Wright and Co., Lincoln.

HUMBER, 3 h.p., 2-speed, late 1910, perfect con-
dition, just overhauled by makers, Whittle belt; £35.
—Rev. W. Betson, St. Leonard's Vicarage, Newark.

REX de Luxe, Roe clutch, 2-speed rear, Bosch mag-
neto, B. and B. carburetter, everything is as new;
bargain, £28.—64, Tiltot Rd., Small Heath, Birmingham.

REX de Luxe, 5 1/2 h.p., 2-speed, free engine, lin.
Whittle belt, splendid sidecar machine; bargain,
40 guineas; will take single in part exchange.—56,
Sutton St., Aston Manor

FOR Sale, Premier (1910), White and Poppe engine,
splendid condition, tools, spurs, first-rate touring
machine; good reason for selling; bargain, £28/10.—
Whiteman, 87, Raglan St., Coventry.

1911 2 1/2 h.p. Royal Enfield Motor Cycle, fitted with
Armstrong 3-speed and free engine, Dunlop tyres,
and Brooks saddle, not run 300 miles; cost
£52, price £40.—Kemp, Rockingham Rd., Kettering.

DOUGLAS, 1910, only ridden 1,000 miles, perfect
condition, fully equipped for long touring, all
spares, etc., in leather cases, leather touring bag; owner
must sell at once; £32.—31, Westfield Rd., Edgbaston,
Birmingham.

FARRAR'S MOTOR EXCHANGE,

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes
from G.P.O.)

Telephone 919.

SINGLE-CYLINDER REXES.

3 1/2 h.p., low, Rex spring forks, 1910 Amac ..	£14 0
3 1/2 h.p., 1910, with 1911 spring forks	£35 0
3 1/2 h.p., 1910, black finish	£32 0
3 1/2 h.p., 1910, grey finish	£32 0
3 1/2 h.p., 1909, Tourist, very good	£28 0
3 h.p., 1908, Featherweight magneto	£18 0
3 1/2 h.p., 1906, Tourist, M.O.V., spring forks ..	£14 0
3 1/2 h.p., 1905, low machine, M.O.V.	£11 0

TWIN-CYLINDER REXES.

5-6 h.p., 1908, two-speed, and sidecar	£32 0
5-6 h.p., spring forks, 26in. wheels	£16 10
5-6 h.p., special model, 1909, magneto	£27 10
5-6 h.p., de Luxe, clutch model	£24 0
5-6 h.p., two speeds and free engine, Bosch ..	£28 0
5-6 h.p., de Luxe, 1908, two-speed model ..	£23 0
5-6 h.p., de Luxe, 1908, two speeds, special, good	£29 10
5-6 h.p., 1908, two-speed de Luxe, 1909 engine	£32 0
5-6 h.p., 1907, Tourist, Bosch magneto	£21 0
5-6 h.p., 1907, Lloyd's variable gear, Bosch ..	£23 0

N.S.U.'s

N.S.U.'s.

N.S.U.'s.

5 1/2 h.p. Magneto, 2 speeds	£25 0
1908 Lightweight, Bosch magneto	£17 0

OTHER MAKES.

OTHER MAKES.

3 1/2 h.p. N.S.U., magneto, h.b. control	£19 0
1911 New Hudson, three speeds	£47 0
3 h.p. Triumph, M.O.V., very good	£18 0
3 h.p. Falmer, M.O.V., grand goer	£12 0
5-7 h.p. Twin Antoine, Bosch, 1910, B. & B.	£21 0
1910 Twin Moto-Reve, almost new	£23 0
3 h.p. Singer, Bosch magneto V belt	£16 0

SIDECAR COMBINATIONS.

5-6 h.p. Chuter Model Rex and new sidecar ..	£29 0
5-6 h.p. 2-speed 1908 Rex and Sidecar	£33 0

All fitted with Magneto and Spring Forks.

£3 DOWN SECURES ANY OF THESE. BALANCE 5/- WEEKLY.

2 1/2 h.p. Kinge, vertical, 26in. wheels	£8 0
2 1/2 h.p. Minerva, good	£7 0
2 h.p. Humber, good goer	£7 0
2 h.p. Minerva, M.O.V., spray carburetter ..	£7 0
3 1/2 h.p. Rex, vertical, M.O.V., 26in. wheels ..	£11 0

£4 DOWN SECURES ANY OF THESE. BALANCE 6/- WEEKLY.

3 1/2 h.p. low Rex, 1908, spring forks	£14 0
3 1/2 h.p. Falmer, M.O.V.	£12 0
3 h.p. 1906 Rex, M.O.V., spring forks	£14 0
3 h.p. Singer, Bosch magneto, V belt	£16 0

CARS AND TRICARS.

5 1/2 h.p. Kumbrette car, 2 seater	£13 0
5-6 h.p. Rextette, two speeds, a beauty	£24 0
One ditto, re-varnished	£20 0
6 h.p. Rover, 1910, 400 goer	£17 0

MISCELLANEOUS BARGAINS.

Cowey Speedometer, only done 582 miles ..	£3 3
Second-hand sidecar, rigid	£3 10
Mills-Fulford Castor Wheel Sidecar	£6 6
Vertical frame, with 26in. back wheel, etc.	£1 15
Prested accumulators, new, 75 amp.	9/6
Tricar Frame, suit 6 h.p. engine	35/-
Lycett's Tubular Carriers, new	4/11
New Lycett's Saddle, coil springs, L/109 ..	15/-
New Frame for vertical engine	30/-
New Sidecar Baskets, green or red	22/-
New Prested Midget Trembler Coils	15/6

WANTED.

WANTED.

Triumphs, Rexas, Minervas, N.S.U.'s, Douglas's,
Moto-Reves, and other magneto machines.

Cash waiting.

MOTOR BICYCLES FOR SALE.

WILTON Cycle Co.

VICTORIA, S.W.—See bargains below; all best makes in stock.

WILTON.—Bradburys in stock, free engine models; £54/10.

WILTON.—Clyno; sole S.W. agents; trial by appointment.

WILTON.—Matchless; sole S.W. agency; early deliveries.

WILTON.—1911 Kerry-Abingdon, 3 h.p.; £45.

WILTON.—1911 Moto-Reve, 2 h.p.; £45.

WILTON.—1911 Indian, 7 h.p., with accessories; cost £70 a week ago, accept £58.

WILTON.—New Enfield; £36.

WILTON.—1910 Douglas, new condition, 1911 improvements; £32.

WILTON.—1910 Moto-Reve, 2 h.p., with accessories; £25.

WILTON.—7 h.p. Brown, twin, Bosch magneto, B. and B. carburettor, just overhauled; £32.

WILTON.—1909 5 h.p. Sorelen, 'Chater-Lea, 4 speeds, new Druid forks, B. and B. carburettor, Bosch magneto, new Rom on back; £30, bargain.

WILTON.—3 h.p. Excelsior, B. and B. carburettor, 28/10. 2 h.p. Precision-Enfield, 26/10.

WILTON.—Tricar, 6 h.p. International engine, water-cooled, Renold patent 2-speed gear, Renold silent chains, wheel steering, 760x90 tyres; £30.

WILTON.—Humber tricar, chain drive, free engine, good order; £10/10.

WILTON Cycle Co., 110, Wilton Rd., Victoria, London, S.W. 'Phone, 5115 Westminster.

REX, 5, Heath St., Hampstead, can give immediate delivery of following 1911 machines:

BRADBURY Standard Free Engine or 2-speed Model; immediate delivery from stock.

HUMBER, 1911, 3 h.p., two-speed and free engine model; immediate delivery.

BAT, 7 h.p., 1911, new, for immediate delivery; £60.

TRIUMPH, 1911, standard model, for immediate delivery; £48/15.

DOUGLAS, 2 h.p., 1911 standard, model D; immediate delivery.

DOUGLAS, 2 h.p., 1911, model 'E, two-speed and handle starting; £48.

KERRY-ABINGDON, 3 h.p., 1911 model; for immediate delivery.

F.N., 4-cyl., 5 h.p., 1911, and lightweight, two-speed; immediate delivery.

LINCOLN Elk, 3 h.p., 1911, £34; or 2 h.p., £28/10; no waiting.

HANDY Hobart, 3 h.p. twin, 1911, or 2 h.p.; no waiting.

RUDGE T.T. Standard and free engine now in stock; no waiting.

B.S.A., 1911, 3 h.p., for immediate delivery; no waiting; £50.

BAT, 5 h.p., in stock, for immediate delivery.

ALL the Above for immediate delivery; terms, cash, exchange, or extended payments.—Only address, Rev. 5, Heath St., Hampstead. Tel.: 2678 P.O.

WANDSWORTH.—Indian late 1910, 5 h.p. twin, m.o.v., magneto, as new; 40 guineas.

WANDSWORTH.—Wilkinson T.A.C., late 1910, 7 h.p., magneto, 2 speeds, like new; £45.

WANDSWORTH.—V.S., late, 5 h.p. twin, magneto, Traudault forks, practically new; £29.

WANDSWORTH.—Roc 4 h.p., m.o.v., magneto, 2 speeds, Whittle, absolutely unmarked; sacrifice £28/15.

WANDSWORTH.—Roc, 3 h.p., magneto, free engine clutch, good order; cheap to clear.

WANDSWORTH.—F.N., late 1909, 5 h.p., magneto, guaranteed, 60 m.p.h., like new; £22.

WANDSWORTH.—F.N., 4-1/2 h.p., magneto, spring forks, excellent order; bargain, £22/10.

WANDSWORTH.—F.N. lightweight, 1909, magneto, spring forks, new tyres; extra cheap, £15/10.

WANDSWORTH.—Griffa, 2 h.p., Zedel engine, m.o.v., beautiful order, very fast; £12/10.

WANDSWORTH.—Rex, 3 h.p., m.o.v., spring forks, nearly new tyres, nice order; £12/10.

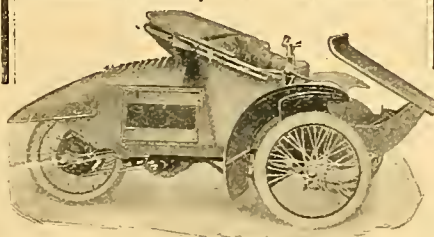
WANDSWORTH.—Quadrant, 2 h.p.; £4/15; machines guaranteed.—Wandsworth Motor Exchange, Ebner St., Wandsworth.

NEW Singer Lightweight in stock, for trials; £35; any exchange.—Clifford's Garage, Sidcup.

HUMBER, 3 h.p., long bars, low position, in going order; only £8.—Lancaster, 240, High St., Acton.

Premier Motor Company, Ltd.,

Aston Road, BIRMINGHAM.



The MOTORETTE.

The best thing in light Two-seaters.

6-7 h.p., Water-cooled, Two-speed, Reliable as any car, 90 Guineas.

Made also as delivery vehicle.

We are now able to give EARLY DELIVERY.

In stock for immediate delivery 1911 Models.

TRIUMPH, standard, 3 1/2 h.p.

REX, tourist, 3 1/2 h.p.

REX, cone clutch, 3 1/2 h.p.

REX DE LUXE, twin-cylinder, 5 h.p.

REX, cone clutch, twin-cylinder, 5 h.p.

INDIAN, two-speed, 7 h.p.

ARIEL, standard, 3 1/2 h.p.

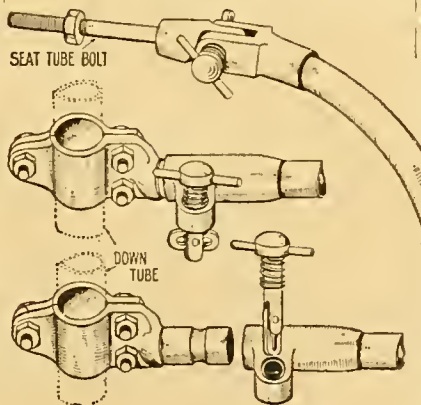
HUMBER, two-speed, 3 1/2 h.p.

Second-hand Machines.

We have always a good stock of high-class and reliable Second-hand Machines of various makes.

List on application.

P.M.C. "QUICKFIT" Couplings FOR SIDECARS.



PATENT 1442.

With our Quickfit Couplings any sidecar can be attached in sixty seconds and detached in forty seconds, single-handed. No tools required. SAFER than ordinary fittings—no nuts to come off or bolts to "strip." The strain on frame tubes is greatly reduced. PRICE 30/- the set of three couplings, to fit any make, 5/- allowed on old fittings (any make).

Send for List of the famous P.M.C. Sidecars. Early delivery.

By far the best value obtainable.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1910, very good order, Solar lamp, spares; £35.—Fellows, 26 1/2, Clarges St., Piccadilly.

LATE 2-speed Twin, damaged or otherwise; full particulars.—Hope Cottage, Fortis Green, N.

TRIUMPH, 1909, like new, lamp, spares, etc.; £35; T.A.C. wanted.—Killio, jeweller, Hounslow.

2 h.p. Rex, 1908, magneto, B. and B., splendid order; £24.—Dilks, 59, Westbere Rd., Cricklewood.

TRIUMPH, 1910, new belt, Palmer's eord back, perfect condition; £40.—Clifford's Garage, Sidcup.

2 h.p. Magneto Brown, Whittle, Continentals, perfect; £11, or offer.—83, Dover Rd., Wanstead Park.

5 h.p. Peugeot, Bosch, very low and fast, splendid condition; £24.—New 244, Mitcham Rd., Tooting.

1908 Triumph, splendid condition, magneto, and speedometer; £35.—Hubbuck, St. Maves, Seaford.

7 h.p. 1911 Wilkinson, T.A.C.; cash offers wanted.—Box 7,828, The Motor Cycle Office, Coventry.

2 h.p. F.N., late 1910; £26.—99, Churchfield Rd., Acton, W.

SCOTT, 1910, perfect condition, very little used; 40 guineas.—Kelsey, Maldon, Essex.

1910 T.T. Roadster Triumph, July model, perfect condition; £36.—30, Arlinton Rd., Sarbiton.

TRIUMPH, 3 h.p., 1909, speedometer, lamp, and generator, and watch; £35.

MOTO-REVE, 1910, 2 h.p., B.S.A. frame, tools, and lamp; £17.—Streatham Motor Supply Co., Greyhound Lane, Streatham.

EAGLES.—Miuerva, 3 h.p., magneto, low built, adjustable pulley, h.b. control, fine condition; £17/10.

EAGLES.—Humber, 1911, 3 h.p., 2-speed model, Palmer tyres, as new; £40.

EAGLES.—Triumph, 3 h.p., Hellsen ignition, h.b. control, many improvements; £10.

EAGLES.—N.S.U. 4 h.p. twin, 1910, Bosch magneto, m.o. valves, 1911 spring forks, 2-speed gear, free engine; £35; nearly new.

EAGLES.—N.S.U. 3 h.p., magneto ignition, spring forks, fine condition; £17/10, 1908 model.

EAGLES.—Singer Velo lightweight, 1910, Bosch magneto, Druid forks, adjustable pulley, latest improvements; £20.

EAGLES.—Motosacoe, 1910 model, nearly new Palmer tyres, Whittle belt; £20.

EAGLES.—Moto-Reve lightweight, 1910, single-cyl., little used; £18.

EAGLES.—Bradbury, 3 h.p., 1911 model, in stock; immediate delivery.

EAGLES.—We have a few brand new single-cyl. N.S.U.'s, magneto ignition, spring forks, improved carburettor, h.b. control, tool case, full set of tools, 3 h.p., £27; 3 h.p., £31 net cash; deferred payments arranged.

EAGLES.—Immediate delivery of the N.S.U. 2-speed gears, all sizes in stock; £5/15.

EAGLES.—Any of the above can be had on approval; deposit system.

EAGLES and Co., High St., Acton, N.S.U. West London district agency.—Early delivery of 1911 models; liberal allowances for machines in part payment.—Tel.: 556 Chiswick.

2 h.p. Peugeot, perfect condition, very low; £8/10.—24 Martin, 20, Charles St., Seymour St., Enston Rd.

TRIUMPH, magneto, 25/11/06, excellent condition; £20.—Write, D., Chagford House, W. Kensington.

BRAND New Moto-Reve, just been left on our hands; accept £31/10 clear.—Barker, High St., Kensington.

TRIUMPH, 3 h.p., September, 1909, lamp, necessities, almost new; £35.—Gordon Grellier, Epsom.

TRIUMPH, 1909, excellent condition, accessories; nearest 28 guineas.—74, Croydon Rd., Beckenham.

1 h.p. Clement Engine, Chater-Lea cycle, climbs well, new; £13.—10, Woodview Gardens, Archway Rd., N.

TWO SPEED 5 h.p. Rex de Luxe, spares, also sidecar; bargains.—Ebdell, 63, Dover Rd., Manor Park, London.

2 h.p. Lightweight, condition perfect; bargain; exchange small car.—16, Guseyane Rd., South Hackney.

TRIUMPH, 1909, splendid climber, good tyres, all accessories; bargain, £28.—L. Selway, Chesham, Herts.

REX 1908 Magneto 2 h.p. Lightweight, Clincher studded tyres; £17.—Nicholls, Bromstone, Broadstairs.

£7/10.—3 h.p. Kerry, long bars, footboards, etc., perfect order.—Smith, 205, King St., Hammer-smith.

MOTO-REVE, 1909 twin beautiful condition, fast, reliable, silent bargain. £18.—Walker, West St., Harwich.

MOTOSACOCHE, 1911, 2 h.p., as new, not ridden 100 miles; sacrifice £30.—Walker, West St., Harwich.

REX, 5 h.p., twin, 1909 model, perfect condition, powerful, fast; £25.—Walker, West St., Harwich.

MOTOR BICYCLES FOR SALE.

J.A.P., 4½ h.p., new last May, fitted in 1909, Minerva guaranteed perfect; £25.—Loughlands, Clacton-on-Sea.

£10.—Wants seeing: 3 h.p. Peter-Unions, handle-bar control, perfect condition.—Middleton, Restaurant Uxbridge.

KERRY, 2½ h.p., inclined, Longuemare, accumulator pedals, engine re-bushed; tried 5, Beresford St. S.E. £10.

DOUGLAS, 1911 model, single speed, very little used spares; price £37.—Musgrave, 5, Copthall Gardens Folkestone.

MIDGET-BICAR, 3½ h.p., B. and B., entire h.b.c. low, splendid condition; £16.—24, Sidney Rd Forest Gate.

MOTOSACOCHE, splendid condition; £12 cash, or easy terms, spares.—W. Fairlight, High Rd. Wealdstone.

ANTOINE, 4 h.p., Chater-Lea, splendid condition throughout, stand, carrier, etc.; £9/10.—5, Brooksb St., Islington.

EXCHANGES.—Lustral allowances for machines in part payment; fair dealing.—Lafferty, 7, Vale Ter race, Chelsea.

BATJ.A.P., 4 h.p., spring frame, first-class condition; £18; might exchange real lightweight.—15, Epsom Rd., Croydon.

ARIEL-MINERVA, 2½ h.p., m.o.v., B.B. carburettor h.b. control; £13/10.—Wright, 41, Beech St Barbican, E.C.

QUADRANT, 3 h.p., excellent condition, Bowden control; £12, offer.—Seen, Earl's Court Garage, Earl Court Station.

MOTOSACOCHE, accumulator, good going order; 11 guineas.—Stored at Chadwick's, 73, Queen's Rd Peckham, S.E.

7 h.p. Wilkinson, T.A.C., new 1911 model; nearest £60.—Box L3.668, The Motor Cycle Offices, 20 Tudor St., E.C.

MOTO-REVE Twin, 2½ h.p., 1910 engine, perfect condition; 25 guineas.—Williams, 52a, Boundary Rd Hove, Brighton.

1910 Triumph, Millford sidecar, Maboo, lamp, horn, Cowey etc.; £55.—Atwood, 30, Bellenden Rd Peckham, S.E.

TRIUMPH, standard, October, 1906, magneto, h.b. control, spring forks, perfect condition; £20.—50, High St., Bexley.

1910 Peugeot, 3½ h.p., magneto, Chater-Lea, Amac, variable jet, footboards, h.b. control; £22.—70, Evering Rd., N.

MINERVA, 2½ h.p., Chater-Lea, excellent order, good Dunlop and Roux tyres; £9/10.—Highbank, The Mount, Guildford.

TRIUMPH, 1910, Rom tyre, lamp, accessories, almost new; £37; by appointment.—59, Fairfield North Kingston-on-Thames.

5 h.p. Peugeot, Chater frame, wheels, stand, carrier 2½ tyres, engine brand new; £20.—Butler, 22 Rosemont Rd., Acton.

BRADBURY, 1911, new last month, perfect; £39 no offers.—Harry, 47, South Lambeth Rd., Vaux hall, Tel.: 3134 Hop.

2½ h.p. Rex, light, in excellent condition, magneto, just overhauled, new tyre; seen or tried any time.—56 Sellons Av., Harlesden.

3½ h.p. N.S.U., 2-speed gear, free engine, magneto 32 condition; £17, with sidecar £19.—131, Bow church Rd., Brighton.

TRIUMPH, 3½ h.p., T.T. model, as new, fitted complete, with speed indicator, lamps, etc.—Seen at 110, High St., Croydon.

PEUGEOT, 3½ h.p., Bosch magneto, spring forks, Palmer cords, etc., condition as new; £17/10.—69 Church St., Kensington.

3½ h.p. 1908 V.S., Bosch, Amac, Trauffault forks 32 new Dunlop and Palmer, fast, perfect; £18.—1 Gascoigne Rd., Barking.

F.N., 4-cyl., 5-6 h.p., 1909, h-bar control, in perfect order, Palmer cord bark, Riches tube; £19.—4, South Lambeth Rd., S.W.

1909 Peugeot, 6 h.p., Chater, magneto, £26/10; exchange lower power and cash.—Lees, 2, Dunn St. Shackelwell Lane, Dalston.

F.N., 5-6 h.p., h.b.c. headlight, 2½ in. tyres, Rom combination, buttoned tubes, watch, etc.; nearest £22.—74, Croydon Rd., Beckenham.

FIRST Cheque £48 secures 2-speed Douglas, Model E, free engine; actually in stock.—Maudes', 136 Great Portland St., London, W.

1911 5 h.p. twin Rex, 3 weeks old, condition as new, perfect; must sell; sacrifice £38.—White, 30, Adelaide Rd., South Hampstead.

£11.—2½ h.p. De Dion, Chater-Lea fittings, running order, spares, lamp, Bowden control.—Cranmore, 17 Clifton Rd., Southall, Middlesex.

1909 Triumph, perfect, and carefully used machine climb anything; £29.—Bourne, The Rosery Trinity Grove, Bengoe, Hertford.

MOTO-REVE Twin, very little used, in excellent condition, lamp, horn, all accessories; £21/10.—Chapman, 64, London Rd., Southwark.

2,000 MILES

—FOR—

TOTAL 6/6 COST

This is what is possible from a STANDARD "FLASH" TYPE

HELLESEN DRY BATTERY.



Numbers of riders obtain this mileage—you can do the same. Write us and we will give you every assistance.

C. Why pay more for Accumulators and have the additional worry and expense in continually charging them?

COILS

are the most efficient Coils on the market, for the simple reason that they are specially manufactured for use with Dry Batteries which necessitates a low current consumption to obtain the maximum mileage.

FIG. 3.



PRICE 13/6

NEW TYPE ALL METAL

HANDLE-BAR SWITCH.

1-WAY 2/3



2-WAY. 2/9

New model now ready with improved action. The large number sold enables us to fix the price as before.

A. H. HUNT,
115-117, Cannon St., London, E.C.

MOTOR BICYCLES FOR SALE.

TOTTENHAM.—Bradbury, 3½ h.p., 1911, standard 248; clutch model; £34/10; 2-speed model, £55; delivery from stock.—Below.

TOTTENHAM.—Triumph, 1911, clutch model, £55; standard, £48; delivery from stock.—Below.

TOTTENHAM.—Rudge-Whitworth, 1911, clutch model, £55; standard model; delivery from stock.—Below.

TOTTENHAM.—Humber, 1911, 2-speed model; delivery from stock; £50.—Below.

TOTTENHAM.—Humber, 1910, 2-speed model, 1911 improvements, as new; £40.—Below.

TOTTENHAM.—Humber lightweight, 1911; delivery from stock; £37.—Below.

TOTTENHAM.—Triumph, 1911, standard model; delivery from stock; £48/15.

TOTTENHAM.—Fafair, 4½ h.p., Simplex, new engine and magneto, Whittle, spring forks; £27/10.—Below.

TOTTENHAM.—Kerry, 5 h.p., twin, free engine, and coach-built sidecar; £20.—Below.

TOTTENHAM.—Kerry, 5 h.p., twin, Bosch magneto, rebored, rebushed, and new pistons fitted; £20.—Below.

TOTTENHAM.—Scott, 1911; delivery 26th July; best offer.—Below.

TOTTENHAM.—N.S.U., 5 h.p., twin, Whittle, magneto, low built sidecar Chater-Lea, spring forks; £33.—Below.

TOTTENHAM.—Rex, 1909, 5 h.p., twin, tourist model, all as new; £28/10.—Below.

TOTTENHAM.—Rex, 1910, 3½ h.p., tourist model, slightly soiled; £32.—Below.

TOTTENHAM.—Rex, 3½ h.p., single-cyl., 1909, magneto, grand machine; £25.—Below.

TOTTENHAM.—Triumph, 3½ h.p., perfect order, with sidecar; £20.—Stanford Hill Motor Co., 128, High Rd., Tottenham. Phone 1982.

3½ h.p. Rex, Helleesen ignition, adjustable pulley, long and low, accessories, good running order; £38.—12, Market Sq., Horsham, Sussex.

BARGAIN.—2½ h.p. twin lightweight, in splendid condition; accept £16, or near offer.—Apply, S. Matthias, 76, Buttersea Rise, S.W.

TRIUMPH, free engine, faultless, only wants seeing; first offer over £29 secures, or exchange Douglas, etc.—Field, 37, Buttersea Rise, S.W.

7 h.p. V.S., and rigid sidecar, 1910, 2-speed, very little used; owner bought car; £60; seen by appointment.—W.C.M., 40, Alleyn Rd., Dulwich.

2½ h.p. m.o.v. Minerva, very low built, B100, h.b.c. 4 new tank, quiet, powerful; any trial; £10.—W. G. Bance, 106, Church St., Chelsea.

MOTOSACOCHE, 1911, Birkbeck victim, must sell; run 500 miles, lamp, horn, spares, guaranteed; £31/10.—10, Emmanuel Rd., Balham.

1910 Douglas, searchlight, N.A.B., spare unused belt, exhaust valve, plugs; any examination, trial; £28.—Motor, 26, Grant Rd., Croydon.

F.N. Lightweight, 2½ h.p., good climber, overhauled, 2 accumulators, accessories; £12; after 6; all day Saturday.—83, Drewstead Rd., Streatham.

B.S.A.—Early deliveries of these splendid mounts from the Cripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

1911 B. and B. Handle-bar Controlled Carburettor, brand new, with unions; 25/-; approval; carriage paid.—Lyle, 26a, Turners Rd., London, E.

MOTO-REVE, 1910, twin, good condition, spare cover, tube, exhaust, inlet, and bolt; £25.—Hayter, 45, Westbourne Terrace, North Paddington.

MOTO-REVE, 2 h.p., recently overhauled by makers, extremely fast splendid condition; £16, or offer.—18, Nightingale Rd., Hampton, Middlesex.

MAGNETO, 2½ h.p. Clyde, just overhauled, good going order; £10; near offer considered.—Box No. L3.780, The Motor Cycle Offices, 20, Tudor St., E.C.

3½ h.p. Chater-Peugeot, Bosch magneto, spring forks, 32 1911 B. and B., Palmers, fast, powerful; £21; exchanges entertained.—Sinclair, East Molesey.

5 h.p. Rex, smart machine, fine condition, Stewart speedometer, F.R.S. lamp, spare tubes, all complete; £32; no offers.—9, Mortimer Rd., Kensal Rise.

SINGER, 3½ h.p., clutch, latest 1911, not done 10 miles, unspratched; exceptional bargain, £45.—Leters, Carniel, 88, Fenchurch St., London.

TRIUMPH, 1907, magneto, h.b.c., new combination front tyre, back wheel, new Dunlop belt, very fast; £25.—171, Church St., Edmonton, N.

INDIAN, 1910, red, 5 h.p., many extras, machine recently thoroughly overhauled and renewed, magnificent condition; £36.—Down, Harpenden, Herts.

2½ h.p. Minerva, new condition, 2 accumulators, low position, long handle-bars, very fast; £12; trial.—Hibbs, 18, Lettison St., Camberwell Grove.

DOUGLAS, 1910, magneto, splendid condition; sacrifice £22, no offers; seen after 3 p.m. or Sundays.—32, Lawford Rd., South Kentish Rd., N.W.

1911 Triumph, free engine, £55; also 2-speed Enfield lightweight, ready for immediate delivery; apply at once.—Baker, Triumph agency, Ealing Green.

MOTOR BICYCLES FOR SALE.

RUDGE-WHITWORTH, free engine, new, for sale, or exchange any model Triumph, not earlier than 1910, cash adjustment.—30, Fulham Rd., S.W.

23h.p. Kerry, perfect order, good tyres, h.b.c. B. and B.; reason for selling, having sidecar; bargain, £9/10.—Ricks, builder, Kingfield, Woking.

31h.p. 1908 Triumph, magneto, splendid condition, footboards, all accessories; £28; appointment.—Moyle, 15, Barby Rd., N. Kensington, London.

1911 Bradbury, new, just delivered, ridden once, under 20 miles, too fast and powerful for owner; what offers.—Perry, 120, High St., St. John's Wood.

5h.p. Indian, late 1910 model, complete with spares, lamp, and generator, engine just overhauled by makers; £37/10.—A. H. Colliver, Chaulden, Boxmoor.

P. and M. 31h.p., late 1909, in excellent condition; any trial; good sidecar machine; no reasonable offer refused.—Owner, 4, Robart House, Kenton St., W.C.

1911 Lightweight (see letters to Editor in "The Motor Cycle," 1st June), for sale, £12/10, or exchange for higher power.—Ameys, 29, St. James's Place, S.W.

6h.p. Speedwell, excellent running order, Kempshall non-skid back, Victor Vests fitted front, lamps; trial; £48.—Owner, 216, Clive Rd., West Dulwich, S.E.

A. H. GOLD, special agent for the Brown; full value allowed for second-hand machines in part payment.—Motor Cycle Works, Underhill, New Barnet.

A. J.S., 2-speed, and Singer lightweight, 1911 models, shop-soiled only, what offers? F.E. Triumphs and Ridges, immediate delivery.—Morris, 139, Finchley Rd., N.W.

31h.p. N.S.U., 2-speed gear, free engine, magneto, Palmer cord and Continental tyres, splendid hill-climber; £19, or offer.—51, Norbury Gardens, Norbury, S.W.

DOUGLAS, 1910, splendid condition, Cowey speedometer, lamp, new Dunlop belt, spares, etc.; £29/10.—C. 20, Southend Rd., Beckenham. Phone: Bromley 1054.

BABY Peugeot 51h.p. Car, 2-seater, Dunlop tyres, with hood and screen, Stepper wheel, with Michelin tyre on, in good running order; price £45.—F., South Lodge, Pinner.

31h.p. Garand, Chater-Lea frame, h.b. control, magneto, Brooks 105 saddle, Palmer tyre, 28x2 wheels; £15.—W., 30, Queen's Terrace, St. John's Wood, After 6.

ARIELS, 31h.p., free engine, variable gear, £50; delivery from stock; easy payments, £3/9/8 monthly; trials arranged.—District agents, Parks, 10, Saucley Rd., Catford.

A. H. GOLD, New Barnet. — Immediate deliveries

A. Brown, Rex, Bradbury; cash, exchange, or gradual payments.—Motor Cycle Works, Underhill, New Barnet.

IF You Want Bargains in second-hand motor cycles, you can get them at Wachepe's.—Wachepe's, 9 Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

1h.p. Minerva, new B. and B. carburettor, trembler coil, tyres good, handle-bar control, two accumulators, good working order; £6.—Tye, Cobham, near Gravesend.

EXCELSIOR, 31h.p., just been thoroughly overhauled and enamelled, in good condition, tyres perfect; price 29.—C. Dickinson, 5, Wharf, Amberley Rd., Paddington, W.

TRIUMPH, 1910, 2 speeds, free engine, not run 1,200, 1911 sidecar, absolutely perfect condition; any trial; £47, offers.—L. Hudson, Jesmond, Arington Rd., Eastbourne.

J.A.P., 31h.p., Hellesen and accumulator, Advance pulley, Whittle and Watnuta, Chater-Lea, Palmer cord back, quantity of spares; £20.—4, Effra Parade, Brixton, S.W.

3h.p. Quadrant, free engine clutch, accumulator, cut out, in good condition and good running order; £10, a bargain.—Oglander Works, 1, Cheamert Rd., Peckham, London.

FN., 11h.p., Bosch magneto, condition as new, perfectly equipped, including 1911 F.R.S. lamp; £20; any reasonable trial.—Dewitt, 93, Clingford Rd., Clingford Mount, Essex.

3h.p. Sarolen, fast, very low, footboards, accumulator, ignition, plating, belt, pulley, back tyre new; bargain, £10/10; appointment.—23, South Hill Park Gardens, Hampstead, N.W.

TRIUMPH, 31h.p., magneto, excellent condition, new Amac carburettor, h.b.c., 2 new Clinchers, excellent lamp, tools, spares, had very careful use; £32.—Coles, 6, Watts Av., Rochester.

31h.p. Centaur, magneto, h.b., L.B., Whittle, tyres, £2 perfect, fine gear; also Phoenix 2-speed, fit same, old sidecar; £18 let. or separate.—H.B., 3, Bracknell Gardens, Hampstead.

1910 Free-engine Triumph, almost new, perfect, all accessories, Millford sidecar, good condition; lot £44, honestly worth £50; cash only.—Pope, 41, White Horse Lane, Mile End, E.

LIGHTWEIGHT 11h.p. F.N., magneto, spring forks, just fitted new engine, tyres perfect, tools, spares, numbers, also new suit Dunhills best overalls, rider 5ft. 9in.; lot £16.—Write, F., 11, West View, Highgate Hill,

THE**EASTERN GARAGE****COY.**

In view of the urgent demand for new high-class Motor Cycles, we have made

special arrangements which enable us to offer the following:—

New Machines in Stock.

TR IUMPH	Clutch Model.
TR IUMPH	Standard Touring.
Z ENITH GRADUA ..	31 h.p. J.A.P. Engine.
Z ENITH GRADUA ..	6 h.p. J.A.P. Engine.
D OUGLAS	Standard Model "D."
R UDGE-WHITWORTH	Standard Touring.
R UDGE-WHITWORTH	Clutch Model.
B RADBURY	Standard Touring.
B RADBURY	Clutch Model.
M OTOSACOCHE	21 h.p. Free Engine.
R EX (1910)	5 h.p. M.O.I.V. Touring.
R EX (1910)	31 h.p. Clutch Model.
M ILLFORD SIDECARS	Eight Models.

We have various other machines due, and shall be pleased to quote delivery dates of **HUMBER, INDIAN, SCOTT, P. & M., BAT**, etc.

The following is a selection of our

Second-hand Machines.

Z ENITH GRADUA, 1911, 31 h.p.	£47
L M.C., 1909, 31 h.p., two speeds, free engine, spring forks, Bosch magneto, B. & B. carburettor, h.b.c.	£28
R EX, 1910, 5 h.p., tourist, Lucas headlight set, etc.	£35
D OUGLAS, 1910, Model D	£28
C HATER-SAROLEA, 1910, 5 h.p. twin, B. & B. carburettor and Bosch magneto, both h.b.c., finished grey	£30
T RIUMPH, 1910, 31 h.p., touring model	£35
R EX, 1909, 5 h.p., standard tourist	£25
M INERVA, 1907, 21 h.p., stand, carrier, Brooks saddle, spare belt	£12
M OTOSACOCHE, 1910, 2 h.p., latest model, with Druid forks, free engine, Whittle belt	£25
P. & M. , late 1910, 31 h.p., two speeds and free engine	£47
R EX, 1910, 5 h.p., No. 2 Speed King, touring handlebars and saddle, Cowey speedometer, Lucas lamp set, etc.	£36
I NDIAN, 1910, 5 h.p.	£37
T RIUMPH, 1910, 31 h.p., free engine model	£43
C HATER-J.A.P., 1910, 5 h.p., overhead valves, ball bearing engine, J.A.P. carburettor, Bosch magneto, both h.b.c., Chater spring forks, stand and carrier, No. 9 frame, Davison's tank, Mabon clutch, Brooks best saddle, 21in. tyres, all possible refinements, soiled only	£55
M OTOSACOCHE, 1910, magneto, spring forks, Whittle belt	£20
H UMBER, 1911, 31 h.p., two-speed model	£42
C HATER-PEUGEOT, 5 h.p. twin, B. & B. carburettor, h.b.c., Brooks saddle	£15

The above machines have all been thoroughly overhauled in our workshops, and we guarantee them to be perfect.

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**418, Romford Road,
FOREST GATE, E.**

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MOTOR BICYCLES FOR SALE.

TRIUMPH, late 1909, new Rom tyres, watch, Cowey, picked engine; £35.—84, Greenside Rd., Croydon.

DE DION, 31h.p., new Dunlop tyres and tubes; £10.—Shenfield, Greenside Rd., Croydon.

5h.p. Rex de Luxe, 1909, 2-speed, free engine, 1910 adjustable pulley, Whittle belt, tyres back new, front good accessories and spares.—Seen at Baker's Garage, High St., Tonbridge.

1911 T.T. Bradbury, not run 800 miles, Lucas lamp, generator, horn, Triumph carburettor, Rom tyres, in perfect condition; cost £56, price £40.—E. Johns, 33, Warrington Rd., Crouch End, N.

MINERVA, 21h.p., inclined engine, m.o.v., accumulator, Longuemare carburettor, Dunlop (perfect), Michelin (new), Whittle belt, fast, reliable; £29/10.—Gosden, Heath Rd., Weybridge.

3h.p. Singer, 1911, B. and B. carburettor, Whittle belt, Rom non-skid, Bosch magneto, overhauled this year by makers; genuine bargain; any test; 17 guineas, lowest.—Lamb, Sutton, Dartford.

31h.p. Chater-Lea, No. 6 frame, M.M.C. engine, Davison's tank, petrol gauge, 26in. Palmer and non-skid spring forks, grey, quiet, reliable, fast.—Apply, Holborn Autocycle, 100, Holborn.

TRIUMPHS.—One 1909, 31h.p., Mabon clutch, first class condition, £35; one 1906-7, 31h.p. B. and B. h.b.c., engine as new, all in good condition, £17.—A. Howard, The Drive, Otford, Surrey.

31h.p. Hauber, chain drive, accumulator, fast, excellent hill-climber, 26in. new Kempshall, excellent condition, bought 1911 model; lowest, £28/10.—Conyer, 30, Calverley St., Tunbridge Wells.

SCOTT, 31h.p., 1910, everything in almost new condition, guaranteed perfect running order, 1911 forks just fitted, and machine overhauled by makers £44.—Everingham, 37, Auckland Rd., Ilford.

MINERVA, 31h.p., with forecar, accumulator, new cylinder, valves, belts, and B.B. h.b.c. carburettor good tyres, adjustable pulley; £16, or offers; appointments.—Parrott, 187, Garrett Lane, Wandsworth.

CHASE, fitted with 21h.p. Buchet engine, B. and B. h.b.c., re-namelled, new Stanley-Dermatine belt tyres nearly new, lamp, and generator, born, complete very fast; £11.—F. Aldridge, 19, Rushey Green, Catford S.E.

1911 Phelon-Moore, and 1911 Millford radial castor wheel sidecar, 14 guinea model, 2 lamps, 2 generators (F.R.S. and Lucas), horn, mirror, pump, tools, tube case, and spare valve; £65.—Matthews, pawnbroker, W. Croydon.

1911 J.A.P., 4h.p., Bosch magneto, B. and B. carburettor, patent adjustable pulley operated by hand, handle starting, not done 200 miles, very powerful and absolutely reliable; £31/10.—23, Aberdeen Rd., Highbury.

6h.p. Brown Motor Cycle, Bosch, B.B., Clinchers, etc., lamp, and tools, ridden only few hundred miles, condition and order absolutely as new; expert examination invited; £30.—The Rowans, 8, St. John's Rd., Brixton, S.W.

TRIUMPH, 31h.p., in excellent condition, magneto, nearly new, Clincher shodded tyres, new Derivative, new piston fitted, spring pillar, tools, and accessories; bargain, £17.—Manning, St. John's, South End Rd., Hampstead.

3h.p. Lion, 80x80, in good order, new Dunlops, new belt, 110, a bargain; 11h.p. Minerva, 66x70, in good order, new Dunlops, new belt, guaranteed 160 miles to gallon, £9; must sell, going abroad.—E. Davis Great Bookham, Surrey.

4h.p. Twin Minerva, copper tank, sidecar, Clyno and justable pulley, all fittings and spares, £25; 6h.p. twin Rex, forecar, h.b. control, good order, £12; 31h.p. Chater-Lea motor cycle, h.b. control, £15.—Cackett, 15, The Promenade, Seven Kings.

31h.p. Rex, Brown and Barlow, 1911 handle-bar control, finished French grey, long bars, excellent order, Palmer front, new Michelin back, new spare belt lamp, accessories, only needs seeing; £10, or offer.—Glass, Lankester Gardens, East Finchley.

IMMEDIATE Delivery of Win motor cycles, 1911 model, standard throughout, Precision engine; £45/10 cash, or gradual payment £2 monthly; further particulars on application.—The De Nevers Automobile Agency, Empire House, Piccadilly, W.

SALMON.—1911 Triumph, as new, £45; 1908 Triumph, new tyre, genuine bargain, £25; 1908 31h.p. Brown, fine order, £15; 41h.p. twin Minerva, £16; 31h.p. Alldays and Onions, £7.—Salmon, High St., Guildford.

VS., Thp., with sidecar to match, late 1909, free engine and 2-speed, will climb any hill, fitted with every accessory, Cowey speedometer, etc.; expert examination; £50 for immediate sale; owner going abroad.—Apply, H. E. Young, 100, High St., Chatham, Kent.

FINSBURY Park.—2h.p. Minerva, Dunlops, m.o.v., perfect, £28/10; 31h.p. Fafnir, £10; 31h.p. Brown £14; 8h.p. Rom-Minerva and sidecar, perfect, £40; 9h.p. Jap-Bat and sidecar, perfect, £60; 31h.p. Rex, low frame, £12; 3-speed tri-car, Bollee, £12.—Nicholas, 36, Strood Green Rd., Finsbury Park.

WIN Precision Motor Cycles.—Immediate delivery of 1911 model Druid forks, Bosch magneto, B. and B. carburettor, Dunlop tyres, £45/10; cash or gradual payments, £2 monthly; trial by appointment any reasonable distance.—Jennings, 268, Horseay Rd. near Public Baths, Holloway, London.

MOTOR BICYCLES FOR SALE.

RADIUM—Motosacche, 1910, as new, £21; Radium—Rapid, 2hp, £8, good machine; Radium—Antoine twin, 5-hp, good sidecar machine, Mabon free engine, £15; Radium—Rexette, fine order, £25, or exchange motor cycle; Radium—Douglas, as new, £30—£36, Gray's Inn Rd., W.C.

HAZEL Lightweight Motors.—We are now in a position to give early delivery of our 2hp. model, the lowest, shortest, and lightest machine of its power on the market, fitted with Jap engine; price 35 guineas; second-hand machines in part payment; many good second-hand machines in stock at reasonable prices.—The Cripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

1910 Dot, 7.9hp. twin, B. and B., Druid spring forks, free engine, and 2-speed gear, absolutely foolproof, magneto, adjustable pulley, automatic J.A.P. drip feed lubrication, new Rom combination and Palmer cord tyres, extremely low and pretty machine, everything the best, had very little wear, and carefully used, complete with very low, comfortable coach-built sidecar, cup board at back, lamp, generator, and spares; no fault; perfect; owner buying car; cost £75, accept £55; no offers.—Godfree and Applebee, 208, Great Portland St., W.

CRIPPS—T.T. Triumph, in splendid condition, can do 55, £34; 3hp. Bradbury, done less than 800 miles, Whittle belt, magnificent condition, £40; 3hp. Bat spring frame, engine just been thoroughly overhauled, very fine condition, £15; 3hp. Quadrant, 1.4 frame, handle-bar control, spring forks, vertical engine, £12; 3hp. Rover, in good condition, just being overhauled, special price £12; 2hp. N.S.U., £12; 2hp. vertical J.A.P., £11; 8hp. pacing Buehet, £30; Bink-4-cyl., with clutch, £17; exchanges; early delivery of B.S.A. models.—Cripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

DAN GUY, Weymouth, Triumph agent.—Deliver clutch model next week; £35.

DAN GUY, Singer agent.—Free clutch, £55, in stock.

DAN GUY, Weymouth.—Bradbury agent; roadster models in stock; £48.

DAN GUY—1911 Moto-Velo, shop soiled, only £30.

DAN GUY, Weymouth.—1908 Triumph, guaranteed condition; £28/10.

DAN GUY, Weymouth.—1909 P. and M., splendid order, good for sidecar; £35; offers.

DAN GUY, Weymouth.—1909 Douglas, good running order and condition; £24; offers.

DAN GUY, Weymouth.—1910 Enfield, absolutely as new; £28.

DAN GUY, Weymouth.—4hp. Antoine, splendid condition; £16.

DAN GUY, Weymouth.—1911 3hp. Jap-Bat, property of officer, as new; £42.

DOUGLAS, 1911, model E., hand starting, 2-speed; £48; in stock.—Moffat, Yeovil.

5hp. Twin Sorella excellent condition, for tri-car, or sell £20—39, East St., Bridport.

TRIUMPH, 3hp., standard clutch model, new, not taken out of crate; £55.—Cowell, Honiton.

NEW HUDSON and Moto-Reve in stock for immediate delivery.—Duggan, agents, Raleigh St., Plymouth.

32hp. Brown, 1908, magneto, B.B., footboards, perfect; £20; exchange 5-hp. F.N.—Knight Creech, Taunton.

FRANK REYNOLDS, Broadway, Dorset, Tel.: No. 8, Upwey. Telegrams: Reynolds, Upwey. New B.S.A. motor cycles for hire.

4hp. Single-cyl. Antoine, in grand condition, not done 1,000 miles, accumulator ignition; £14; approval.—Reynold, Broadway, Dorset.

HUMBERS, Rovers, Singers, Zenith-Graduas, Bat, N.S.U., Douglas, F.N.'s, Cornish agents, Hammon and Jafferis, Watling, St. Austell.

6hp. J.A.P.-A.S.V., Chater-Lea throughout, Palmers, accumulator, clutch, B. and B., h.b.c., low, perfect; nearest £22—95, Wells Rd., Bath.

32hp. Humber, good Palmers, low, good condition, £10, cycle part; new Matchless silencer, cut-out, 15/-, or lamp.—Lee, East St., Taunton.

3hp. Fafnir, in good running order, new rings, Whittle belt, long bars, very low; £14, or nearest offer.—J. Thomas, 5, Ebrington Rd., St. Thomas, Exeter.

1911 3hp. Lincoln Elk, free engine, spare belt, lamp, horn, watch, little used; £30, nearest offer.—Box 7, 895, The Motor Cycle Offices, Coventry.

TRIUMPH, 3hp., 1909, Clincher studded tyres, with lamp, horn, etc., in splendid condition, had very little use; £35.—Truscott, Vivian Terrace, Truro.

SCOTT, 1910, perfect condition, new cover and tubes; best offer over £35.—"The Motor Cycle" deposit system.—Box No. 7,906, The Motor Cycle Offices, Coventry.

2hp. Minerva, Roc 1911 2-speed ball bearing gear, Advance pulley, 1911 B. and B. carburettor, new tyres, condition guaranteed as new; bought Rover car; £19, or offers.—Berg, chemist, Hatherleigh, Devon.

.. ALBANY .. Motor Cycle Clothing



A grand Coat if you
are Camping Out.

"ALL- SEASON" JACKET.

Guaranteed absolutely waterproof. In Grey-green Double-texture Cloth to match "Special" and "Standard" Overalls. Double-breasted and fitted with best Detachable Fleece Lining. You may put away that Leather Waistcoat and Jacket, which are very bulky and far too heavy. The Fleece Lining will keep you warm in the coldest weather and if too hot can easily be detached. It is light in weight but very warm. An ideal Jacket for Touring.

Price **25/-**

ALBANY "STANDARD" SUIT.

Guaranteed absolutely waterproof. In Grey-green or Fawn Double-texture Cloth.

JACKETS only. Double-breasted, deep storm collar and adjustable strap to exclude rain and dust from neck. Inside and outside wind cuffs, etc., etc.

18" LEGGINGS only. Leather adjustable boot straps, V-shaped gussets and patent dome fasteners to keep out dust, rain, and wind. Extended gaiter, etc., etc. No tiresome buttons. Easily slipped on and off. **8/-**.

Complete Suit **25/-**

The Albany "Special" Leggings.

A new design to protect stomach from wind and rain. Made in Grey-green Cloth to match "All-Season" and "Standard" Jackets, and also in Fawn. These Special Leggings include every desirable improvement. They come well up over the stomach and have Leather Adjustable Boot Straps, also Gussets and Patent Fasteners. Without Seat, **13/11**. With Seat, including fly and special convenience, **15/11**. Our correspondents tell us these are the best designs and value on the market.

These Leggings, together with an "All-Season" Jacket will protect you from the severest weather.



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Terms, nett cash with order. Goods, if stock sizes, sent by return. Send chest measurement and length desired for Jacket, and inside leg measurement only for Leggings. Send now for Catalogue & samples of cloth to

G. RAWES & SONS,
Motor Clothing Specialists,
The Albany, Oldhall St., Liverpool.

MOTOR BICYCLES FOR SALE.

EXCELSIOR, 3hp. M.M.C. engine new tyres and tubes, Palmer and Rom. B. and B. carburettor, h.b. control, swan neck seat pillar, perfect condition; any trial here; £14.—J. Salway, Shepton, Beauchamp, Minster.

ONE 2hp. Humber, magneto, engine just re-bored, and new piston fitted, spring forks, new tyres, climb any ordinary hill without pedal assistance, £12; 2hp. Moto-Reve, magneto, handle-bar control, £17; one 4hp. Minerva, magneto, B. and B. carburettor, handle-bar control, spring forks, £18; one 2hp. De Dion, handle-bar control, H. and B. carburettor, £10; one 1909 Douglas, with all spares, in splendid order, £22; one 4hp. Centaur, magneto, handle-bar control; just been re-bored and new piston fitted, £20; 2hp. Minerva, in running order, £7.—Quick, Honiton and Axminster.

SECTION X.

Scotland.

VINDEE Special Twin, perfect order, tyres, tubes, unpunctured; cheap.—Particulars, Ross, Tayavaller, Falkirk.

32hp. Fafnir, magneto, h.b. control, B. and B. carburettor; bargain, £13.—Chaufeur, Rolland St., Dunfermline.

32hp. Twin Peugeot Motor Cycle, very low and complete, portable, magneto, Whittle, accessories; cheap.—Dick, Carlisle.

23hp. Griffin Motor Cycle, just been overhauled, new accumulator, spring forks, very good order; £11.—H. Fownes, 17, Spring Gardens, Edinburgh.

F.N., 4hp., 2-speed gear, h.b. control, drip lubrication, Cowey speedometer, P.K.S. lamp and generator, splendid condition; £25.—Ford, 4, Nile Grove, Edinburgh.

6hp. N.S.U., with Millford castor wheel sidecar, 2 speeds, free engine, new tyres and belt, spare cover and belt, all accessories, splendid condition; trial; £36.—Fenton, Minster.

SCOTLAND'S Largest Motor Cycling Firm.—Don't wait for months on your new mount. We can give immediate delivery of "Standard", Premier, Douglas, Zenith, B.S.A., N.S.U. and Lincoln Elk. Besides these, we stock P. and M., Roc, and Norton, and can supply any other make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

SECTION XI.

Ireland and Isle of Man.

TRIUMPHS, 1911 models; immediate delivery from stock; no waiting.—Higgins, agent, Athenry, Ireland.

7hp. 1911 Indian motor cycle, ridden 900 miles, new in May; too powerful; £55.—G. Ormrod, Magilligan Camp, Bellarena, N. Ireland.

QUADCARS.

PHENIX Quadcar, 7hp. Fafnir, just thoroughly overhauled; any trial.—P. Ingbam, Great Missenden.

PHENIX Quadcar, in perfect order, newly painted, several new improvements, side doors, powerful lamps, new spare tyre, miniature car in all respects; £34; may be seen, tried, and given every test by appointment.—O. G. Pike, 96, Grange Drive, Winchmore Hill, N.

TRICARS FOR SALE.

TRICAR, 4hp. Kerry, good condition, hill-climber; £11.—137, Field Rd., Forest Gate.

A.S. Sociable, good condition, lamps and extras; £68; write only.—R., 56, Elsenham St., Southfields.

6hp. Rex Tricar, splendid order; bargain; bike exchange considered.—Chris, Mytchett, Frimley Green.

6hp. Rexette, 2 speeds, spare tyre and tube, lamps, etc.; must sell, £15—66, Grand Parade, Haringey.

42hp. Humber, w.c., 2 speeds, coachbuilt; £9/15; £22 appointment.—68, Vanderbilt Rd., Wandsworth, S.W.

ALLDAYS Traveller, holds three and child; seen evening by appointment; £22.—Cress, Rayleigh, Essex.

BARGAIN—Tricar, 5hp. Stevens, w.c., 2 speeds, perfect order; £25—6, Valley Rd., Lye, Stourbridge.

6hp. Humber Tricar, 2 speeds, open frame, wheel steering; as new, £33; 4hp. ditto, £16.—Jeffries, Lichfield.

A.C. Sociable, 1911, fully equipped, perfect condition.—Everidge, 14, Glyn Mansions, Avonmore Rd., Kensington, W.

9hp. Singer Tricar, extra large tyres, two perfectly new, mechanically in perfect order; £49/10—33, East grade, Harrogate.

TRICAR, 6hp., 2-speed, as new, Palmer tyres, wheel steering, chain drive; £25; daytime.—Roberts, 3, Alpha Place, Chelsea.

32hp. Rex, Palmers, Dunlop, h.b. control, Watawata belt, powerful, good going order; £12—301, Goldhawk Rd., Shepherd's Bush.

N.O. 6 frame, fitted with forecar attachment, bucket seat, wing guards, very low; £5/10.—A. Richards, 31, Pembroke Rd., Walthamstow.

5hp. Rex Tricar, h.b. control, Amac carburettor, a good gear, good condition, belt drive; £25; car wanted.—E. L. Gladwin, Felsted, Essex.

TRICARS FOR SALE.

h.p. Kerry-Abington Tricar, twin a.c. engine, 2 speeds, chain drive, art case, equal new; £27/10; wanted, motor cycle—Edge, Victoria Place, Marple.

QUADRANT Tricar, 6h.p., twin, 2-speed, free engine, coach-built, climb anything, perfect condition; £12, or offer.—Sibley, Parade, Brentwood.

h.p. Tricar, 2 speeds, free engine, sprung frame, back sand front; coach-built, in splendid condition; £25, nearest offer.—R. Durant, Chapeltown, Sheffield.

h.p. Rexette Tricar, 2 extra child seats, perfect condition; any trial; £20; part exchange cycles or tyres, 810x100.—Hesage, Frimley Green, Surrey.

h.p. Tricar, 9h.p., twin, 3-speed, reverse, free engine, in perfect running order, all tyres sound; £5.—W. Halstead, 54, Guildhall Rd., Northampton.

h.p. Tricar, 5-6h.p., coach-built, car drive, 2 speeds, water-cooled, wheel steering, new gears, res good; £25, or offer.—Rounce, Church St., Cromer.

h.p. Tricar, White and Poppe engine, water-cooled, 2 speeds and free engine, 2 bodies, in perfect running order.—Can be seen any time at 739, Old Kent Rd.

h.p. Tricar, 4h.p., water-cooled Humber, free engine, good tyres, also lady's and gent's Rover push cycles; change lot for motor cycle, twin preferred.—44, Archery, Eastbourne.

h.p. Tricar, water cooled, 4h.p., new piston, speeds, clutch, open frame, coach built, 2 brakes; £10 quick sale; seen any time.—Osborn, 11, Lever St., Swell Rd., E.C.

h.p. Raleighette, water-cooled, good condition, in 2 cluding tyres, coach-built body, colour carriage, speeds and free engine; 10 guineas.—Carnforth Cycle Motor Co., Carnforth.

h.p. Tricar, double belt drive, handle-bar control, coach-built fore-carriage, very low and fast, new belts, £2; Kempshall on back, as new; genuine bargain, £15. Apply: Manager, 30, Villiers St., Strand.

C. Sociable, in excellent condition, several real improvements, Cape hood, large tank, feed lubrication, pneumatic carburettor, and numerous accessories; price £60. Fletcher, 162, Darnley Rd., Gravesend.

h.p. Tricar, 5h.p. Triumph, water cooled single-cyl. engine, £15; 3h.p. White and Poppe, single-cyl., water cooled, 2-speed gear, £14.—Stamford Hill Motor Co., 128 High Rd., Tottenham. Phone 22.

h.p. Chater-Lea Tricar, Buchet twin engine, Palmer cord tyres, wheel steering and control, two speeds engine, chain drive, starts like a car, in perfect order; any trial or examination; £35, or offers.—Buddle, Alder, Ramsgate.

C. Speed Sociable, late 1910, in sound condition and running order, new front tyres, hood and glass screen, headlight, electric side and tail lights, quantity spares and accessories; £75.—Sterling's Motor Works, any Rd., Stockwell.

h.p. Tricar, Antiope twin engine, magento and accumulator ignition, 2 speeds, handle-bar control, Palmer cord tyres, painted grey; what offers? or exchange a Triumph 1910 motor cycle—P., c/o Messrs. Tur and Co., Garage, Sunderland.

h.p. w.e. Riley tricar, Riley 2-speed gear box and clutch, studded 700x80 at back, front good as B. and H. carburettor, and spare, all in first condition and ready for road; owner buying car; £100.—Lander, 5, Porter St., Hall.

h.p. Tricar, 4h.p., water cooled, 2 speeds, handle starting, heavy Palmer tyres nearly new, plated leather, whole turn-out very magnificent, will fitted up, go anywhere, sacrifice for £23, or large magento motor cycle.—Bear, St. James St., a.

h.p. Forecar by Phoenix Motors, Ltd., most beautiful one ever made, artistic cane body, upholstered pockets and side touring lunch baskets, complete, top tyres, all like new, fit any motor cycle; cost £20, accept £6, or exchange motor cycle.—Bear, St. James St., Lynn.

h.p. Tricar, fitted new 5-h.p. twin Rex engine, m.o.i.v., new Bosch magneto, new B. and B. 3-man 3-speed gear box, chain drive, coach front Brooks spring seat back, brass acetylene lamps, also same as car, Palmer tyres, light, powerful, and in perfect order and good as new; trial any day; full spares; honestly worth £50, take £32 for sale; photo.—34, Meanley Rd., Manor Park.

h.p. Tricar, 4h.p., water cooled, 2 speeds, handle starting, heavy Palmer tyres nearly new, plated leather, whole turn-out very magnificent, will fitted up, go anywhere, sacrifice for £23, or large magento motor cycle.—Bear, St. James St., a.

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THE GARNER

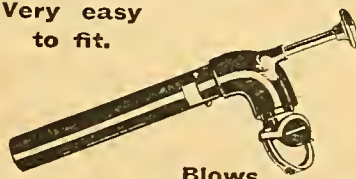
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Very easy
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Blows

at very Slow speeds.
Users Everywhere are
positively delighted.

Here is one—

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London, 1/7/11.

"I am writing to let you know how pleased I am with your exhaust whistle that I received last week, and as a proof of my satisfaction, I here send you P.O. for another for a friend who is wishing to enjoy a clear road like me. Hoping to receive it per return,
Yours truly, C. B.—"

All say the
Garner M.C. Alarm,
is the best alarm out.

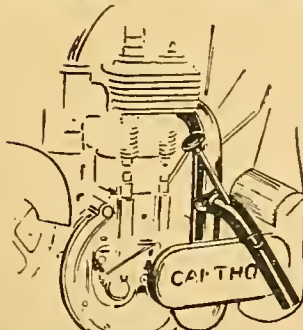
It is well made of solid brass.
Beautifully musical.
A full range of bird-like notes.
Best English manufacture.

Price 12/6 Post free,
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SIDECARS AND FORECARS.

SIDECARS, brand new, beautifully upholstered, fit any make; £3/10.—Rey, 5, Heath St., Hampstead.

SIDECAR (Brown), new last month; cost £8, accept £5/5.—Hammond, Garage, Cherry Orchard Rd., East Croydon.

F.N. Repairs Department, Highbury Bar, N.—Special sidecars for F.N.'s, 2 1/2 in. a.s. tyre; first-class design; from £8.

SIDECAR, Chater, adjustable rigid, art cane, upholstered ren leather; £4.—Canaye, Presburg Rd., New Malden, Surrey.

RIGID Sidecar, with apron, new, perfect, never used; cost £6/15, nearest £5, a bargain.—Anderson, Back House, Croxdale, Durham.

SIDECAR, left, Michelin 26 in. tyre, apron, fitted also leather coat, gloves; offers or exchange.—Aldis, Rosedale, Grove Rd. Hounslow.

CORONET Sidecar, each, new April, Amac carburettor, done 20 miles; approval, deposit system.—Walker, 62, Parker St., Warrington.

SIDECAR, Maxfield-Garrard, L.H. 26 in. wheel, new last Whitstide; £3/15, cost £5/5.—Jenkins, 70, Summer Rd., Edgbaston, Birmingham.

C.C.R. Sidecars, best that money can buy; 6 guineas upwards; trade supplied; catalogues free.—C.C.R. Motor Works, Ford St., St. Ann's Well Rd., Nottingham.

SIDECARS, best on the market, lowest riding position, strongest lugs; complete, mudguard, tube, tyre, upholstered in green pegamoid; £5.—Hitchcock, Easton Rd., Morecambe.

MIDDLETONS'.—Adroit sidecars, original design, perfect alignment, Piteasy couplings, best materials, send for lists.—Watson St., Newington Green, London, N. 2126 Dalston. Trade also.

WILTON Cycle Co.—£5/5, in stock, to suit any motor; better quality, £6/6; spring wheel models, £7/10, £8/10, £10/10; Chater-Lea registered quick joints, etc.—110, Wilton Rd., Victoria, S.W.

SIDECARS; largest stock; best value in England; all built of Chater-Lea fittings; prices, £6/10, £5/10, £4/15; second-hands from £3/15, fitted free while you wait.—O. A. Edgar, 123, Holloway Rd., N.

CHATER-LEA Sidecars and frames.—Don't be deceived by fraudulent advertisers trading from private houses, pawnbrokers' shops, etc., and offering inferior goods as genuine Chater-Lea. When in doubt write Golden Lane, London.

TOTTENHAM.—Sidecars, 1911, nicely upholstered, fit any machine, £3/10/6; quick detachable, £3/17/6; Millford Herald, £6/6; Mills-Putford quick detachable cane body, £11, in stock.—Stamford Hill Motor Co., 128, High Rd., Tottenham. Phone 1982.

THERE is no firm in existence besides ourselves that can build a sidecar throughout of genuine Chater-Lea fittings at £5 and reap a profit. Yet every part of an Oakleigh is guaranteed genuine Chater-Lea. All the profit we get is 10/- on each one. It is the enormous quantity that we build that enable us to do them at £5. Five years' guarantee.—Oakleigh Sidecars, Ltd., 65a, Rosedale Rd., West Dulwich.

PILOT Sidecars are unrivalled as high-class, easy and perfect fitting sidecars; superior in every detail; perfect in every part; we first introduced easy detachable clips, side entrance bodies, and every real improvement in sidecars for years; we manufacture, not assemble or factor them; numerous models from £4; gradual payments arranged; write postcard now.—Pilot Cycle Co., Soho Rd., Birmingham.

COMPARE This Specification with any other, and note the good value you get off me; double cee springs, wicker body, upholstered with cushion, cracked back axle, bringing the car wheel in line with cycle wheel, plated wheel, with 21 tyre, mudguard, quick detachable fittings, best cold drawn mild steel tubing; orders received before July 15th presented with sidecar apron free; complete, £5/5; immediate delivery.—Burgess, sidecar manufacturer, 59, Oldham Rd., Manchester.

SIDECAR COMBINATIONS.

5-h.p. Rex and sidecar; exchange for lightweight, or sell cheap.—Sydney Batten, Featherstone, Yorks.

5-h.p. 1909 F.N., Bosch magneto, Rom tyres, Liberty car; £28.—Waterton, 88, Shepherd's Bush Rd., W.

5-h.p. Sorela and sidecar, magneto, Druid spring forks, Maboa clutch; £25.—H. Hall, 25, Maple St., Southampton.

6-h.p. 2-speed N.S.U. and Sidecar, new November last; £42; as new.—Roberts, 13, Craven St., Colne, Lancs.

TWIN Rex and Sidecar, spring forks and saddle, lamp, horn, Whittle, spare cover; £25.—59, West Rd., Shoeburys.

5-h.p. Rex and Sidecar, thorough good condition; £22, or nearest offer.—W. A. Rooke, 43, Hunsdon Rd., New Cross, S.E.

5-h.p. Waverley-Peugeot, with sidecar, 1910 engine, Mabon clutch, Whittle, Druid, B. and B. lamps; best offer.—48, Belmont Rd., Liverpool.

5-h.p., Chater No. 6, Simms magneto, B. and B., Palmers, Chater upholstered sidecar; £30, offer; after 7 p.m.—23, Bulstrode Av. Hounslow.

6-h.p. J.A.P., and sidecar, coach-built folding car, 2 speeds, free engine, climb anything; nearest offer to £30; must sell.—R. Durant, Chapeltown, Sheffield.

In answering these advertisements it is desirable to mention "The Motor Cycle."

ESTABLISHED 20 YEARS

IN THE HEART
OF THE TRADE

STOCK of all the BEST MAKES.

Matchless,
Enfield,
Zenith,
Douglas,
Bradbury,
Premier,
Bat,
Chater-Lea,
Indian.

CASH. EXCHANGES. INSTALLMENTS.

Any of these sent
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1908. TRIUMPH, Zenith Gear	£32
1909. TRIUMPH, Good condition	£32
1910. SCOTT, Splendid condition	£45
1911. MATCHLESS, 8 h.p., 2 speeds, free engine	£60
1911. MATCHLESS, 8 h.p., Albion clutch	£50
1911. BRADBURY, Clutch model	£44
1911. BRADBURY, Fixed Engine	£39
1910. 2½ h.p. ENFIELD, Good condition	£24
1910. MOTOSACOGUE, Perfect mount	£24
1911. DOUGLAS, Standard model, only ridden 100 miles	£85
1909. MINERVA, 3½ h.p., Magneto, Torpedo tank	£28
1910. MOTO REVE, 2½ h.p.	£21

Colmore Depot,

35, COLMORE ROW,
BIRMINGHAM.

ALSO

261, Deansgate, Manchester.
62, High St., Leicester.
250, Stafford Street, Walsall.

SIDECAR COMBINATIONS.

3½ h.p. N.S.U., 2-speed, free engine, magneto, new 32 Palmer cords, Mills-Fulford sidecar, splendid condition; £30.—Allon White, Post Office, Cranfield Beds.

3½ h.p. Minerva, 1911, 2-speed, free engine, B. and B. 1911 carburettor, overhauled, Chater-Lea cane sidecar, good condition; £20, offers.—Hall, Pad dock Wood, Kent.

N.S.U., 6h.p., twin, Bosch magneto, spring forks, h.t. control, 26x2½ tyres, 1911, 2-speed gear, free engine, Chater-Lea sidecar; any trial; £36.—Eagles and Co., High St., Acton.

MATCHLESS-J.A.P., 1910, 6h.p., twin, 2-speed, free engine, rigid sidecar, many accessories, perfect condition; cost £80, accept 55 guineas.—A. Huxtable 95, Maple Rd., Surbiton.

8 h.p. Bat-Jap, new June, 1910, P. and M. 2-speed gear, Bat carburettor, new S.G. belt, Millford cash coach-built sidecar, nearly new tyres, in splendid order; £55.—W. Cottis and Sons, Ltd., Epping.

1911 Rudge-Whitworth, free engine, with sidecar, ab solutely new condition; cost over £88/10, accept £65; owner buying car; fuller particulars see advertise ment June 22nd.—Martino Sutton Coldfield.

5 h.p. N.S.U. and Sidecar, 2-speed and free engine 52 Whittle belt, magneto, spring forks, new Peter Union steel-clutch on rear and Continental on front Clair silencer; £20.—Apply to E. Barton, Station Ap proach, Shepperton.

1911 2-speed Red Indian and Millford sidecar, wit torped side entrance body new Palmer cords Cowey, lamp, and all spares, only run 2,000 miles; £70 good reason for selling.—Box No. 7,903, The Motor Cycle Offices, Coventry.

5 h.p. Rex de Luxe, 2 speeds and free engine, handle starting, B. and B. h.b.c., genuine Chater-Lea sidecar, special all cane side entrance car to own design all in good order, ready for season; £38 the lot.—Hall Conant Arms, 41, Stainsby Rd., Limehouse, E.

REX, 5-6h.p., and sidecar, Bosch magneto, spring forks, Bleriot head lamp, perfect order, good hill-climber; £25; Minerva, 4½-5h.p., Bosch, free engine, sidecar, 1911 Amac, lamps, tyres, horn, as new, perfect order; £30, or offer; both seen any time.—Grimes, 18, South Bruton Mews, Bond St.

TRIUMPH Sidecar Combination, 3½ h.p., 1911, free engine, first grade lamp, mirror, exhaust-whistle, horn, new Bernatone belt, Dunlop tyres, new March last; cost £99/10 cash, complete, first offer over £54 accepted; trial arranged; owner buying car.—A. Adams, Palatine Rd. Cycle and Motor Wks., Northenden, Cheshire.

1910 3½ h.p. Humber, 1911 Roe 2-speed, Mills and Fulford 13 guinea cane sidecar, with canoe front and side door entrance, new Easter, perfect condition, £42, accept lightweight part exchange; Mills and Fulford rigid, cane, canoe front, and side door entrance, cost 13 guineas at Easter.—Kerby, 14, Little Park St., Coventry.

7 h.p. Twin Brown, with sidecar, enamelled grey, Brown and Barlow, Whittle belt, Mahon free engine adjustable pulley, nearly new tyres, and very low machine, and all handle-bar controlled, trial given any evening, all equal to new, £36; also Kerry Lightweight, new condition, £5/15.—Ascell, "Bletchley," Elm Rd., Purley.

8 h.p. Chater-Jap and Sidecar, late 1910, only ridden 6 times, Jap automatic carburettor, Bosch gear-driven magneto, Mahon variable clutch, 2 Chater brakes, Brooks saddle, Whittle belt 650x65 steel-studded tyre, stand, and carrier, Clair silencer, extra pressure fed, copper tank, all accessories; trial; £60, or near offer.—Stalord, dentist, 247, Camberwell Rd., S.E.

CHATER-LEA No. 7 Model, Lowen sidecar, with extra child's seat, plate clutch set, spare plates large padded pan Brooks seat, back rest, 8h.p. J.A.P. engine, J.A.P. automatic carburettor just overhauled by makers, with lots of spares, tyres, cycle 26x2½ front, 650x65 back car tyre, Dunlops, sidecar—both 26x2½ Palmer cord, Riches tubes all round, registered cycle tax, all in perfect condition, and running order; cost £108 late 1910, sacrifice for quick sale £70; buying car.—Box 7,904, The Motor Cycle Offices, Coventry.

CARS FOR SALE.

DE DIETRICH, 12-16h.p., 4-cyl., seats 5, magneto; bargain, £55.—1, Ebner St., Wandsworth.

6 h.p. Rover, club anything, hood, screen, spares, 3 lamps and acetylene headlight; £68.—18, Louis St., Leeds.

CLEMENT 2-seater Car, perfect order; sacrifice, £20, or exchange magneto cycle.—Gilbert, 27, Shaftesbury Av., London.

8-10h.p. Argyll, 2 or 4-seater, exchange for twin cycle and sidecar, or sell £35 or offer.—12, Pont St. Mews, Brompton Rd.

12-14h.p. 2-cyl. Wolseley Landulet, splendid condition throughout; 50 guineas for quick sale.—56, Cleveland Gardens, Barnes, S.W.

SMART Little 2-seater Dennis Car, 10-12h.p. Aster 2-cyl. engine, perfect condition; must sell, £45.—18, Waterloo St., Hammersmith.

6½ h.p. De Dion-Bonnet 2-seater, splendid condition; £226; entertain part exchange.—A. Murray, 37a, Charles St., Hatton Garden, Holborn.

12 h.p. Panhard, perfect order; see article "The Auto-car," June 3rd, page 805; offer, exchange, cash adjustment.—Ramione, Hill St., Coventry.

THE MOTOR AND EVERYTHING ON IT

MORE FACTS ABOUT OUR BUSINESS
METHODS.

"Sunday, July 2nd,
"Dear Sirs,—I am writing to tell you that the goods I ordered arrived quite safely and in good time, and were exactly as I wanted. I can't tell you what a pleasure it is to deal with a firm that does send out its goods exactly as ordered."
"Yours truly,
"O. B. SMYTH."

If you have our list you can safely shop at home. Every useful item will be found in our 100 page accessory list.

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Cash or exchanges arranged.	
1911 3½ h.p. P. & M., 2 speed, new	£56 10
1911 2½ h.p. A.J.S. Lightweight,	
2 speed, new	£46 4
1911 2½ h.p. DOUGLAS, Model E,	
2 speed, handle starting, new	£48 0
1911 3½ h.p. TRIUMPH, free engine,	
new	£55 0
1911 2½ h.p. DOUGLAS, Model D, new	£39 13
1911 3½ h.p. ZENITH-GRADUA, new	£52 10
1910 5 h.p. REX DE LUXE, 2 speed,	
grand order	£39 0
Premier Sidecar for same, only	
used 200 miles	£3 10
1909 5½ h.p. Tourist REX, French grey	
model, powerful engine	£26 15
3½ h.p. FAFNIR, Chater Lea, handle	
bar control	£12 0
3 h.p. ROC, magneto, Roc clutch,	
starting handle	£14 0

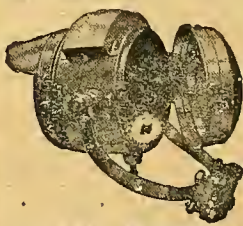
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Special London Agents for Millford Specialities.
Castor Wheel, Torpedo model £13 13
Other models from £6 8

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OLD LAMPS FOR NEW.

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F.R.S. Special
Stockists for
London.—

80cft. beam,
complete,
£8/6.

1,000ft. beam,
complete,
£8/6.

TAYLOR'S BRITISH LAMP SET.—Com plete, with double bracket to fit over handle-bar stem or separated with frame or handle-bar fixing for generator. Price 27/- complete. Cannot be beaten. Liberal allowance for your present lamp.

TAYLOR'S VALVE GRINDER.—Enables valve to be easily ground true, and saves wear of cylinder exhaust ports. Price 2/6. Post 3d.

SPECIAL OFFER OF HOLLAND DUST SUITS.—Complete, jacket and leggings dust to fit leg. Price 10/6; superior quality, 13/6.

LUGGAGE VALISES.—We carry the best and most useful assortment. Bring your machine and allow us to fit you up for a tour. Valises complete from 4/3 to 40/-.

REX SPARE PARTS.—The only London house that carries a stock.

TOURIST TROPHY RELIABILITY MACHINE.—The A.J.S. Sensible Lightweight 2-speed Models finished fifth and sixth in single-cylinder class. Trial runs arranged.

H. TAYLOR & CO.,

21a, STORE STREET,

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THE MOTOR CYCLE

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Agents for Australia: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

ADDRESS: 20, TUDOR STREET, LONDON, E.C.

The Six Days' Trials Route.

THE detailed description of the Six Days' Trials route which we publish in this issue comes from the pen of a motor cyclist who is intimately acquainted with the roads in the Yorkshire district, and it can, therefore, be accepted as an accurate survey. The article concludes by stating that in his own case the writer has found a 6 to 1 gear very useful at times in covering parts of the course, and this on a $3\frac{1}{2}$ h.p. standard machine. Reading between the lines, those who know what a $3\frac{1}{2}$ h.p. is capable of with such a low reduction will not need to be told that the trials course is very severe. It is hardly to be expected that riders of single-gear machines will attempt to cover the six days' routes with a fixed gear so low as this. They will, therefore, either do one of three things. First, use a higher ratio and trust to skill to aid them in climbing all hills; second, they will stop to adjust the engine pulley to suit the gradients; third, they will use a variable gear. Few will deny that the most suitable method and the one most likely to appeal to the average tourist rider is the variable gear, and the performances of the machines so fitted will be watched with the keenest interest.

There is no question of doubt about the severity of the trials this year, the only query being whether the routes are not a little too stiff. Every motor cycle used for touring purposes should be capable of climbing any hill met under ordinary touring conditions, and the A.C.U. is to be warmly commended for selecting an arduous and trying test, otherwise the machines could not be tested to the point of elimination. There is, however, the weather to be reckoned with, and if

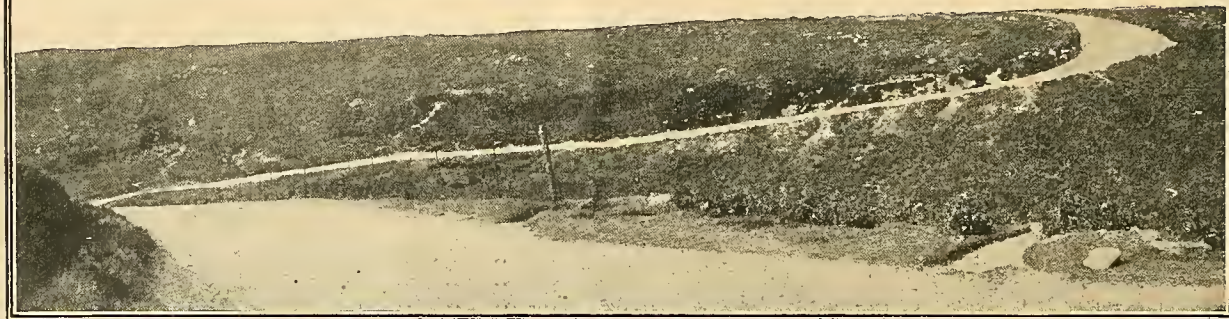
we are unfortunate enough to have a very wet and windy week next month, it is possible that there will be a good many failures. We mention this not with a view to discouragement, but as a forewarning to our readers not to expect impossibilities if conditions are unfavourable.

Agents and Design.

THE comparisons made in an article published under the heading of "Tendency of Design" elsewhere in these pages anent the difference between British and American manufacturers' methods in the settlement of design are worthy of special attention from manufacturers. We should not like to go so far as our contributor and say that no British firms consult their agents, the word agent in this sense meaning the retailer, but we agree that many do not take them into their confidence as much as they might do. When the industry was new, comparatively few agents took any interest in either riding or the sale of machines, but they have all realised their error, and are now keenly enthusiastic. Enthusiasm is always helpful when it does not pass the bounds of prudence, and few, if any, manufacturers can fail to learn something from "the man on the spot." Several firms hold periodical meetings of travellers and agents and discuss future design, but few submit their new models to criticism before our annual public inspection at the Show. Yet how can a designer who restricts his attention to roads and touring conditions in his own district satisfactorily cater for, say, a motor cyclist in the North of Scotland. The man conversant with difficulties is the one most likely to overcome them. We commend the suggestion to those interested with the best of intentions

The Route for the Six Days' Trials.

Illustrations and Description of the 1,000 Miles Trial Course in Yorkshire.



The twisty hill over the moors between Fateley Bridge and Kirkby Malzeard. The surface of this rise is in a very loose condition, rendering dry skids a possibility.

IN a very few days the event next in importance to the T.T. races will be upon us, and although the T.T. races are generally of much educational value, equally so is the Six Days' Trial, but rather in a different direction. Therefore in this issue it may be of some use to run over the ground, not by means of the motor cycle as a power-propelled instructor, but by means of *The Motor Cycle* as a teacher. I also have pleasure in referring my readers to the double page map published in the issue of March 2nd.

The A.C.U. Committee, in choosing Yorkshire as a testing ground, could not have chosen a better centre than that famous inland watering place Harrogate, for the district abounds in good roads, splendid scenery, and numerous steep ascents, both straight and twisty, so that the completion of the 1,000 miles in six days will require a good and reliable machine combined with a competent and careful rider.

First Day, Monday, August 14th—177½ miles

Consideration of each day's runs in detail shows that the competitors will have on the first day—Monday, August 14th—to cover the same route as was used in the April Quarterly Trial—177½ miles—and it would be needless to cover this portion again, except the extra bit, namely, Thirsk to Helmsley, *via* Wass Bank, and Helmsley to Harrogate, which is easy except for Wass Bank. This is a long hill, terminating at the top with an exceedingly stiff ascent of about 300 yards in length and an awkward bend, with the surface often greasy. At the foot lies the pretty Abbey of Byland, and just past it there is a dangerous but short descent ending in a water-splash. The roads there are twisty, with one or two small ascents, but as far as Harrogate are generally to be found in splendid condition.

Second Day, Tuesday, August 15th—170½ miles.

The second day will be more exacting, and likely to cause some trouble unless I am very much mistaken. From Harrogate to Masham there are good roads with one or two minor ascents, but care should be taken at Ripon, as there is an exceedingly dangerous bend into the market place, where a sharp left turn must be taken at the "Clock Tower," and the road is then easy to follow up to Leyburn. Care must, however, be taken at Tanfield, with a turn to left, and at Masham, with one to the right, where there is a nasty ascent into the town. Past Middleham, where a glimpse of the

old castle may be obtained, we go into Leyburn, and, running right up to the "Town Hall," (?), turn to the right, and proceed as if to Richmond, up a rather stiff incline, and just before Halfpenny House turn to the left, and, further on, again to the left to Reeth, where follows a grand stretch of road until the ascent right up to Tan Hill is begun, a matter of about 1,200 feet rise, which may occasion a great deal of fun! The road goes from bad to worse, always ascending.

This road, although a main road, is a mixture of ploughed fields, unrolled stones, and moorland track, and for the A.C.U. to consider for one moment the question of having a hill-climb on it would be the height of folly; much rather had they better have a couple of hours' stop at Tan Hill Inn, and allow the competitors time to rest, refresh the inner man, and visit the proprietor's private coal mine situate within 100 yards of the inn. From this old mine the inn-keeper at present obtains his coal, and he will sell it at the rate of 6s. 8d. per ton, delivery at the pit head. Unless the proprietor is informed early of any intention to stop there, victuals will be very much at a premium. Leaving this famous hostelry, we run down to Barras over vile roads, and take a dangerous corner under a railway bridge, when the road begins to improve, and eventually becomes excellent, a nice run taking us to Appleby, whence we return and take the road to Kirkby Stephen and over undulating roads to Hardraw. A very satisfactory hill is met just after passing over the pretty bridge (which is narrow and must be taken carefully) of Thwaite House, and on to Redmire, after which we tackle a stiff hill, and part of the way up turn to the left under a railway bridge, and then keep straight on, away from the main road, and proceed up a narrow and bad by-road for Scarth Nick, where a hill-climb is supposed to take place. It is said locally that the repair of this hill is rendered impossible by the stones rolling to the bottom. The acclivity is about half a mile long, overhung with trees, and goes through a veritable quarry. Continuing over Leyburn Moor with a turn to the right, atrocious roads drop down into Leyburn, and so on to Harrogate.

Third Day, Wednesday, August 16th—189½ miles.

After the comfortable run to York, the route passes under the interesting Micklegate Bar, and straight on over Ouse Bridge, through the market place, and

The Route for the Six Days' Trial.—

turning to the right in front of the Old George Hotel brings one to another of the famous bars (Walmgate). Three miles further the left turn at the fork roads is taken to pretty Stamford, with its dangerously humped bridge, where one turns to left, then sharp to right, and then again to left. Soon the engines should be primed with oil for tackling Garrowby Hill, with its average gradient of 1 in 8 for nearly two miles.

Fourth Day, Thursday, August 17th—167½ miles.

Another day of sharp corners, possibly clouds of dust, and one brute of a hill. A gentle jaunt over easy and good roads to Ripon, *via* Acomb and Borough-bridge, then to Grantley Bank, which has to be carefully approached by a short sharp descent over a prettily situated bridge and up an incline beautifully overhung with trees, terminating at the top with a slight left hand bend for Pateley Bridge and Greenhow



A very bad corner leading to a steep but short hill after descending Kexgill Pass (fourth day).

From the top we have a delightful down gradient practically to Bridlington, which wet alone can spoil, the roads over the Wolds being made of limestone. From Bridlington is a nice run on undulating roads to Filey, whence there are two routes to Scarborough, one by the coast bringing the riders to the Valley Bridge (½d. toll), then past the station, where, especially in August, there is always a motley assemblage of tramcars, fish carts, waggonettes, and trippers. The other route is the better one, and comes into Scarborough, *via* Seamer, at the top of Falsgrave Road, where left and right turns are taken for the village of Scalby, which is approached by a very dangerous left hand turn. A few miles further on is Cloughton, where turn left at the signpost for Whitby, to avoid the now famous Stoupe Brow, and proceed along the new route up the ticklish little incline of Cloughton Bank and over a switch-back moor road to Whitby. Trouble will be experienced here to find the correct route, but once outside the town the road is very good past Ruswarp and Sleights, and there is a grand climb for over three miles up the famous Blue Bank, which is at present in a very loose condition. Once past Hell Corner (Saltergate Inn), competitors may rejoice, for the road home (*via* Pickering, Malton, and York) is comparatively easy.



Grantley Bank, between Ripon and Pateley Bridge (fourth day).
Dangerous corner at Thoralby (fourth day).

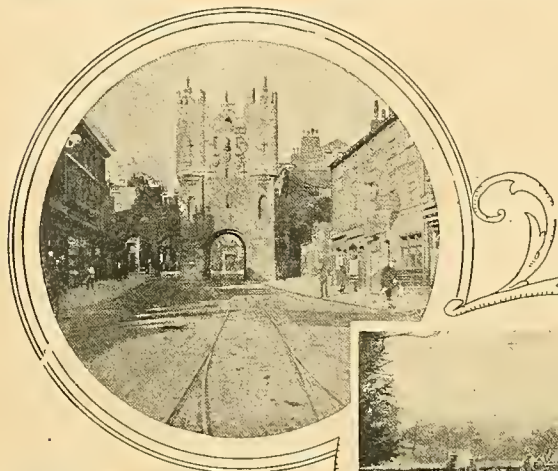
Another view of the same corner which takes the competitors to Otley.

Hill. This, rising nearly 1,000 feet in two miles, is certain to prove unsatisfactory to the unwary. The first portion is very stiff, and is followed by a sharp right corner, and then—on probably the stiffest portion of the hill—a sharp left turn; and competitors who safely negotiate this with plenty of power need have no fear about the rest of the hill, which is a gradual climb up to Greenhow village. A straight run now takes us to Grassington, over the River Wharfe to Airedale, and then Settle, with its peculiar little market place. The road to Hawes from here as far as Ribbles Head is bad, twisty, and narrow, rising nearly 600 feet; on the left hand may easily be seen the mountains Ingleborough and Wharfedale, and on the right Pen-y-Ghent. From Newby Head the road into Hawes is distinctly bad, but leaving Aysgarth there is a

good surface to Thoralby, a village both approached and left by dangerous and stiff descents requiring great caution. A mile or two further is Kidstones Pass, a very stiff climb, with the surface in a disgraceful condition, which the A.C.U. intend to use, among others, as a timed climb. I say without fear or favour that this hill is not a fair test against the watch, as engines will have to be very flexible and in good fettle to climb it at all. This stone-strewed track safely passed,

The Route for the Six Days' Trial.—

care must be taken for about two miles, as the road is one continuous run of wash-out channels, and after Buckden rather narrow lanes through Starbottom on to Kettlewell, where across the river is one of the most beautiful runs in the North, down Wharfedale, past Kilnsey Crag on the right, also Barden Towers, and Bolton Abbey on left. From Bolton Bridge there is a stiff ascent with plenty of corners, then a lovely run down Kexgill, locally called Blubberhouses Pass, delightfully Alpine in its character, and at its foot is a



Micklegate Bar, York, through which the competitors ride on the third and fifth days.

right hand corner up a very stiff but only short hill, which makes anything like speed an impossibility, and then to Otley. To avoid going right into the town, turn to left for Farnley, thence to Norwood Edge, which is a hill with a nasty left and a right hand turning at the bottom. The long climb which follows would prove a good alternative for the timed climb in place of Kidstones Pass, and if from its summit the route ran *via* what is known as the Rough Road and Birk Crag, another nice little hill would have to be surmounted, but I anticipate a run home *via* Skipton Road.

Fifth Day, Friday, August 18th—181½ miles.

The first part of this day's run, from Wetherby to Tadcaster, *via* Wighill and Newton Kyme, is not marked out quite satisfactorily on the maps already published. There is a by-road from Wetherby to Wighill and thence to Tadcaster, and from there to Harewood, *via* Newton Kyme Station (not village, which is away on the right on the banks of the River Wharfe), Boston Spa, and Collingham Bridge, where keep to the right over the river and railway bridge, and up a

long but easy gradient, passing through a fine avenue of trees and coming out directly in front of Harewood Park gates. Turning here to the right, proceed down Harewood Bank, which has a dangerous left hand turn, and continue straight along to Pool, and just through village turn to left and on to Otley, where a very dangerous right and left turn must be taken, the surface here being bad setts. Now a nice run to Ilkley follows, and a real good hill, viz., Keighley Gate, about two miles long, with one very tricky corner, but fairly good surface unless cut up by the dry summer. From Keighley Gate there is a drop down to Keighley into Airedale, through the town and traffic of Bingley, and up to Heaton, a suburb of Bradford, only to encounter a shockingly difficult hill through Heaton Woods. The surface is not of the very best, and with the gradient about 1 in 5 and a corner or two it will be no light work. Descending Hewenden Brow and along to Haworth some fun may be expected on a narrow, very stiff, and roughly-paved road, which is hemmed in by houses, and usually called the main street.

Crossing over Keighley Moor with what is known as Trawden Forest on the left, there is a bad road to Colne, which improves to Settle, *via* Gisburn, but for the occasional setts. Following the same route, but in a different direction from that of the fourth day, we come from Settle to Pateley Bridge, where proceed straight ahead up a hill with numerous corners and partly paved with setts. Passing the old ruined church on the right,



Approach to Grantley Bank, between Ripon and Pateley Bridge (fourth day).



Ripley, cross and stocks, with castle in background. First and second days of trial.



Looking down Greenhow Hill, near Pateley Bridge.

there is a rise of nearly 700 feet to Brownstay Ridge. Thence through Kirkby Malzeard, Grewelthorpe (famous for its splendid cream cheeses), and through very pretty country lanes to Masham, and thence to Thirsk, joining the same route as on the second day.

Sixth Day, Saturday, August 19th—122½ miles.

After the excitement of five days of severe hills, twisty roads, and bad corners, this day's run of approximately 120 miles over good and practically level roads should come as a welcome sedative. There may be extra traffic when passing through York, seeing that it

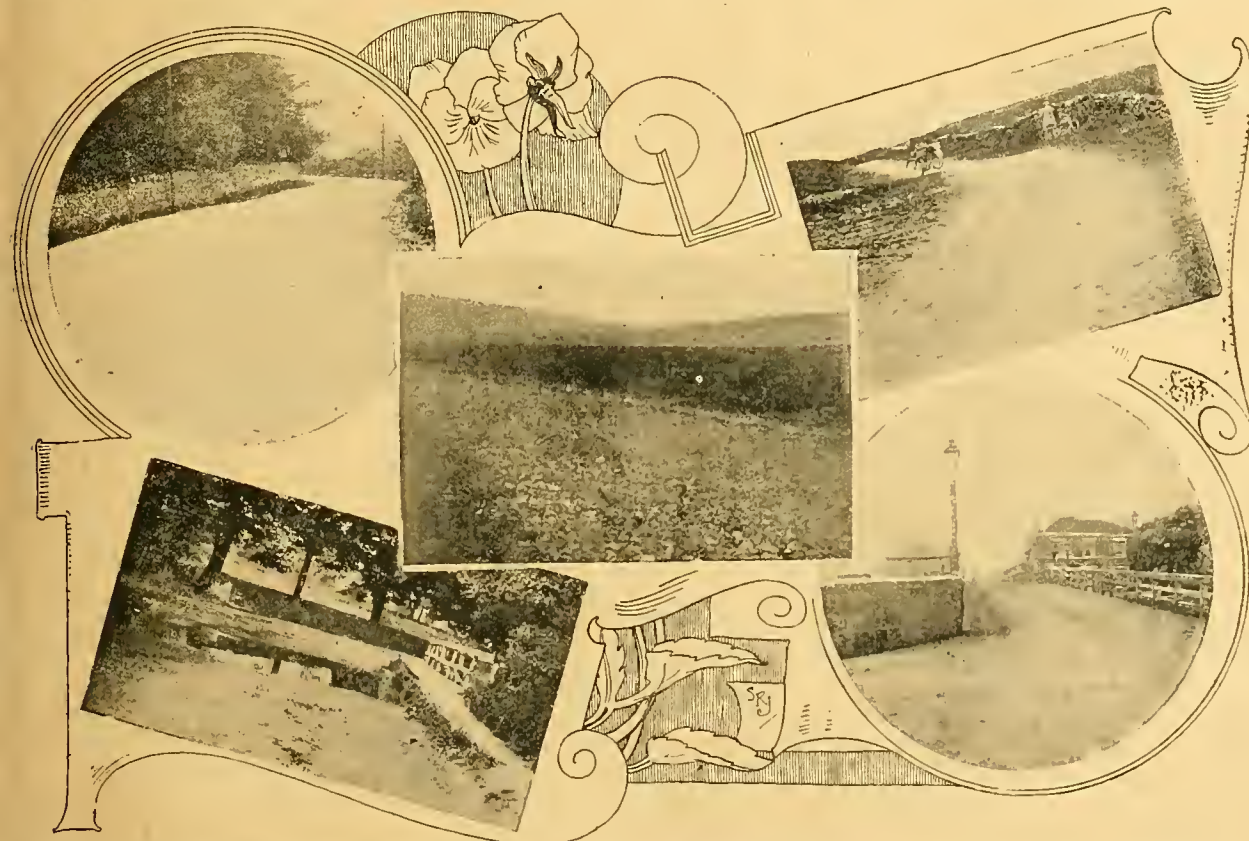
The Route for the Six Days' Trial.—

is market day, but a passage in the early morning should not be attended with much trouble. Two toll bridges have to be negotiated within a very few miles of one another, one at Selby, and the other at Bubwith.

During the whole of the Trial I should advise the competitors to refrain from "dusts-up" with other riders, for the roads are twisty and the corners in most cases very loose, especially on the moors. With

machines in good trim and the gears low, all the hills can be taken, but some of them, more especially Kidstones Pass, Arkengarthdale, and Searith Nick cannot be rushed. I have practically covered the whole of the course on a 3½ h.p. motor cycle, and found a 6 to 1 gear very useful at times. The Trial should be well supported, and, wet weather or fine, should prove useful and instructive to riders and manufacturers.

H. W. FORTUNE.



There are two roads between Kirkby Malzeard and Masham, one by the Watersplash, the other round by the church down a dangerous little hill. Photograph shows the Watersplash.

The worst corner on Greenhow Hill, near Pateley Bridge.

Showing the shocking state of the surface of Arkengarthdale Hill, leading up to Tan Hill Inn.

Kidstones Pass, which has to be negotiated on the fourth day.

Selby Toll Bridge (sixth day).

OFFICIAL AWARDS IN THE T.T. RACES.

The following is a complete official list of awards in the Junior and Senior T.T. Races issued by the A.C.U.

The Junior Race.

1. P. J. Evans (2½ h.p. Humber), £30 and gold medal.
2. H. A. Collier (2 h.p. Matchless), £20 and gold medal.
- *3. H. J. Cox (2½ h.p. Forward), £10 and gold medal.
4. D. Brown (2½ h.p. Humber), gold medal.
5. H. Greaves (2½ h.p. Enfield), gold medal.
6. K. Gassert (2½ h.p. N.S.U.), gold medal.
7. W. W. Douglas (2½ h.p. Douglas), gold medal.
8. A. G. Fenn (2½ h.p. Humber), gold medal.
- *9. F. P. Johnson (2½ h.p. Humber), private owner's cup and gold medal.
10. J. Haslam (2½ h.p. Zenith), gold medal.
11. P. Weatherill (2½ h.p. Zenith), gold medal.
12. G. L. Fletcher (2½ h.p. Douglas), gold medal.
13. H. G. Dixon (2½ h.p. New Hudson), gold medal.
14. S. Wright (2½ h.p. Humber), gold medal.

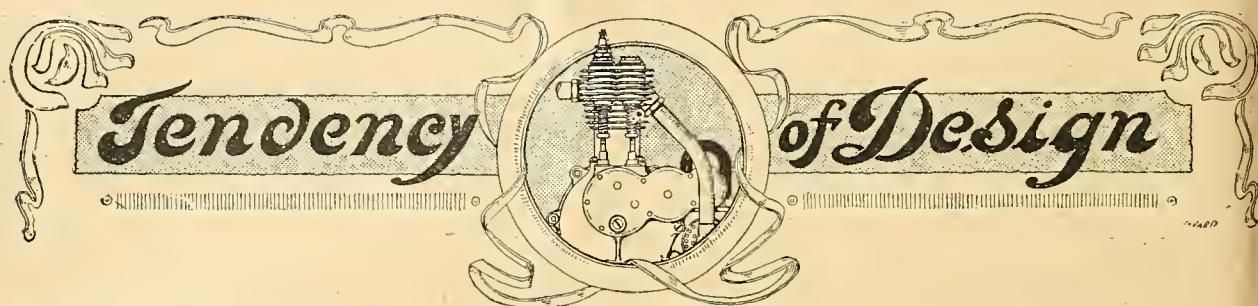
The Senior Race.

1. O. C. Godfrey (3½ h.p. Indian), £40 and gold medal.
2. C. B. Franklin (3½ h.p. Indian), £25 and gold medal.
- *3. A. J. Moorhouse (3½ h.p. Indian), £10 and gold medal.

4. H. A. Collier (4 h.p. Matchless), gold medal.
5. Hugh Mason (4 h.p. Matchless), gold medal.
- *6. J. A. Carvill (3½ h.p. Triumph), first private owner's cup and gold medal.
- *7. W. H. Bashall (4 h.p. Bat), second private owner's cup and gold medal.
- *8. Quentin Smith (3½ h.p. Triumph), gold medal.
- *9. H. Lister Cooper (3½ h.p. Triumph), gold medal.
- *10. J. T. Bashall (4 h.p. Bat), gold medal.
11. H. Reed (4 h.p. Dot), gold medal.
12. W. F. Newsome (3½ h.p. Triumph), gold medal.

* Private owners.

When the list of awards was announced on the 15th inst., the silver cup presented by the Dunlop Co. for the first private owner was awarded to J. A. Carvill. A. J. Moorhouse, another private owner, who was in the first three, has lodged a protest, which the Competitions Committee have ignored, and has now put the matter in his solicitor's hands. Moorhouse claims that as the presentation of this cup was announced on the official programme distributed in the island to be given to the first private owner in each race this announcement is binding on the A.C.U., whereas that body maintains that the conditions binding them are those on the forms signed by the competitors.



WHEN future historians write about motor cycle happenings during the first decade of the twentieth century, they will have to set down the statement that, broadly speaking, design remained stagnant throughout the whole ten years. We have been annually persuaded that the then current models embodied the last possibilities in design, construction, and material, and little consideration is required to prove how afraid were the majority of designers to strike out on fresh lines of investigation, the majority preferring a follow-the-leader policy.

Looking back over past occurrences, the thought arises that too many of those responsible for the settling of patterns and models were not practical riders. More's the pity, because departure from conservative ideas typical of the average British manufacturer in any sort of business would have permitted consultation with and advice from men qualified to judge the likelihood of future demand.

English versus American Methods.

In this connection, we can well copy United States factory methods, and boldly invite assistance from people directly in touch with potential purchasers.

It is the agent almost solely who is able exactly to gauge requirements for twelve months ahead and who can keep his mind free from prejudice. To our American friends must be accorded the credit for thoroughly appreciating the advantages of co-operative advice, and for many years it has been customary over there to invite the leading agents from every quarter of the big country to a conference at a factory, just prior to the final settlement of designs for the next year. At these meetings, rough models of the proposed patterns are produced for inspection and free criticism, whilst every man present is invited to say frankly whether the proposed ideas will help sales in any or all districts.

In British factories, the invariable aim of all concerned is to keep everything secret about new year's models until a few days before the annual show in London, for fear a competitor may steal ideas. This policy defeats its own end, whilst prohibiting the calling together in council of the very men who daily learn about defects in parts and yet rarely secure opportunity for passing their knowledge on to the factory, other than by letter. The perfunctory couple of hours' ramble through a factory, that seems to be the only general means of honouring agents in England, could easily be extended into a couple of days at little extra expense to the organisers of such affairs, and the eventual benefit to all concerned is hardly measurable in £ s. d.

Going back only two years, attention of designers was, at so recent a period, mainly directed to develop-

ing the single-cylinder engine, and but for the far-seeing efforts of the Competitions Committee of the Auto Cycle Union we might to-day be witnessing the evolution of single-cylinder monsters up to 8 h.p. The restrictions of this type to the now generally accepted 500 c.c. capacity—the popular $3\frac{1}{2}$ h.p.—is wholly due to the limitations placed by the governing body of the sport on the T.T. classes in 1909 and 1910, and, despite all that critics state to the contrary, such limit has compelled designers to revise a multitude of details.

So far as the writer is aware, no brake horse-power tests of 500 c.c. single-cylinder engines have ever been published, consequently true comparison of merit is out of the question. Yet judging by racing results at Brooklands, leading open hill-climbs, and practical touring experiences over long distances confirm the general opinion that the 1911 engine develops about 1 h.p. more than the same size built early in 1909. The features contributing to this desirable end are many, but among them may be mentioned increased valve diameters, more direct exit of waste gas from the exhaust chests, better and thinner cylinder castings thanks to magnetos in the case of twin-cylinder engines), and more particularly overlapping of the inlet and exhaust valve timings.

The Effects of Valve Timing.

The enormous difference in power developed by comparatively slight variations in opening and closing the valves is well understood by most designers. Theoretically, the exhaust should close dead on the top of the stroke to prevent blow-back with entry of fresh charge, but experiments conducted on a four-cylinder car engine at an American University prove that if the exhaust opening is continued some degrees beyond the top of the stroke, concurrently with fresh gas coming in, a scavenging effect is secured which materially helps towards a maximum possible quantity ready for explosion at the firing moment.

On this important matter of valve timing, each chief designer seems to have his own formula, and although it does appear feasible for engines having different valve areas and lifts to need cam profiles suited for each, it can be definitely asserted that these items are almost negligible, provided the opening and closing moments are deduced from careful experiments on the test bench. Quite naturally, makers who have carried out such tests for themselves are not willing to publish the result, but were it possible to collate the figures, they would be astonishingly correlate.

Possibilities Controlling Future Design.

The long-derided two-stroke engine has at last come to the front, thanks to the persistent belief in this

Tendency of Design.—

principle being placed on practical competition basis by Mr. Scott. Mention of this machine brings us naturally to consideration of the possibilities likely to control future design as a result of the 1911 T.T. Races. Frank Philipp on a Scott in the Senior Race made the star performances of the day in respect to time, for not only did he obtain the honour of the fastest lap during the third round in 41m. 52s., but he also made second fastest time of the day in the next round, doing 45m. 11s.

Taking the rest of the machines that finished, the twin-cylinders proved themselves immeasurably superior, the first six men (C. R. Collier's disqualification can be ignored here) all having engine capacity close up to the limit imposed by the regulations, the three Indians being 584 c.c. and the three Matchless 580 c.c. J. A. Carvill, Quentin Smith, and Lister Cooper were the first single-cylinders in that order, W. H. Bashall (Bat) coming in between them and spoiling the continuity of their results. They were all on similar machines—Triumphs 499 c.c. The winner's time on a twin-cylinder was 3h. 56m. 10s., and the best single-cylinder performance was 4h. 16m. 49s., a difference of 20m. 39s., exactly 4m. $7\frac{2}{5}$ s. per lap. Now Godfrey's speed throughout averaged 47½ m.p.h., whilst Carvill's was practically 43½ m.p.h.

We thus arrive at the very interesting fact that the 584 c.c. twin is four miles per hour faster over the T.T. course than the 499 c.c. single-cylinder.

Should Twin-cylinders be Handicapped?

These figures are indisputable, and finally dispose of the arguments put forward by scientific experts who have contended so fiercely on the alleged superiority of the single. When the conditions of the 1909 race were being formulated, the twins were given fifty per cent. greater capacity on the wrong assumption that the added friction of the extra cylinder piston, valves, etc., and the admittedly larger fuel and oil requirements (needing bigger weight carried to cover the same distance) would handicap the machine to an equality at the finish. Twin-cylinders romped home by the proverbial "streets," and the runaway win was repeated in 1910, when the twin capacity was reduced to 670 c.c.

It is all very well to bring forward scientific formulæ when devising race rules for road work, but the writer of these notes has contended in the past, and finds no reason to alter his opinion, that the only sound and reasonable method for bringing together different types—whether they be engines, gears, or complete machines—is to depend solely upon recorded times.

It is none too early to discuss 1912 T.T. arrangements, for, despite unfounded rumours to the contrary, it can be taken for granted that the Isle of Man authorities, manufacturers, riders, and the Auto Cycle Union desire the races to be continued. The Irish brigade and the majority of well-known private riders are as keen as ever, and always provided the entry fees are not raised beyond the existing sum, will race until they become grey-headed.

Coming to the essence of the subject—some means of bringing twins and singles together at the finish—we need not worry about petrol consumption or other obsolete ideas. The "standard" single-cylinder of 500 c.c. capacity is here to stay, and its power is

more than ample for all solo uses, and we can place that figure as the basis for considering twin dimensions. Supposing the twins are reduced to 540 c.c., they would still be two miles per hour faster than the singles, and anyone who cares to work out the figures of the Senior 1911 race will discover that the twin of 500 c.c. capacity is just about equal to the single of the same cubic capacity.

Overboard therefore goes the handicapping theory, and next year's tussle will have to be fought out on the single limitation applying to all alike, ignoring the number of cylinders or cycle of operations.

A Big Future for the Variable Gear.

If any machine of unusual construction can win, why so much the better for the objects the A.C.U. has never lost sight of in organising the T.T. Races, viz., development of design and attainment of perfect reliability.

Another feature that must govern future design was the almost universal use of change-speed gears in both races, and the fact that the five leaders' mounts in the Senior Race and the first sixteen in the Junior were so fitted. If the race had emphasised nothing else, it would have been worth while going to all the trouble involved in organisation by settling once and for all time the merits of some form of hand-operated gearing.

A feature of this year's race was that all the J.A.P. engines in the Senior Race were absolutely free from oil on the exterior. Would there were many more engines in respect of which one could say the same!

We are no nearer a solution of the chain *versus* belt problem than we were two years ago, and theorists must now cease to claim that a short stroke engine with big bore is infinitely better than the converse.

What of the future? To my mind the design of the future will be twin-cylinders at 90° angle, outside flywheel, two-speed gear, chain drive throughout and completely enclosed from dust or mud, universal handle-bar control, including clutch, magneto and oil pump, and automatic or semi-automatic lubrication.

V.H.



Master T. Thompson, the youngest motor cyclist in Portsmouth, who has just completed 1,000 miles on his 2½ h.p. Douglas.

OCCASIONAL COMMENTS.

By "IXION."

Infinitely Variable Gears v. Arbitrary Ratios.

We now have several more or less infinitely variable gears on the market, and it is becoming a burning question whether the evolution of variable gears is to proceed along the gradual lines of a power curve, or whether two, three, or four step ratios, separated by marked gaps, are preferable. The case for each type is easily stated.

The gradual gear is in theory more suited to solo work; it is capable of more even speed, it is less severe on the engine, and it enables the rider to use a gear which is at all moments adapted to the work in hand, instead of one which is much too high or much too low. The fact that such gears have been barred in several hill-climbs indicates their efficiency.

On the other hand, all such gears increase the strain on the belt, and especially upon the fastener, which is the weakest point of every good belt; and further, manufacturing considerations limit their lowest ratio to a figure which cannot cope with every conceivable emergency.

Step gears of the two or three-speed variety, on the other hand, show a distinct inferiority in respect of efficiency; but they need not strain either belt or fastener unduly, they lend themselves more readily to the incorporation of a practical free engine clutch, and they set no limits to the bottom ratio.

On the whole, the gradual type of gear would seem to be superior for solo work, and would commend itself to the maker of a machine not intended to be regularly used for passenger work; whereas a step gear should be nearly as suitable for solo work, and considerably better adapted to passenger work, because of its sparing the belt, because of its free engine possibilities, and because of its low bottom ratio.

Patching v. Vulcanising.

My remarks of June 22nd regarding the above heading have brought me several letters from the vendors of patent patches. I merely retailed an actual experience with a certain make of patch which I have found absolutely reliable and satisfactory as a puncture repairer. I stated that on overhauling a kit of old tubes, and soaking off the patches, I found that the holes beneath the patches had expanded, and the rubber surrounding them had chafed. That such a process is inevitable is surely obvious. No patch fills up a hole. There are two ways of filling up a hole; one is to use some of the hour glass shaped plugs of rubber marketed by certain specialists; the other is to weld a caulking plug of rubber into the orifice by means of vulcanisation.

I am perfectly willing to admit that patching is quite satisfactory for prolonged periods. My own experience tells me that a puncture repaired by a modern patch, properly affixed, will give no trouble for at least one season. But if there are any riders who, like myself, carry a stock of mended tubes over from season to season, my experience is of interest. The internal air pressure of an inflated tube concentrates at the weakest point. At the point where a puncture has existed, the even contour of the rubber walls is interrupted. The patch affords extra armouring. But round the locality of a puncture there exists

lines of rending force, radiating from the original punctured hole.

The state of my old tubes shows that *in time*, especially on fast heavy machines, these lines of force are strong enough to enlarge the hole, and weaken the rubber both of the patch itself and of the tube surfaces surrounding the hole. Hence I infer that when old tubes, used on fast mounts, are carried over from year to year, vulcanisation appears to be advisable.

Two makers have sent me supplies of their patches, and asked me to make a comparative test. I am grateful for their courtesy, but it is evident that I can make no report within a twelvemonth. I must wait for the punctures to come, work the repaired tubes hard, and after the period indicated, soak off the patches, and see what has happened beneath them.

None of my correspondents touch upon a point that should lend some support to their arguments, viz., that not every vulcaniser can be trusted to use his machine properly. Vulcanised patches are not always accurately "cooked."

Conduct in the Isle of Man.

I think "Sunlight" [letter No. 5737] takes rather a jaundiced view of what happened on Douglas promenade during the Manx Week. Last year a few riders were undoubtedly guilty of most disgusting and ungentlemanly conduct, especially in a certain skating rink, but I fail to see that any but the most strait-laced and puritanical critic could take exception on ground of public decency to the carrier riding which was seen along the front this year.

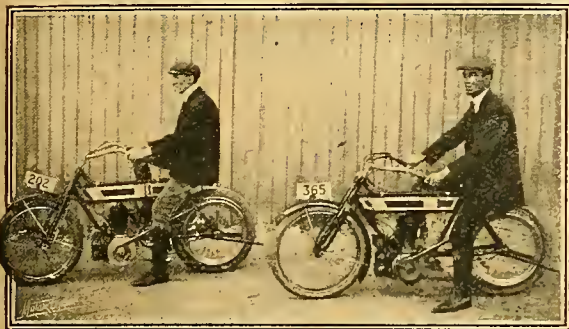
The "immodest women" who, according to "Sunlight," "let all decency fly" were in most instances quite young girls from the Lancashire cotton mills enjoying what struck them as a tremendous lark in all innocence. I admit the practice can be deprecated from the standpoint of danger, as many of the machines were driven rather recklessly at considerable speeds, but there was no other obvious reason for the police interference which "Sunlight" appears to have desired.

An objectionable element is, of course, usually present when a crowd of high spirited young men are collected together, and this year's race was no exception. A number of motor cyclists were requested to leave a certain hotel in which they had taken rooms, the police were called into another house, and certain competitors were so intoxicated during a part of the practice that the heads of their firms seriously contemplated withdrawing an entry or two.

Personally, I thought the average standard of conduct in the Isle of Man was as high as could be expected, and that the objectionable element who lose no opportunity of bringing discredit upon us were kept in the background as far as possible. Certainly there is no fear of our being unwelcome at Douglas should we seek permission to hold another race.

I should, however, like to see the A.C.U. exercise discretion in the selection of competitors and cancel the entries of riders who are known to have been frequently intoxicated during practice. There should be no difficulty in making it an invitation race, when known undesirables could easily be excluded.

Colonial Motor Cycle Competitions.



J. D. Elliott (202), W. Millar (365), riders of 3 1/2 h.p. L.M.C.'s who have lately distinguished themselves in Australian hill-climbing competitions.



A. G. Ogilvie (3 1/2 Triumph) making fastest time, and also winning the Tasmanian M.C.C. Hill-climb. He beat twins of 7-9 h.p.

THIS week's mail has brought us news of a number of motor cycle contests in Overseas Dominions, although at the time the letters were despatched the motor cycle season was on the wane in the countries mentioned.

N.S.W. Hill-climb.

The New South Wales Motor Cycle Club held an open hill-climb on the Baden Hill, at Coogee, on May 20th. The contest was run off in pairs, the final being won by J. D. Elliott (3 1/2 h.p. L.M.C.), handicap 4s., time 31s., from W. Millar (3 1/2 h.p. L.M.C.), handicap 1s., time 30s. The last-mentioned competitor, in defeating E. A. Rigg (3 1/2 h.p. Triumph) in the second round, created a new record for the hill—29s., length 1/3 of a mile.

Sydney Club's Flexibility Test.

There were twenty-three competitors in the Sydney M.C.C. flexibility



hill-climb. Fastest time was made by T. W. Green (8 h.p. Matchless), but he failed in the slow ascent. The winner proved to be R. Robinson, riding a 2 1/4 h.p. F.N. His fast time was 74 1/5s., slow trial 3m. 15 1/5s.

A hill-climb by the same club was won by H. I. Clements (8 h.p. J.A.P.), F. Cooper (3 1/2 h.p. L.M.C.) being second.

Tasmanian Hill-climb.

The Tasmanian M.C.C. held a hill-climb at Hobart early last month, on a 1 in 6 gradient. A. G. Ogilvie (3 1/2 h.p. Triumph) made fastest time.





QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Carburettor Slides Jammed.

Q. I should be greatly obliged if you can tell me the cause of my gas piston in carburettor sticking frequently on a long run, when engine gets hot. I may say that I have rubbed it down with fine emery-cloth several times. The trouble does not occur riding about town. Can you account for this?—W.C.P.

The trouble is simply caused by dust jamming the slides in the carburettor. If you rub a little graphite on these it will probably prove effective. If not, they should be still further eased. Naturally, when you ride in a town this does not happen owing to the absence of dust.

Royston-Ware Police Trap.

Q. On the Royston-Ware Road I fell into a police trap, that is to say, I heard a whistle go, and about sixty yards further on came across a policeman with a watch in his hand. Hearing the whistle I naturally slowed down, but no one asked me to stop. Can the police take proceedings, as nothing was said to me at the time?—M.T.

The legal position is this: Proceedings may be taken, although nothing was said at the time. Under the Act warning of the intended prosecution is to be given at the time, or notice must be sent within such time afterwards not exceeding twenty-one days, as the Court may think reasonable.

No Spark.

Q. Could you explain why I cannot get any spark from my plug? I have tried all new wire connections, new coils, new plugs, and I have taken precaution to see that there is no shorting anywhere. The accumulator is fully charged. I can get a good spark from contact, but none from the plug.—PUZZLED.

Are you perfectly certain that the wiring is connected up in the right manner, because it seems from the list you give that there must be absolutely nothing else which would cause the trouble. If you will remember to put the + wire of the accumulator to the + wire of the coil, the negative wire of the accumulator to the frame of the machine, the high tension wire of the coil (generally marked H.T. or B.) to the plug, and the remaining wire (marked C. or V.) to the contact maker, with the new coil, etc., it would seem impossible not to obtain a spark.

Liability of Road Surveyors.

Q. I am sending for your inspection a sample of granite chippings which have been spread indiscriminately on a fairly hard surface and left for the traffic to work them in. Once riding over them I managed to get three of them through my back tyre, and I should suppose other motor cyclists have had a similar experience. Is there no legal remedy against such acts as this on part of road surveyors?—H.A.U.

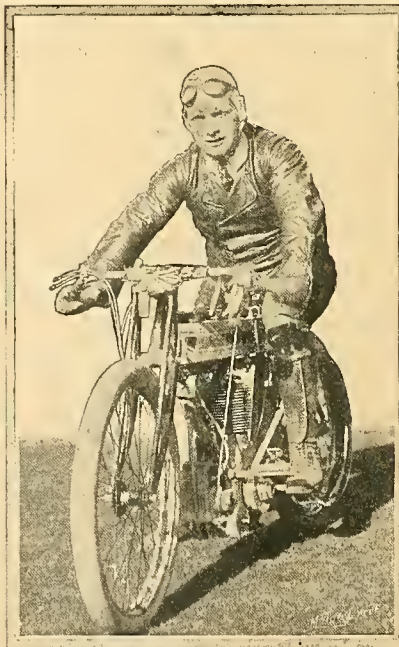
In regard to the above, our legal adviser writes: I have perused "H.A.U.'s" letter and cannot recommend him to commence an action unless he is prepared to go to considerable expense. The amount claimed would not be large, and in fighting an action of this sort there would have to be expensive witnesses, such as surveyors and experts on each side. In addition to this, he should obtain the services of one of the best solicitors in the district, as the case would have to be

very carefully handled, as legal points would arise. The point is that there is a duty cast upon a local authority to use due care to prevent danger to the public being caused by the mode of executing any authorised work on the highway. If your correspondent can satisfy the court that the material used in the repair of the road was either unsuitable for the purpose, or that it was left there for an unreasonable length of time without being properly rolled in, then there should be a *prima facie* case against the local authority. The defence might be that your correspondent himself was guilty of contributory negligence by riding a motor cycle over a road which had only just been repaired. The nearest case which I can find similar to the one suggested by "H.A.U." is one decided in 1905, brought by a Mr. Holloway against the Birmingham Corporation. There, the tar which underlay the surface of stone setts oozed up between them and caused the plaintiff's horse to slip. Mr. Holloway did not succeed in his action, as in this case it appeared that the road had originally been made up in a satisfactory way. Had Mr. Holloway proved that the road had been repaired improperly, it looks as if he would have succeeded.

A Sluggish Starter.

Q. My 7 h.p. twin V engine, with spray carburettor and high-tension magneto ignition, will not start under any conditions. The magneto seems all right when tested by putting the spanner on the terminals: it sparks, but sometimes the spark is larger than at other times. The magneto is timed to fire when the front piston is on the top of the compression stroke, points just about to break with lever fully two-thirds retarded. The compression is fairly good, as the wheel will skid before it will take the pistons over the compression. I have been trying to get it to fire on one cylinder, but cannot get an explosion. Please advise.—T.T.

From the symptoms that you give, we should imagine that your trouble is entirely due to a stoppage in the carburettor jet. Also, it would be better to advance the magneto a little further than you state, in order to facilitate starting. This is done by fully retarding lever when timing. We think the best plan would be to take the carburettor entirely to pieces, and to make absolutely sure that every part of it is functioning properly.



Norman Gray and his 3 1/2 h.p. Triumph on which he has been remarkably successful in competitions this year. Gray has already won eight medals in hill-climbs, and is one of the mainstays of the Cambridge University M.C.C.

Regular Running at Slow Speeds.

? I have a 1911 2½ h.p. Douglas, and find that when running on a weak mixture the rear cylinder fails to fire, but on cutting off the extra air it commences to fire. The trouble is that in order to get both cylinders to fire one has to use a mixture of such strength as to make travelling on the level too fast. Spark and valves seem correct. Can you account for this?—A.A.U.

It is usually necessary to close the air lever entirely when running slowly, and close the throttle almost to the full limit. As long as the machine pulls well without a great quantity of extra air you would do well not to attempt to alter the existing adjustment. Using the brake slightly is one way of slowing a machine in traffic, with the engine still firing regularly.

Misfiring at Slow Speed.

? I have a free engine machine and am troubled with misfiring when running at slowest speeds with clutch out or when going down hill with air and throttle opened as little as possible. (Increasing the air has only the effect of stopping the engine.) As soon as the engine has any work to do, such as going up an incline, or when the clutch takes up the drive, misfiring ceases without any further manipulation of levers. This trouble is of no great consequence, but drive and explosions are intermittent, and something apparently is not normal. Plug, carburetter, and magneto, are all perfectly clean. Can you account for this?—H.A.R.F.

We think if you were to make absolutely sure that the extra air slide closes completely, the misfiring effect you complain of would cease. It is possible that you could get all-round better results if you were slightly to enlarge the jet.

Inlet Valve Opening.

? I have a 1910 torpedo Fafnir 4½ h.p., and have been trying to make it more efficient. The exhaust and inlet valves are actuated by the one wheel, the exhaust closes on top of the stroke, and the inlet starts to open a quarter of an inch down the stroke, and does not close until the piston has gone half an inch upon the compression stroke. What is your opinion as to when the inlet valve should close? I have fitted footboards, and my machine weighs 194 lbs. in touring trim, and my weight is 10½ stones. With what gear would you say I could climb 1 in 8: also what should the petrol consumption be?—D.A.D.N.

The best opening for the inlet valve is to allow the cam to lift the valve when the piston has just commenced the return stroke, and to close a little after the commencement of the compression stroke. In this way you allow for any lag of the mixture, while the somewhat late opening allows a certain amount of suction in the cylinder before the lifting of the valve. The exhaust valve should, of course, close on the top of the exhaust stroke. The nearer you can get to this setting the better the engine will run. With the weights you specify, and the engine pulling well, a gear of approximately 4½ to 1 should enable you to climb

1 in 8 The petrol consumption ought to be somewhere in the neighbourhood of ninety miles to the gallon depending entirely on what amount of jet opening is used on the machine, and the level of the spirit in the jet.

Sooty Carburetter Springs.

? I am having lots of trouble with my carburetter. The springs controlling the air and petrol valves get rusty and sooty and 'stick' up, and I cure the trouble by washing springs in paraffin and coating with vaseline, but 100 miles sees the trouble again. Rust is, probably, due to damp sea air which rusts everything here. But why soot? Is there a blow back through overhead inlet valve not closing rapidly enough. All appears in good order, but there is at least ¼ in. of play between end of adjusting valve rod and rocking lever that shuts the valve. I am afraid to close up this play lest I make it too tight and break something. Soot only on springs, nowhere else on or in carburetter. Machine would climb a precipice.—W.F. (Shetland).

We think you will find that the trouble will cease if the springs are quite thoroughly cleaned and wiped occasionally with an oily rag. If the conditions are such that wet air is additionally likely to rust the springs, we should advise you to communicate with the manufacturers, and obtain from them a special spring for your conditions. The sooting is caused by the extreme clearance between the end of the tappet rod and the inlet valve operating arm. The actual clearance between these two should be 1.64 in. instead of ¼ in. If you adjust it in accordance with the above you will find that the sooting will immediately cease.

Starting with Sidecar.

? I bought a 1909 8-10 h.p. machine, intending to use it with sidecar. It was fitted with Mabon clutch and starting handle (single-speed), which is incompatible with the sidecar on the near side. (1.) Is there any serious objection to the car being fixed upon the off side? (2.) What is the slowest speed I could throttle the machine down to with passenger? (3.) In the event of the sidecar being fixed on the near side, could I start the machine by having the back mudguard fitted with a hinge, and pulling the back wheel up over compression?—J.G.

(1.) There is no serious objection to the sidecar being fixed on the off side, except that the passenger is the first person to see round an obstruction. There are many who can only ride with the sidecar on this particular side of the machine, and you will find that, if care is used, it is perfectly satisfactory. (2.) The slowest speed you can obtain depends entirely on what gear you are employing and exactly what state the carburetter is in. It ought to be quite easy to drive at ten m.p.h., or even slower, without operating the clutch. (3.) You can certainly start the machine by pulling up the back wheel, provided a hinged mudguard be fitted, and also that you take care to have the plug gap as small as possible.

EXPERIENCES WANTED.

"G.E.T." (Leeds). A. C. Sociable and P.M.C. Motorette.

"T.T." (Kuntstford). General criticism 2½ h.p. Lewis two stroke.

"Mid 947" (Birmingham). Carrying a passenger on carrier of 1911 Scott.

"H.T." (Leicester). P.M. gear fitted to 6 and 8 h.p. Bat-Jap and sidecar.

"S.H.B." (Devon). N.S.U. two-speed gear fitted to a Bradbury.



C. Northway and W. M. Erskine and their Bat-Jap machines on Deviturai Estate, Ambalangoda. In sending the photograph Mr. Northway mentions that these machines have been ridden over all kinds of roads, including those flooded with water.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Causes of Fire.

[5740].—We should like to relate a very curious incident which actually happened on the 12th inst. in our Cheapside premises. A magnifying reading glass, exhibited in the window, so intensified the sun's rays that it set fire to a rubber cycle tube, and had it not been observed at the time of ignition, the probability is that the whole of our premises would have been involved. JOHN PIGGOTT, LTD.

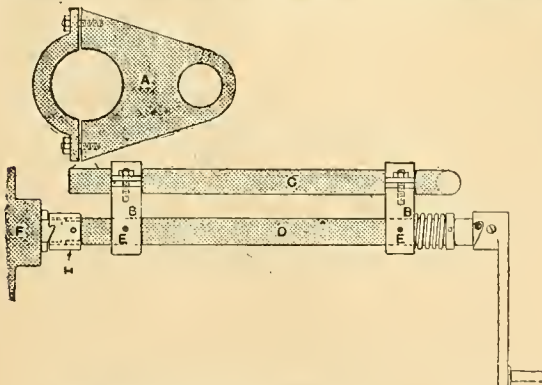
Conduct in the Isle of Man.

[5741].—I fully endorse the remarks of "Sunlight" in your last issue. The conduct of some of the motor cyclists who visited the island was positively disgraceful. To ride up and down the crowded promenade at speeds ranging from twenty-five to forty or more miles per hour is a sure way of closing the door to the many privileges we are allowed when visiting the island. Particularly conspicuous were two youths on a $3\frac{1}{2}$ h.p., whose sole amusement was to career along the front at the highest speed possible, scattering the crowds of visitors right and left. On one occasion I saw them four times in the space of thirty minutes. I believe the police eventually had to take action, and they were twice reported. I sincerely trust they will be prosecuted and punished in a manner fitting to those whose conduct brings odium to the whole body of respectable motor cyclists. MODERATION.

Sidecar Starting Handle.

[5742].—Whilst enjoying my copy of *The Motor Cycle* of May 25th, which is the current issue here, I came across an article, "A Run Round some London Factories," and in a paragraph on Bat progress you describe their new starting handle on the outside of the sidecar.

Now I own a 6 h.p. Bat-Jap and sidecar, and some months ago, finding I was unable to use the starting handle with



A Side view of bracket to fit sidecar frame.
B End views of brackets. C Sidecar frame tube.
D Tubular portion of starting handle, $\frac{1}{2}$ in. diameter.
E Oil holes. F P. & M. clutch.
H $\frac{1}{2}$ in. steam socket screwed to tube and pinned.

sidecar attached, on account of front stay of sidecar being in the way, I fixed up an extension spindle to outside of sidecar almost identical with the one described in your article. Enclosed you will find a sketch of the arrangement, which can be made up very cheaply, and may prove useful to other riders of a similar combination. C. H. STAHL.

Johannesburg.

Magneto Handle-bar Control and Stolen Machines

[5743].—I have often wondered why more makers do not fit handle-bar controlled ignition to their machines. It seems to me so much more convenient. There are many cases when one does not want to take one's hand off the handle-bars—on greasy roads and twisty hills, for instance. What is the actual advantage of the tank control? With regard to the "thief question," surely "prevention is better than cure" in the long run. Unless one knows the intending purchaser, he should not be allowed to try the machine himself or should be made to pay a deposit before he does so. For machines left alone, I suggest a special switch in the form of a lock, of which only the owner of the machine has the key.

BL 765.

A Rara Avis in Lytham.

[5744].—Last Saturday I rode into Lytham from Southport, and, judging by the enclosed newspaper cutting, the people of Lytham are rather behind the times. I have ridden a motor cycle for the last four years, and, notwithstanding various little drawbacks, such as adjusting a slipping belt, etc., watched by an admiring crowd, I think a motor cycle the jolliest thing a lady can possess. I never feel at all fatigued after a long ride, and have experienced no difficulty in looking after the machine, doing small repairs, etc. I hope some other lady motor cyclist will visit Lytham and complete the shock! (Miss) W. E. BROWNE.

WHAT NEXT?

Women will not be outdone. Surely there is no holding them down. On Saturday afternoon a female sped along the main streets of Lytham on a motor cycle! It looked for all the world like the ordinary bicycle: the engine and apparatus were almost invisible, but the "teuff-teuff" of the engine was plainly audible.

Unofficial Long Distance Runs.

[5745].—In reply to Mr. H. G. Bell, I have to say that I do not think it necessary that such runs should be always under the supervision of any one body, as that is inconvenient and sometimes impossible.

In my opinion these long distance runs are very convincing, and help the public in choosing the best machines.

Your correspondent is evidently in ignorance of what a long distance ride means, and I presume that when he goes on a long ride he will not have his machine touched or made into a new one as he put it, but perhaps he will be glad to have a friend to take his machine from him at the end of the first day's run, not to mention the remaining five days. Is there any sense in expecting a machine to go six days, of twenty hours per day, without fitting new valve springs or other small adjustments, and to suggest that a cycle engine can be generally overhauled and made into a practically new machine in less than three hours clearly proves there is not much wrong with it.

I respectfully remind the writer that what his friend told him may not be the whole truth, and that it is not very manly to write letters on hearsay which may be to the detriment of good sport.

I know that some people are always troubled with the success of others, but I, as a sporting cyclist, very much admire the performances of the very few long distance riders—good health to Catt and others. A RIDER.

Dutch Motor Cyclists' Visit.

[5746.]—I am very glad to inform you that all the members of the Dutch M.C.C. arrived well and safe at Amsterdam. We all enjoyed our trip very much, and shall certainly return next year for the T.T. Races.

We wish to thank *The Motor Cycle* for giving us such a nice route, the A.C.U., the Mersey M.C.C., and the directors of the Enfield Cycle Co., Ltd., for the cordial way in which they received and entertained us. Further, our thanks are due to Messrs. Wallis and Wilson, of Cambridge; to Mr. Percy S. Clews, of Tunstall; and to all the members of different clubs, who received us everywhere in the most cordial way, so that we shall never forget our first official visit to England.

A. CITROEN.

Explosive Puncture Sealers.

[5747.]—I see that an individual, who signs himself "Chemist" (Why?) has written to "Ixiom" to say that the puncture sealer I informed him about is a high explosive. If chloro-glycerine was formed by reaction between the glycerine and HCl, being unstable, it would probably react to form the very stable products, silica and sodium chloride. So much for the theory.

As for practice, I have heated up the mixture in a naked flame till red hot. The stuff did not even burn, much less explode. I know of no explosives which would do this.

As for explosion on impact, I have endeavoured to explode the mixture between hammer and anvil with no result. I can therefore reassure those readers who may have already injected some of the mixture into their tyres that it is not the simplest method of suicide.

PRAXIS.

The Coast Ride

[5748.]—Mr. Fred Dover has singled out the North-west of Scotland for special treatment in his account to you of his famous ride, and although we must regard Mr. Dover as a first-class humorist, some of his remarks seem to be taken somewhat seriously by you, and call for a reply from that benighted quarter.

But in the first place kindly allow me to state that the one hill which Mr. Dover failed to climb is not unrideable. He, no doubt, refers to Appagill Hill, near Tongue, Sutherlandshire, which he failed to surmount after sixteen or eighteen attempts, and was ultimately towed up by a donkey.

The road surface of this hill certainly presents a formidable obstacle to any machine which is incapable of climbing a severe gradient at a slow pace, as the rider has to pick his way through the loose gravel very carefully. However, given a suitable variably geared machine the ascent of the hill is quite a simple matter.

I started motor cycling ten months ago, and on my maiden trip I surmounted Appagill without any difficulty. Since then I have ridden over it regularly—often three times weekly—even when the hill was covered with snow.

Occasionally, I have had to dismount on the steepest portions to tighten a slipping belt, but never otherwise. That operation on my 3½ h.p. Zenith-Gradua, with the sliding back wheel, is a delightfully simple matter, and there is no difficulty in restarting on any gradient (start the machine downhill—put on free engine, turn machine round, and gradually engage the gear).

Fred Dover's account of his vicissitudes between Ullapool and Wick would be enough to scare away the existing generation of motor tourists, and incidentally deprive them of an acquaintance with that most romantic and interesting of Highland districts—the Reay country.

I am afraid, however, that in his troubled sojourn Mr. Dover has been unduly touched with the "romance." His tales have afforded us as much amusement as has his association with the donkey, but while he was treating your editorial ears to these stories of funeral processions, frightened natives, ostrich-like horses, etc., he, no doubt, was vigorously winking the other eye. It would be quite wrong for him to convey an impression that he is a pioneer in the remote Highlands, and, probably, he is surprised to find that *The Motor Cycle* finds its way to the village in which I reside, forty miles from a railway station, but had his famous trip been made even several years ago he might have met in these parts local "barbarians" mounted on Minervas, Excelsiors, and chain-driver Centaurs. My Zenith takes me on official duty, into every inhabited corner

in an area of 1,200 square miles, comprising the North-west corner of Scotland, and, far from being scared, the natives have always shown a most intelligent interest in the mechanism of my mount.

"The inhabitants have no idea of expedition as we know it." Oh, Mr. Editor! Does not *The Motor Cycle* circulate there? Has Fred Dover taught the potential motorists of the North-west or Scotland how the modern motor cycle can climb hills? Rather, has he not succeeded in demonstrating to them the utility of a donkey to the pastime? Happy thought, perhaps those runaway beasts of burden which hid their heads in the hedges knew something.

Now, Mr. Dover, don't be afraid again to venture into the North-west of Scotland, make Tongue a stopping place, and I will promise you a jolly evening, and with six yards of rope I will see you safely over Appagill in the morning.

Tongue, N.B.

P.L.

Sidecars and Change-speed Gears.

[5749.]—I must really reply to some of the keen sidecarists who replied to 5676 ("Never Again"), a letter I wrote.

5698 and 5719.—A two-speed Humber with a light sidecar and all superfluous weight kept down may not fail in districts where the roads are fairly level and the surface not too bad, but, in spite of the certain wonderful achievements quoted, cannot and should not, undertake long journeys in very hilly districts of 100 to 150 miles in a day with two up, or even one up and an empty sidecar. I had a 6 h.p. twin 1911 model, which had to be driven carefully in the teeth of a strong wind with the sidecar empty. But these light combinations are wonderful makeshifts.

5699.—Mr. Thomas does not state his gear, but I think he once admitted that it took six days, working eighteen hours per day, to take it off. Having been hard at work with gears (?) for three years, I should, perhaps, be less keen on the job than I used to be. And is he not one of the "push off up 1 in 6 with 650 pounds up" brigade?

5700 has evidently done well, but the Indian is sent out with no means of starting except by the old way, and no handle-bar control to the clutch.

5700.—I admit they are very fast and as reliable as most, but I have a prejudice. The gear itself has the glory of being the only gear box, except Chater-Lea, to resist a really powerful engine.

5701.—The Armstrong gear will perhaps solve the difficulty. Although it did well on small twins on the T.T. course, there is some difference in passenger work.

5718.—I can heartily sympathise with you. I was unfortunate to own the same machine as you evidently have. But, cheer up, you have still lots more trouble to find.

5717 has been very lucky, in spite of the laborious work and care bestowed on engine. If he can get up 1 in 4 with two up, or even with sidecar empty, on decent surface he has evidently done very well.

NEVER AGAIN.

Transport of Machines to the Isle of Man.

[5750.]—I should like to give my experience when visiting the Isle of Man, particularly regarding the transport of machines on the Isle of Man Steam Packet Co.'s boats. No provision or help is given in getting machines on board, or in stowing them when they are there.

On arrival at Fleetwood with a heavy 8 h.p. twin and sidecar I found a narrow gangway leading to the upper deck which was twenty feet above the quayside. There was no gangway to the lower deck, which was almost level. On enquiry I was told I had to get my sidecar aboard myself, the company's hands refusing to touch it.

The sidecar was detached, and with outside help was carried to the upper deck, and we were then promptly told to carry it down below. After protests it was got down. Then came the machine, which weighs 300 lbs. This also reached the upper deck, and we found a corner out of everyone's way into which it was stowed. In the meantime several other motor cyclists had arrived, some with and some without sidecars. On seeing this the captain came and insisted on my taking my machine down to the lower deck, stating as the reason that others would want to put their machines on the upper deck. I pointed out that if a gangway was put to the lower deck from the shore the others

could wheel their machines aboard without having to carry them up and then down again, but this was not done.

The other arrivals and I had a consultation, and we then approached the railway company, who own the dock, and got one of the large cranes at work, for which, of course, they had to pay. Though we had return tickets we preferred to forfeit them and travel back *via* Heysham. By this route the treatment was the exact reverse. We were assisted aboard at Douglas. All the help we needed (in fact there was no necessity personally to touch the machines) was cheerfully given in stowing and lashing them, and then they were carefully covered and could not possibly get damp or wet. These operations were done under the supervision of one of the chief officers. At Heysham, on arrival of the *Manxman*, the machines are lifted ashore by electric cranes complete without detaching sidecar, and a petrol store is close by where fuel is supplied by the Midland Railway Company.

On the return journey fifteen out of the twenty-two motor cyclists with machines aboard stated they had forfeited their return tickets rather than go back the other way, so I presume I was no more unfortunate than many others.

SIDECARIST.

Foreign Machines and English Riders.

[5751].—We have read with interest the last issue of *The Motor Cycle*, both literally and between the lines, and we have come to the conclusion that the fact of an American machine being so successful in the recent Tourist Trophy Race has been exceedingly painful to your editorial staff. It really is quite a pity that anything but a British-made machine should win this event; in fact, it really is not fair that any other country than England should exist in this large world, and if you are ready to start a crusade to oust all American stuff, let us know and we will be with you. It really is not right that all these British firms should be using American typewriting machines, it is not right that the biggest cycle and motor factories in the Midlands should be so fully equipped with American and German machinery. Nor is it right that British papers should utilise the wonderful inventions of the Germans and Americans to aid them in getting out quick copy.

I am sure that Godfrey, Franklin, and Moorhouse were most unloyal when they essayed to ride any other than a British machine. They have all got plenty of money, and there was no reason in the world why they should ride a machine which would bring them in the £ s. d. I feel sure they would have been perfectly satisfied had they ridden British machines and been amongst the "also rans."

What a pity it is that so many firms in the Midlands use German magnetos on their "all-British" machines. Why not get after them hot and heavy? Try and convince them that any old magneto will do as long as it is British. The same applies to tyres, and we certainly expect that next week you will get after the Humber Co. good and strong for daring to let any of their riders use a tyre which is not "all-British" make.

Keep up the good work. You will undoubtedly have our small contribution weekly for advertising space, and all this helps in the crusade. Let us reverse the socialist cry of "Britain for the British," and let us have "British for the Britons."

We cannot help but note with interest the winding up of your editorial article, and we hope to have the pleasure before long of hoeing a long furrow to your complete disgust. What we have done with twins we can do with singles. Just make a memorandum of this, as we may have to remind you of it a little later on.

THE HENDEE MANUFACTURING CO.
W. H. WELLS.

[So far as the first part of our correspondent's letter is concerned it deals with a letter written by Mr. A. C. Davison, and we must leave him to reply. Touching the last paragraph, this refers to our leading article last week, and we should like to point out that we made no sort of comment which could be translated into a feeling of disgust should the Americans do as well with the single-cylinder engine as they have done with the twin. We should like to ask our correspondent if he has forgotten the prominence given in our columns to his victory? We know of no other country in which a foreign victory would be thus impartially dealt with. We can mention this with good grace, as we do not parade it as a virtue but merely mention it as a characteristic.—En.]

CLIMBING THE WREKIN.

SEATED on the top of Shropshire's little mountain within a few hours of the close of the Midland Centre A.C.U. Hill-climb, we were one of a party who were discussing the events of the competition, when the sound of a well-tuned engine was heard, apparently in the valley below. Second thoughts, however, convinced us that the sound could hardly travel so far, and the motor cycle must be actually coming up the hill path. It proved to be I. B. Hart Davies on the warpath with his T.T. Triumph, and when he unconcernedly dismounted on the spot where the beacon fire recently informed the surrounding country that our King was crowned he told us that Howard Smith and Rupert May (two more enthusiastic Triumph riders) were not far behind. Those of our readers who have walked up the Wrekin on a hot day will know what it means to ride up on a motor bicycle. First there is a hairpin bend of the most atrocious description and a stiff climb over a loose surface to the halfway house; then follows a stretch of very slippery grass for some distance, followed by a rock-strewn path, culminating in a narrow gorge, where boulders protrude in all directions. Then there is an easy bit for a few yards across the grass track and another narrow path and more boulders.

The first climb was accomplished with a 5 to 1 gear by dismounting at the worst places and running alongside. Howard Smith adopted a different plan. He stopped about five times in all, and each time he went back a few yards and charged the obstruction like an American snow plough, and finally reached the top after a nasty fall. Those who know Rupert May's c.c. and resultant avoirdupois will not be surprised that he did not get beyond the halfway house, but that is a feat in itself.

Hart Davies was not satisfied with his performance, and after lunch he asked us to witness another attempt and to place witnesses at all the difficult points. The gear was reduced to 6½ to 1, and after two failures at the first of the two narrow gorges referred to he actually made a clean ascent of the hill. For the final attempt paper marks were used

to define the course to be taken to miss the boulders. Without this aid it is almost impossible to avoid striking them—in fact, Howard Smith had a nasty fall in the morning through hitting one at speed. When it is considered that he had no clutch or pedals, and that he weighs 14 stones 5 lbs., the feat is a surprising one, and, although others will doubtless emulate this hardy rider's performance, Hart Davies is the first to go clean up the Wrekin without a stop. We have the names and addresses of all witnesses at the important points.



Manchester Motor Club Hill-climb at Heyden Bridge. Weighing and inspecting the competitors' machines.

COVENTRY TO BATH AND BACK.

Twelve Hour Trial for Coventry Club Championship.

THE club championship event of the Coventry and Warwickshire Motor Club was held last Saturday, and took the form of a twelve hours' reliability trial to Bath and back—a distance of approximately 200 miles. A start was made at 7.0 a.m., Mr. A. J. Urry acting as timekeeper, and Messrs. J. V. Pugh, H. W. Staner, and V. A. Holroyd chief marshals. Competitors were despatched at half-minute intervals, and journeyed *via* Kenilworth, Warwick, Stratford-on-Avon, Bidford, Evesham, Tewkesbury, Cheltenham, Birdlip Hill (non-stop section), Stroud, Nailsworth, Crosshands, Cold Ashton, Bath. The rules stipulated that competitors should average twenty miles per hour throughout, and timed route cards were made out accordingly. H. Williamson (Rex), W. W. Douglas (2½ h.p. Douglas), and Roy W. Walker (New Hudson) did not start. At Cheltenham, Mr. P. Williams had arranged for the ubiquitous boy scouts to direct the riders through the town.

The first check was at Birdlip Hill, and up to this point the competitors ran most consistently, but this famous Cotswold acclivity proved a serious stumbling block, and rendered the task of finding a winner much easier. Mr. P. Currall and others observed the competitors at this point. B. S. Gorton (3½ h.p. Rex) was geared too highly and stopped, but the reason given by T. C. Pearson (3½ h.p. Triumph) for his stop in the middle of the hill, viz., that he imagined he was at the top, was, to say the least, distinctly humorous. E. A. Gorton (7 h.p. Rex) complained that he was impeded by another motor cyclist, and undoubtedly made the fastest ascent at the second attempt. Other failures due to over-gearing were: D. Elson (Triumph), G. Van Vestrant (3½ h.p. Rover), J. H. Pountney (3½ h.p. Rover), J. R. Haswell (3½ h.p. Triumph), and E. A. Isherwood (Triumph).

A timed check had been arranged at the hill summit, but the official car—a 15 h.p. Singer, kindly lent by Mr. J. D. Blakemore—bearing the timekeeper, was delayed by tyre troubles.

The next section to Bath, over extremely dusty roads, proved the most trying, but all arrived close to time at the Wallace Garage, Bath, where Mr. H. W. Duret was in charge. Here T. C. Pearson and C. S. Burney arrived exactly on time. Troubles were few, and the trial was voted most enjoyable. G. Van Vestrant arrived 14m. late owing to a puncture, and retired.

The Return Journey.

After an excellent lunch at the Royal York House Hotel, one and a half hours being allowed, a move was made for home. A. L. Ommoney found a puncture in his tyre, and was late starting. The first timed check was at the summit of Birdlip, and it was interesting to observe the keen manner in which the contest was being fought out. Watch in hand,

a competitor would wait outside the control, counting the seconds as they passed. J. R. Haswell and G. Smith were nearest at his point with but 3s. error. C. S. Burney, who had not lost a second to Bath, had apparently made a miscalculation, for he was 7m. 15s. slow, after whiling away the precious time almost within sight of the check.

A halt of 30m. was allowed for tea at the Royal George Hotel, and on the last section a secret check was announced. Competitors crawled along for mile after mile dead to schedule until a mile from Tewkesbury, when Messrs. Urry and Hardy were espied in the hedge bottom lurking behind a milestone. David Elson was nearest with but 7s. error, B. S. Gorton being next with 54s. This was the last of the intermediate checks, competitors scurrying home to make sure they arrived to time. The finish was exceedingly close, D. Elson again being first, despite a couple of punctures *en route*, so that his failure on Birdlip must have been a bitter disappointment. The official results are given hereunder. The winner—Geoffrey Smith, of *The Motor Cycle*—takes the fifty guinea challenge cup presented by the proprietors of that journal, and won by the Coventry Club in the M.C.C. Team Trials three years ago, as also a ten guinea silver cup presented by the Triumph Cycle Co., Ltd. Second, gold medal, value £5 5s., presented by Humber, Ltd. Third, club gold medal. Fourth, silver cigarette case, presented by the Rex Motor Manufacturing Co., Ltd.

DEVIATION FROM SCHEDULE SPEED OF 20 M.P.H.

Name of Rider and Machine.	Bath.		Birdlip.		Secret Check.		Finish.		Total Error.
	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	
1. Geoffrey Smith (3½ Triumph)	30	3	1	6	18	1	57		
2. A. Elson (3½ Triumph)	30	15	55	22	2	2			
3. G. T. Mills (3½ Triumph)	1	0	2	3	31	31	7	4	
4. S. Wright (3½ 2-speed Humber)	1	0	2	0	5	15	55	0	10
5. C. S. Burney (3½ Rudge)	nil		7	15	7	16	1	5	15 36
6. A. L. Ommoney (3½ Rudge)	2	30	7	45	8	27	1	8	19 50
7. R. Lord (3½ water-cooled Rex)	3	0	8	24	8	8	1	5	20 37

The under-mentioned motor cyclist competitors failed on Birdlip at the first attempt, but will be awarded souvenirs, as they did not vary more than ten minutes from schedule at any of the checks.

Name of Rider and Machine.	Bath.		Birdlip.		Secret Check.		Finish.		Total Error.
	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	m. s.	
T. C. Pearson (3½ Triumph)	nil		3	33	1	10	45	5	28
B. S. Gorton (3½ Rex)	30	7	52	54	50	10	12		
E. A. Gorton (7 Rex)	1	0	9	22	1	41	1	26	13 29
D. Elson (3½ Triumph)	15	2	56	7	3	21			
J. R. Haswell (3½ Triumph)	3	0	3	8	41	5	0	16	44
E. A. Isherwood (3½ Triumph)	1	30	17	1	59	21	4	7	
H. Nelson Smith (25 Hillman car)	1	30	50	2	19	30			5 18

J. H. Pountney (3½ Rover) exceeded time limit at finish.

G. Van Vestrant (3½ Rover) was 14 mins. late at Bath and retired.



Survivors of the Coventry and Warwickshire M.C. 200 miles trial to Bath and back, held on Saturday last.

CURRENT

CHAT

SPECIAL FEATURES.

ROUTE FOR THE SIX DAYS TRIALS.
Description and Illustrations.

TENDENCY OF DESIGN.

B.M.C.R.C. MEETING AT BROOKLANDS.

Half-yearly Index

An index to *The Motor Cycle* for the first half of the current year is now ready, and a copy may be obtained by forwarding 3d. in stamps to our publishing offices.

Police Traps.

Another police trap is being worked on the Pinner-Rickmansworth Road. It is slightly downhill, and very little traffic passes over the road in the daytime. The convictions are numerous.

The Interest in the T.T.

The Dutch motor cyclists who came over specially for the T.T. Races enjoyed themselves immensely. A letter of thanks from the hon. sec. is published in our Correspondence pages.

Convalescents in the Isle of Man.

Readers will be pleased to hear that T. L. Rankin and A. J. Stevens, who are at the Cottage Hospital, Ramsey, Isle of Man, are both well on the way to recovery. Rankin was ready to go home last Monday, but Stevens will be there for some two or three weeks yet.

Putney Bridge Traffic Census.

In taking the Seventh Annual Traffic Census on Putney Bridge lately, organised by H. H. Griffin for our contemporary *Motor Traction*, there was a great increase in motor cycles over the previous year, and with regard to forecars and sidecars, the latter predominated, there being only a few instances of the former method of carrying a passenger. The total showed 1,157 motor cycles and 78 with passenger attachments.

T.T. Donation to Ramsey Hospital.

£30 has been contributed by motor cyclists visiting the Isle of Man towards the funds of the Ramsey Hospital, writes Mr. J. R. Nisbet. The following are details of the subscriptions:

Collected by Mrs. W. G. Aston:	
July 4th, in Douglas	... £12 11 10½
July 5th, on steamer to	
Liverpool	... 4 5 3
Mrs. Mary Ann Spibey	... 5 0 0
	£21 17 1½
Collected by Miss Brooker:	
July 4th, in Douglas	... 1 17 0
Donation from Hotel Sefton	
sweepstake	... 5 0 0
A. N. Other	... 1 5 10½
	£30 0 0



Circuit of Britain Flying Race.

In connection with the flying race round Britain for the £10,000 prize offered by the *Daily Mail*, our contemporary, *The Aero*, is issuing a 12 page booklet which contains a map of the course, a full list of the entrants, their order of starting, the make of machines and the nationality, and a short biography of the pilots, together with scoring sheets for each section of the race, in which those who are interested can fill in the times at which the flying men arrive at and leave the various controls. A copy of this booklet will be sent free of charge to any reader of *The Motor Cycle* who makes early application to the proprietors, *The Aero*, 20, Tudor Street, E.C.

A.C.U. (MIDLAND CENTRE) HILL-CLIMB AT MUCH WENLOCK.



H. C. Newman (3½ h.p. Ivy-Precision) travelling well. By the time he reached this point he had left all his opponents except W. F. Newsome.

TIME TO LIGHT LAMPS.

July 20th	...	9.5 p.m.
" 22nd	...	9.1 p.m.
" 24th	...	8.57 p.m.
" 26th	...	8.54 p.m.

Auto Cycle Union News.

PROTESTS.—At the Competitions Subcommittee, on the 13th inst., the protest lodged by C. R. Collier against the T.T. winners was not upheld.

MEMBERSHIP.—205 touring members were elected, and nine full members.

AFFILIATION.—The following clubs were affiliated: Torbay and District M.C.C., Tunbridge Wells and District M.C.C., and Mansfield and District M.C.C.

COUNCIL MEETING.—The date of the next council meeting is suggested some time in October, and the Midland Centre have written suggesting the Friday before the Quarterly Trials, and that it be held somewhere in the Birmingham district.

QUARTERLY TRIALS.—H. G. Cove has suggested that the October Quarterly Trials course should take the south-west direction, so as to include Bristol.

CLASS RECORDS.—The following class records were passed: Class C.—Fifty miles, 48m. 37s., G. E. Stanley (Singer), at Brooklands, June 21st. Class E.—Flying kilometre, 26½s.; flying mile, 41½s.; and flying five miles, 3m. 43s., Jake de Rosier (Indian), at Brooklands, July 8th.

Scottish Six Days' Trial.

Thirty-six entries have been secured for the Scottish Trials which will start from Edinburgh on Monday next under the control of the Edinburgh and District M.C. Fifteen of the machines are twin-cylinders and twenty-one single-cylinders. There are only two passenger machines, both sidecars. Widespread interest is being taken in the event.

The P. & M. Toolbagless Trial.

Motor cyclists will sympathise with W. Pratt, who was compelled, through no fault of his own, to abandon his self-imposed task of riding 1,000 miles in six days without opening his toolbag. He had covered 600 miles, and reached Seven Springs *en route* for Gloucester, without misadventure on Thursday last when he encountered a young colt, which was being broken in on the high road. Pratt was riding at a moderate speed, and had to take the bank to avoid the colt's heels. He was thrown off and bruised and shaken, his machine being too badly smashed to enable him to continue.

Sutton Coldfield Speed Trials.

The second annual speed trials took place last Monday morning in Sutton Park. There was a large number of spectators present who enjoyed the sport. Results:

CLASS I. (for lightweight singles 300 c.c., twins 345 c.c.)—First on formula, J. J. Woodgate (2½ Singer); second, H. C. Newman (2½ Ivy-Precision); third, H. V. Colver (2¾ Enfield).

CLASS II. (for single touring machines up to 600 c.c.)—First on formula, C. Roper (3½ Ivy-Precision); second, H. C. Newman (3½ Ivy-Precision); third, A. P. Ansell (3½ Ivy-Precision).

CLASS III. (for T.T. machines).—First on formula, Jack Woodhouse (Dot-Precision); second, Frank Magee (3½ Triumph); third, K. Clark (3½ Corah).

UNLIMITED CLASS (for any type of machine).—First on formula, J. J. Woodgate (2½ Singer); second H. Pickering (2½ A.J.S.); third, N. Kickham (2½ Douglas). There were two unfortunate accidents. G. A. Swinger colliding with a non-competitor, and later a car full of passengers was overturned.

Transporting Motor Cycles to the Isle of Man.

In our letters columns a motor cyclist this week ventilates a serious grumble as regards the arrangements for shipping and transshipping motor cycles on the Isle of Man boats. It appears that an electric crane is used at Heysham. Would that the Isle of Man Steam Packet Co. would follow the Midland Railway Co.'s example.

days' instruction in camp immediately prior to the manoeuvres. Motor cyclists who are interested should communicate with the secretary, A.A. and M.U., Caxton House, Westminster, S.W.

Speed Trials at Clipstone.

At the Nottingham Club's speed trials at Clipstone last Saturday, J. D. Mitchell (Triumph) won the single-cylinder class, F. P. Johnson (5 h.p. Matchless-Jap) being successful in the twin class.

A Coincidence.

A motor cyclist passing through Epping Town pulled up to see to something that had gone wrong. Another motor cyclist pulled up, offering help. A policeman noticed that both numbers were alike, and asked for their licences. One man produced his. The other stated that he had left his at home.

A Surfeit of Six Days' Records.

On Monday, the 17th inst., at 12 a.m., a rider of a 3½ h.p. Rudge, A. W. Brittain, of Buxton and Cambridge U.M.C.C., left Buxton in an attempt on the six days' record. The records received at our office show that he had completed 372 miles by teatime. On Salisbury Plain he suffered a bad cut in the back tyre and retired.

Another rider, J. Guzzwell, is to make a similar attempt on a 3½ h.p. Triumph, starting next week.

Next Saturday's Quarterly Trials.

The following entries have been received for next Saturday's A.C.U. Quarterly Trial: H. Mason (4 Matchless), A. Keen (5 A.C.), A. Hill (3½ Rudge), E. Ware (8 Chater-Lea and sc.), E. Merrall (3½ P. and M.), G. Bell (3½ New Hudson), A. G. Dixon (3½ New Hudson), B. Cooper (3½ Premier), P. Hall (3½ Bradbury), H. McManus (3½ Scott), F. Smith (5 Clyno and sc.), G. B. Hall (4 Matchless), F. Wasling (2¾ Enfield), C. Burney (3½ Rudge), A. J. Stevens (2½ A.J.S.), J. Stevens (2½ A.J.S.), J. Henderson (3½ Precision), K. Bates (3½ Scott), W. Applebee and L. Clark (3½ Dene-Precisions), L. Rosenvinge (3½ Ariel), J. Wood (3½ Dene-Precision), J. Baty (4½ Dene-Precision), and R. Spencer (3½ Bradbury). The start is from Newcastle-on-Tyne.

FUTURE EVENTS	
July 22—A.C.U. Quarterly Trial (Northern)	
.. 22—Torbay and District M.C.C. Open Hill-climb	
.. 22-23—Bradford M.C.C. Open Reliability Trial to Dunbar and back.	
.. 24-29—Scottish Six Days' Reliability Trial	
.. 29—Bradford M.C.C. Third Annual Open Hill-climb.	
.. 29—R.A.C. Associates' Gala Day at Brooklands. Cars and motor cycles.	
.. 29—Exeter and District M.C.C. Open Hill-climb.	
Aug 7-8—Dublin and District Open Two Days' Reliability Trial.	
.. 14-19—A.C.U. ANNUAL SIX DAYS' RELIABILITY TRIAL. HARROGATE AS A CENTRE.	

Military Motor Cyclists.

The War Office has again requested the A.A. and M.U. to furnish a contingent of motor cyclists to do duty with the Directing and Empire Staffs during the forthcoming army manoeuvres (September 16th-26th). The rates and allowances, etc., by the War Office will be the same as last year, viz.: (a) Third-class railway fares for cyclists, and rail conveyance for their motor cycles between their homes and the manoeuvre area. (b) Cost of messing whilst in camp, or payment of bills for food and lodging at hotels. (c) Special allowance of six shillings and sixpence per diem, not including days on which train journeys are performed, to cover cost of petrol and up-keep of motor cycle, including insurance of machine against accidents. It is proposed, as last year, to arrange a two



MONDAY MORNING'S SPEED TRIALS OF THE SUTTON COLDFIELD A.C.
C. Roper (3½ h.p. Ivy-Precision) winner of Class II. (See results on this page.)

THE B.M.C.R.C. MEETING.

Some Excellent Racing. De Rosier narrowly beats C. R. Collier.

THE B.M.C.R.C. Meeting at Brooklands on Saturday was favoured with ideal weather. The sun was for once in a way hidden behind clouds, and the cool breeze blowing from the North-east made the fork a much more endurable point of vantage than it generally is. Sufficient publicity had been given to the de Rosier-Collier match to attract support from the general public, and the crowd at the fork was quite the best we have ever seen at any purely motor cycle meeting at Brooklands.

The programme opened shortly after three o'clock with the first de Rosier-Collier match. This tussle between the national champions was spread over three separate events, namely, $5\frac{1}{2}$ miles, $13\frac{1}{2}$ miles, and 27 miles, any two out of the three matches deciding the winner. The men were given a rolling start and mounted their machines below the fork at the point where the big banking flattens out towards the finishing straight. They toured along towards the fork

tank. It became clear that, whatever the Matchless might be doing, the Indian still had something in hand, and de Rosier was evidently so confident in the ability of his mount that he could let his opponent do a little pacemaking for him. Again coming from the bridge the Englishman was several lengths in front, but halfway along the railway straight the American had drawn level. After passing the aeroplane sheds the two machines seemed to merge into one, but the hope of England was dashed to the ground as they rounded the curve, for it could be seen that the white-jerseyed Collier was acting as a background to the crouching leather-covered Jake. With a roar and a whizz they flashed over the finishing line, de Rosier winning by about a length after probably the most exciting race on record.

Jake de Rosier's performance was as follows: Time, first lap, 2m. $4\frac{1}{2}$ s.; time second lap, 1m. $58\frac{3}{4}$ s.; total time, 4m. $2\frac{1}{4}$ s.; speed 80.59 m.p.h. Collier was $\frac{1}{8}$ s. slower.

Specification: J.A.P.
twin engine, overhead
valves, 90 mm. \times 77.5
mm.—985 c.c. capacity.
Tyres: Extra heavy
 $26 \times 2\frac{1}{2}$ in. Hutchinson.



CHARLES R. COLLIER,
the British Champion,
mounted on the Match-
less-Jap on which he
contested a series of
three races against the
American Champion.

abreast of the official car, in which stood Mr. Ebbelwhite armed with a red flag. This was dropped a few yards on the hinder side of the starting line, and away the machines went, crossing the line very close together. This principle of starting was employed in all the international matches, and proved very successful, as it entirely prevented the more athletic capabilities of the rider from affecting the issue of the race. C. R. Collier was riding his red Matchless twin with 90 mm. bore by 77.5 mm. stroke (985 c.c. capacity), whilst de Rosier bestrode his Indian "No. 21." 994 c.c.

In the first match Collier was first over the starting line, with Jake hard upon his wheels. Up the hill the Englishman at once commenced to establish a promising lead, probably due to the use of a rather lower gear. Sweeping on towards the Byfleet banking with the wind almost directly behind them, there was scarcely any perceptible space between the two machines. Turning into the fork, it was seen that Collier was a little in front, and about a length and a half separated the men at the completion of the first lap. From the way in which de Rosier rode, he adopted a far more erect position than C.R., who crouched right down on his

Ten Laps Scratch Race.

The second race was a ten lap open scratch race for 500 c.c. engines, and brought out six starters—A. Baker-White (Trump-Jap), W. F. Guiver (Kerry-Abingdon), F. A. McNab (Trump-Jap), W. A. Oldman (Zenith Gradua), G. E. Stanley (Singer), and R. N. Stewart (Trump-Jap).

Oldman was quickest away, and, thanks to his gear, was easily leading the field until the railway straight was reached. Here, Stanley, travelling very well, got in front, followed by McNab and Baker-White.

The end of the first lap found Stanley leading McNab by fifty yards, with Baker-White third by a similar distance.

The same positions were maintained at the conclusion of the second circuit, except that Oldman passed into third place by picking up Baker-White, whose valve lengthened.

The same order was maintained until the end of the race. Stanley lengthened his lead over the giant McNab to 120 yards in the third lap, but failed in the next seven circuits to increase it any further, while Oldman gradually got further and further behind McNab.

The B.M.C.R.C. Meeting.—

Stanley completed the distance (about twenty-seven miles) in 27m. 5½s., McNab in 27m. 9s. and Oldman in 28m. 49½s. Winning speed, 60.31 m.p.h.

Collier Wins the Second International Match.

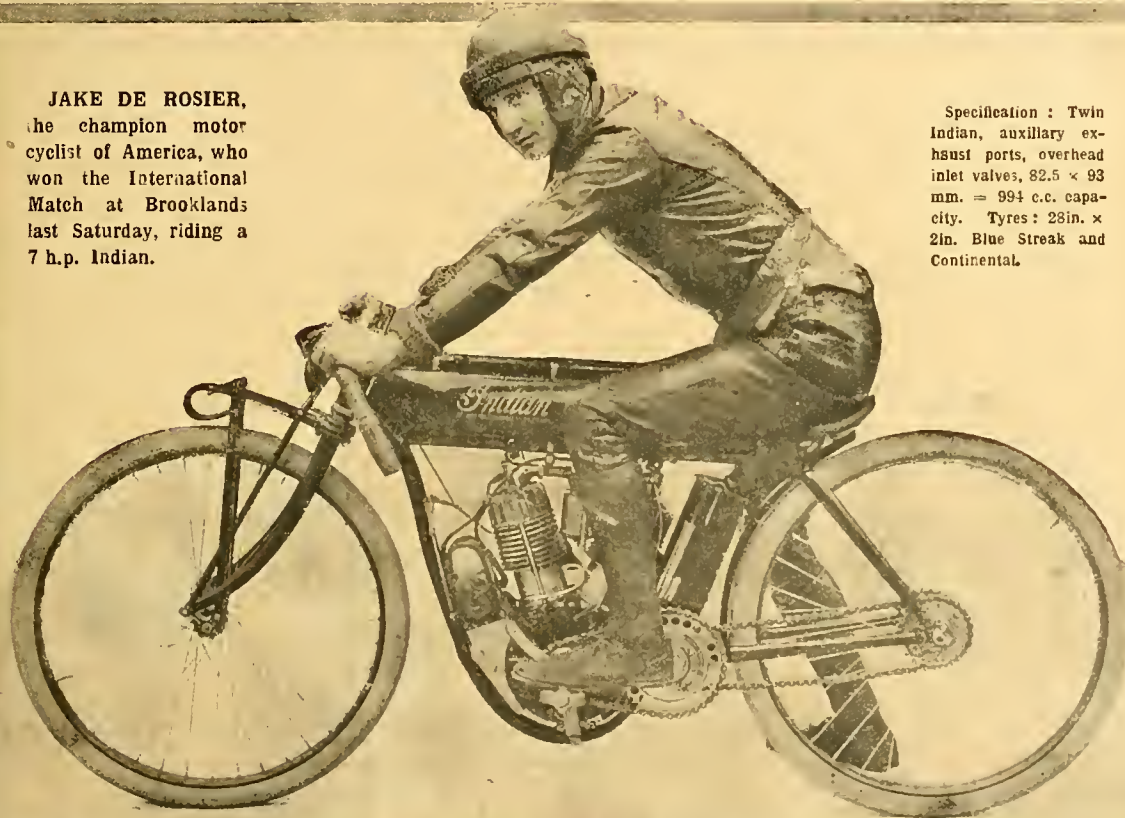
The third event was the second de Rosier-Collier match over five laps, equal to about thirteen and a half miles.

As before, the lead which Collier managed to get against the wind and up the hill was neutralised before half a lap was gone. The completion of the first lap found de Rosier hanging a wheel's diameter behind the leader. The second lap found the position entirely unchanged, but the see-saw struggle behind the hill was repeated once more. In the middle of the third lap a tremendous shout was raised when it was seen that de Rosier was stopping, and that Collier had flashed out of sight behind the sheds ere his rival had reached the Byfleet banking. Collier completed his third lap amidst ringing and enthusiastic cheers, and hardly slackening his speed held on two more laps, and crossed the line an easy winner, thus making the match "all square."

	m.	s.
O. C. Godfrey (7 Indian)	scr.
J. T. Bashall (4 Bat)
W. H. Bashall (4 Bat)
C. G. Garrard (4 Blumfield)
S. A. Denman (4 Bat)	1 35
H. Hunter (4 Bat)
A. J. Luce (4 Bat)
G. E. Stanley (3½ Singer)	2 15
F. A. McNab (3½ Trump)	2 30
R. N. Steward (3½ Trump)	2 55
A. Baker White (3½ Trump)
H. Martin (2¾ Martin)	3 15
W. A. Oldman (3½ Zenith)
H. S. Powell (3½ Trump)	3 25
F. G. Flanders (3½ Triumph)
W. F. Guiver (3½ Kerry-Abingdon)	4 30
A. G. Jephcott (2½ Singer)
G. L. Temple (2½ Singer)	9 20
R. J. Bell (2 M.R.)

JAKE DE ROSIER,
the champion motor
cyclist of America, who
won the International
Match at Brooklands
last Saturday, riding a
7 h.p. Indian.

Specification : Twin
Indian, auxiliary ex-
haust ports, overhead
inlet valves, 82.5 x 93
mm. = 99½ c.c. capa-
city. Tyres : 28in. x
2in. Blue Streak and
Continental.

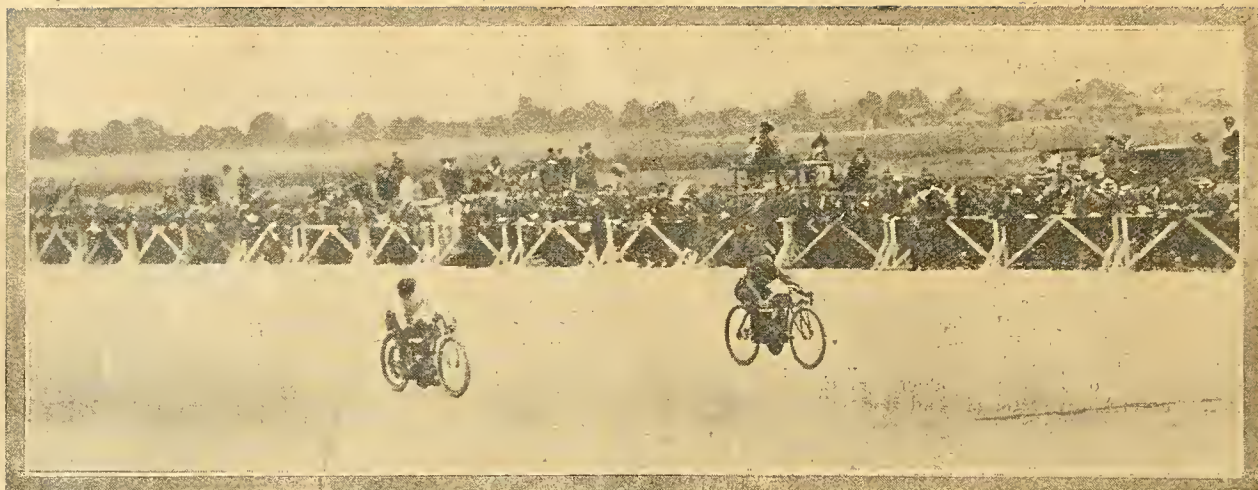


Shortly after he had finished the American came ambling nonchalantly in on the rim, with the front cover hanging on the fork stay and the shreds of what had once been an inner tube flapping in the breeze. When the crowd realised what had happened it awarded de Rosier the mighty cheer his pluck and cleverness deserved. Flying along the railway straight at what must have been only a fraction under ninety miles an hour, a small stone had pierced his front tyre, with the result that it was flat in a second or two. That the rider managed in such circumstances to keep on his machine speaks volumes for his nerve and resource, but how he managed it will remain a mystery. On his arrival willing knives hacked the cover off, but, unfortunately, no spare was to hand, and accordingly it was arranged that de Rosier should use Godfrey's front wheel after the conclusion of the next race. Collier's time was 10m. 12s. and speed 79.9 m.p.h.

The All-Comers Open Handicap brought forward the following starters :

The star performer was Godfrey from scratch. Getting away in his best style, he was soon up to his old game of overhauling the field, and one by one they fell behind him. The T.T. winner takes a different line from anybody else in coming down past the fork, as he cuts across quite close to the extreme outer edge of the track, thus giving the lap scorers a sensation in the way of speed, as he nips along literally under their noses, and in doing so appears to leap about in an alarming manner. This, however, is more or less of an optical delusion, as directly he is "end on" again his steadiness is obvious enough.

Godfrey's speed proved to be too hot for the others, and his lap scorer was given plenty to do in recording the circuits he was reeling off. He passed his last rival on the big banking, and roared home an easy winner by 17s., with Martin second, and McNab a close third, 20s. behind the winner. Gross time, 20m. 17s.; nett time, 10m. 57s.; speed, 74.46 m.p.h.



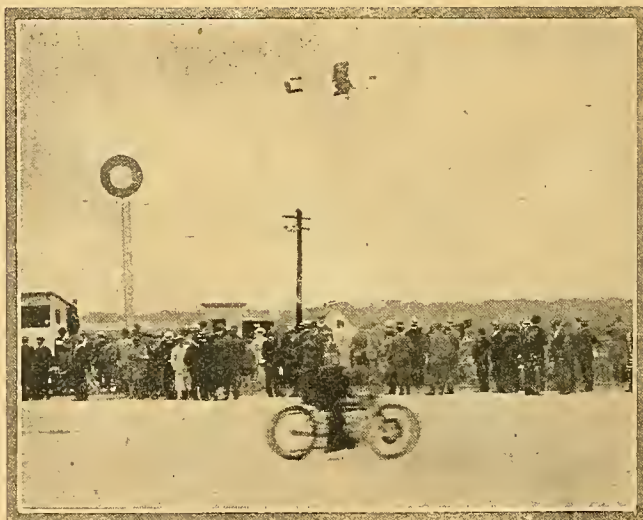
C. R. Collier (England) and Jake de Rosier (America) starting in the second International race.

Now came the great deciding match of the international contest, this time over a distance of ten laps (about twenty-seven miles). Excitement ran high, as it was thought that, although Jake had the faster machine, Collier's possibly better staying powers might wear him down, and odds of 5 to 4 on Collier were freely offered and taken. Godfrey's 2in. Continental tired wheel was soon in the place of de Rosier's battered rim. The first start was a false one owing to Jake experiencing some ignition trouble. The magneto carbon brush was eventually found to be at fault, and on the insertion of a new one everything went all right.

The starting line was crossed with C.R. three lengths ahead of the Indian, but Jake finished the first lap a wheel ahead of his opponent, only to drop back again behind the aeroplane sheds. The second lap found Collier just in front with de Rosier so close at his side that the riders might have shaken hands. A lap later de Rosier was ahead by over two lengths, but on the straight Collier picked up this distance and as much again by the railway, and covered the half-mile in 21½s. He was still leading at the end of the fourth lap, and seemed to be going so well that hope that England would annex the honours ran high. The worst of bad luck, however, was to come along, for shortly after completing the half distance his handle-bar switch jumped into the "off" position, and to the accompaniment of a gasp of dismay C.R. slowed down with a puzzled look on his face. A few seconds sufficed to locate the trouble, but they were fatally long ones, for already Jake was half a mile ahead of him and going as strong as ever. Collier got his machine going magnificently, and on completing the sixth lap was given a roar of encouragement from the crowd, but his position was now seen to be hopeless. Jake, leaving nothing to chance, hammered along at a tremendous speed, and Collier was never able to make up so much lost ground.

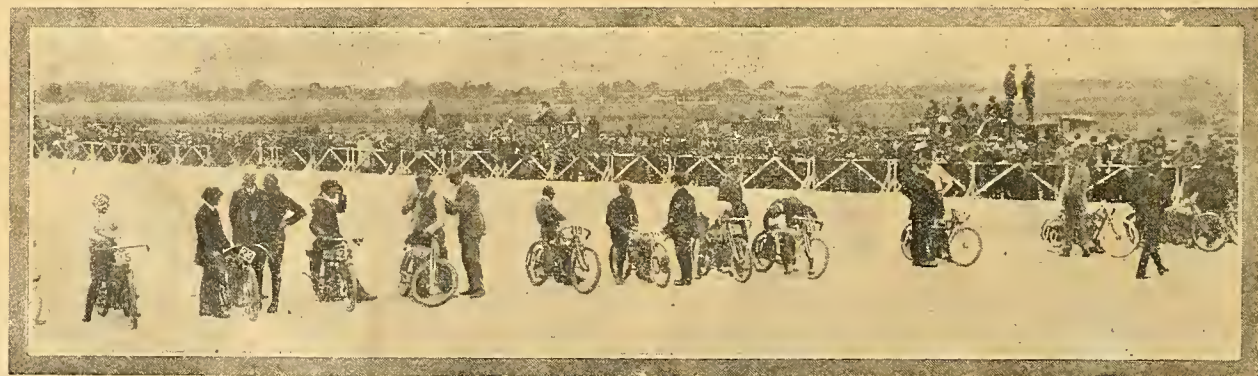
De Rosier crossed the line amid great enthusiasm, willingly accorded by an admittedly partisan crowd for his fine per-

formance and equally so for the thoroughly sporting conditions of the match. Jake accordingly wins the purse of £130, with added money, and there is none who can say that he does not deserve his triumph.



Scene during the ten lap race. A Bristol biplane over the heads of the spectators.

The winner's time was subsequently announced as 20m. 44½s. Speed, 78.64 miles per hour. Collier was 20s. slower.



The line-up of competitors in the All Comers' handicap. The greatly improved attendance will be noted.

A.C.U. (Midland Centre) Open Hill-climb.

ON Saturday last Harley Bank, near Much Wenlock (Salop), was again the venue of the open hill-climb promoted by the Midland Centre of the A.C.U. The nine clubs comprising the centre, of which the hon. secretary is Mr. Harold C. Pickering, had secured an excellent entry as will be seen from the names of the contestants in the list of results, and it was again decided to run off the events on the "knock-out"



At the rendezvous, Much Wenlock.

principle. The competitors started in pairs; the winner of each pair met in the following heats until the victor alone survived. Inside position (left hand) was tossed for, and the ordinary rule of the road enforced. Competitors had to allow at least three machine lengths before cutting into inside position.

The finishing point was about forty yards lower than it was last year to minimise any chance of accident at the last bend, which curves rather sharply to the right; no spill occurred here, but Reg Edwards ran into the bank at the bend below when endeavouring to pass H. C. Newman in the second round of Class E, fortunately without serious injury to himself or machine.

The competition was advertised to start at 2 p.m., but it was nearly an hour later when the lightweights opened the ball, and delays were rather lengthy, chiefly due to the facts that the hill is on an important main road between Shrewsbury and Worcester, and ordinary traffic had to be considered, and the foolish behaviour of a number of non-competitors who rode up and down the hill for no other apparent purpose than to show they could get up at touring speeds. The organisation cannot be blamed for this, but spectators, and in some cases competitors should remember that these events are held to provide an afternoon's sport for the majority, and their conduct is an impediment to future permission being obtained.

Some Exciting Duels.

Some particularly fine racing was witnessed in all the classes, especially in the long straight stretch before the bad bend near the summit; on this straight many of the races were won or lost, as a competitor who lost his position before the bend seldom regained it, but had to take his rival's "back wash" in the form of dust. There were close finishes in Class D between Ashley (Triumph) and Edmond (Premier); in Class E, Evans (Triumph) and C. T. Newsome (T.T. Rover) rode almost a dead heat. Woodhouse had entered in the 500 c.c. touring class, but the judges would

not pass his Ivy-Precision mount, as it had rigid forks and a dropped racing handle-bar.

Newman's performance is worthy of special notice, as he handled his $3\frac{1}{2}$ h.p. Ivy-Precision with masterly skill in Classes D and E, beating Roper on another $3\frac{1}{2}$ h.p. machine of the same make in Class D, and after a close finish with the redoubtable W. F. Newsome (Triumph) he landed home his T.T. Ivy-Precision first in the event for Senior T.T. mounts.

Newman, who is an exceedingly clever rider, wore a racing helmet. His engine had a flexible tubular connection between the crank case and the Amac carburetter, which gave a forced feed to the jet and helped to vaporise the petrol. A tap was provided close to the exit of the pipe from the crank case, and the pipe union was fitted over the timing gear cover. Newman is 23 years of age and weighs nine stones. An objection was made to his engine at the close of the competition, but on the cylinder being removed it was found to be within the size permitted. Newsome rode the same machine he used in the Isle of Man. E. J. Bolton had an Amac carburetter on his Indian, which is unusual.

In the twin lightweight touring class Evans (Humber) and Colver (Enfield) were making a fine race of it till the bend, when Evans appeared to miss the change and lost ground.

In the variable gear class riders had to bring their road wheels to a standstill between two lines, and then to restart. This test was carried out on one of the steepest parts of the hill, and as the men rode in pairs it was additionally instructive. Colver (Enfield) was very smart in stopping and getting away, but had good runners up in R. W. Duke (Zenith Gradua) and G. Patterson, jun. (New Hudson). Those who overshot the line were allowed to restart from between the lines provided they did not stop their engines. The meeting was not over until after seven, and many spectators and competitors in the earlier events had by that time gone home.

Results.

CLASS A.—Single-cylinder lightweights not exceeding 300 c.c.

1st Round.—H. C. Newman ($2\frac{1}{2}$ Ivy-Precision) beat G. Bell ($2\frac{3}{4}$ New Hudson).

2nd Round.—J. D. Corke ($2\frac{1}{2}$ A.J.S.) beat H. W. Mahler ($2\frac{1}{2}$ Levis, two-stroke).

Final.—Corke beat Newman (Newman's engine refused to fire at start, terminal detached from plug).

CLASS B.—Twin-cylinder lightweights not exceeding 350 c.c.

1st Round.—H. G. Dixon ($2\frac{3}{4}$ New Hudson) beat H. J. Cox ($2\frac{3}{4}$ Forward).



H. J. Cox (Forward) and H. Graham Dixon (New Hudson) starting in the first round of Class B of the Wenlock Edge Hill-climb. H. G. Dixon won.

2nd Round.—H. V. Colver (2½ Enfield) beat P. J. Evans (3 Humber).

Final.—Dixon beat Colver.

CLASS D.—Single-cylinders not exceeding 500 c.c.

1st Round.—R. W. Ashley (3½ Triumph) beat F. G. Edmond (3½ Premier); R. W. Duke (3½ Zenith) beat P. E. Tolfree (3½ Matchless); B. A. Hill (3½ Rudge) beat S. H. Davis (3½ Rex); C. Roper (3½ Ivy-Precision) walk over.



C. Roper (Ivy-Precision) in the second round of Class E in the Wenlock Edge Hill-climb. He overtook and passed W. D. South (Triumph) on this bend at a great speed, afterwards nearly fouling the bank, scattering spectators in all directions.

2nd Round.—Duke beat Ashley; Roper beat Hill. Byes: H. Riddell (3½ Blumfield) walk over; S. Crawley (3½ Triumph) beat A. Clarke (3½ Dene-Precision); H. C. Newman (3½ Ivy-Precision) beat K. Holden (3½ B.S.A.); S. C. Perryman (3½ Calthorpe) walk over.

3rd Round.—Roper beat Duke; Crawley beat Riddell; Newman beat Perryman.

Semi-final.—Roper beat Crawley.

Final.—Newman beat Roper.

Tourist Trophy and Racing Machines.

CLASS C.—Singles and twins, Junior T.T.

1st Round.—H. G. Dixon (2½ New Hudson) beat C. Keyte (2½ Enfield); F. Smith (2½ Enfield) walk over.

2nd Round.—Dixon beat Smith. Byes: H. Cox (2½ Forward) beat H. V. Colver (2½ Enfield); P. J. Evans (3 Humber) beat J. Dudley (2½ Hobart); G. Patterson (2½ New Hudson) beat A. J. Stevens (2½ A.J.S.).

Semi-final.—Dixon beat Cox; Patterson beat Evans.

Final.—Patterson beat Dixon.

CLASS E.—Singles and twins, Senior T.T.

1st Round.—W. R. Jones (4 Ixion-Jap) beat P. Brewster (3½ Norton); J. W. Woodhouse (3½ Dot-Precision) walk over; G. Potts (3½ Triumph) beat F. P. Mayell (3½ Triumph); P. J. Evans (3½ Triumph) beat C. T. Newsome (3½ Rover); S. Crawley (3½ Triumph) beat R. N. Corah (3½ Corah); W. F. Newsome (3½ Triumph) walk over; J. H. Slaughter (3½ L.M.C.) beat V. G. Underhill (3½ Norton); W. Creyton (3½ Triumph) beat A. Clarke (3½ Dene-Precision); H. C. Newman (3½ Ivy-Precision) beat K. H. Clark (3½ Corah); Reg. Edwards (3½ Triumph) beat K. Holden (3½ B.S.A.).

2nd Round.—Woodhouse beat Jones; Potts beat Evans; Newsome beat Crawley; Creyton beat Slaughter; Newman beat Edwards. Byes: C. Roper (3½ Ivy-Precision) beat W. D. South (3½ Triumph); Howard Smith (3½ Triumph) beat H. Goldman (3½ Premier); S. C. Perryman (3½ Calthorpe) beat H. L. Cooper (3½ Triumph).

3rd Round.—Potts beat Woodhouse; Newsome beat Creyton; Newman beat Roper; Howard Smith beat Perryman.

Semi-final.—Newsome beat Potts; Newman beat Smith.

Final.—Newman beat Newsome.

CLASS F.—Unlimited.

1st Round.—E. J. Bolton (7 Indian) beat Newman (3½ Ivy-Precision); R. N. Corah (3½ Corah) walk over; H. G. Potts (3½ Triumph) beat S. Crawley (3½ Triumph); A. D. Arter (3½ James) beat F. G. Brock (7 Rex); W. F. Newsome (3½ Triumph), Reg. Edwards (3½ Triumph) walk over; W. Creyton (3½ Triumph) beat J. Slaughter (3½ L.M.C.); J. J. Cookson (7 Matchless) beat T. Pollock (3½ James); Howard Smith (3½ Triumph) beat E. Smith (4½ Regal); E. F. Baxter (7 Rex) beat H. Goldman (7 Rex).

2nd Round.—Bolton beat Corah; Potts beat Arter; Edwards beat Newsome; Cookson beat Creyton; Baxter beat H. Smith. Byes: K. H. Clark (3½ Corah) walk over; J. W. Woodhouse (4½ Dene-Precision) beat W. D. South (3½ Triumph).

3rd Round.—Bolton beat Potts; Cookson beat Edwards; Baxter beat Clark; Woodhouse w.o.

Semi-final.—Bolton beat Cookson; Woodhouse beat Baxter.

Final.—Bolton beat Woodhouse.

FREE ENGINE AND VARIABLE-GEAR CLASS.

1st Round.—H. V. Colver (2½ Enfield) beat J. Dudley (2½ Hobart).

2nd Round.—Byes: H. V. Colver (2½ Enfield) beat H. G. Dixon (3½ New Hudson); A. J. Stevens (2½ A.J.S.) walk over; G. Patterson (3½ New Hudson) beat J. D. Corke (2½ A.J.S.); R. W. Duke (3½ Zenith) beat S. C. Perryman (3½ Calthorpe).

Semi-final.—Colver beat Stevens; Patterson beat Duke.

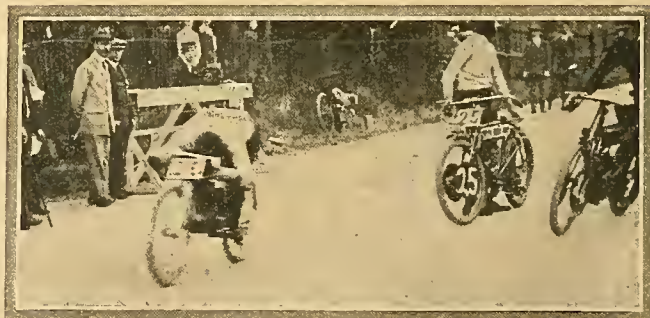
Final.—Colver beat Patterson.

TO-DAY'S BROOKLANDS MEETING.

Entries for the two motor cycle events to be held at Brooklands to-day (Thursday), viz., the fourth "Short" race and the fourth "Long" race, are as under:

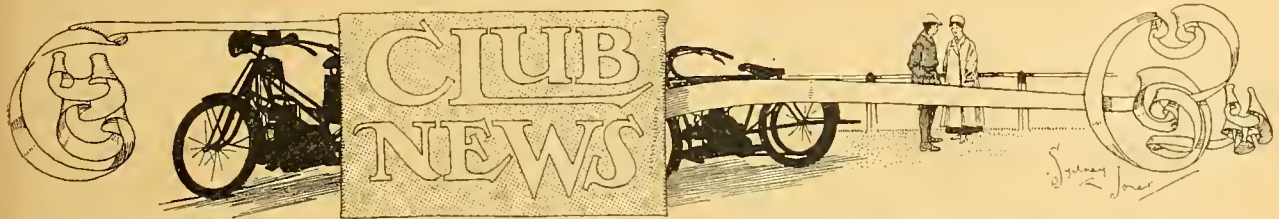
	Bore and Stroke.
W. H. Bashall (2 cyl. Bat-Jap) ...	76 × 64
R. N. Stewart (1 cyl. Trump) ...	90 × 77½
H. Martin (1 cyl. Martin-Jap) ...	85½ × 60
A. S. McIntyre (1 cyl. Triumph) ...	85 × 88
J. T. Bashall (2 cyl. Bat-Jap) ...	76 × 64
G. B. S. McBain (1 cyl. Douglas) ...	62 × 62
H. Shanks, jun. (1 cyl. Kingfisher) ...	85 × 60
J. de Rosier (2 cyl. Indian) ...	82½ × 93
J. G. Birch (1 cyl. Triumph) ...	85 × 88
S. T. Tessier (2 cyl. Bat) ...	76 × 64
V. Wadham (1 cyl. Zenith) ...	85½ × 85
C. R. Collier (2 cyl. Matchless) ...	90 × 77½
H. A. Collier (2 cyl. Matchless) ...	76 × 64
W. Johnson (1 cyl. Buchet) ...	76 × 73
G. E. Stanley (1 cyl. Singer) ...	85 × 88
A. G. Jeffcott (1 cyl. Singer) ...	69 × 79
G. Lee Temple (1 cyl. Singer) ...	69 × 79
J. R. Haswell (1 cyl. Triumph) ...	85 × 88
A. J. Luce (2 cyl. Bat) ...	85 × 65
J. Gibson (1 cyl. Martin-Jap) ...	76 × 65
F. A. McNab (1 cyl. Trump) ...	90 × 77½
A. Baker White (1 cyl. Trump) ...	85½ × 85
A. J. Dixon (1 cyl. Rudge) ...	85 × 88
Stanhope Spencer (1 cyl. Rudge) ...	85 × 88
S. T. Tessier (2 cyl. Bat-Jap) ...	76 × 64

Racing starts at 12 noon.



SATURDAY'S B.M.C.R.C. MEETING.

R. G. Bell (M.R.), who, in the All Comers' Handicap, received nine minutes' start and completed a lap before the other competitors had started.



Sheffield and Hallamshire M.C.C.

In the annual reliability run on the 15th inst., from Sheffield to Holyhead and back, a distance of 360 miles at a speed of twenty miles per hour, the results were as follows: 1. Daniel Bradbury ($3\frac{1}{2}$ h.p. Norton), lost two marks, wins first prize and "Hutton" shield; 2. J. A. Stacey ($3\frac{1}{2}$ h.p. Rudge), lost three marks; 3. C. Bellamy ($3\frac{1}{2}$ h.p. Zenith), lost three marks.

Marlborough Athletic Club (Motor Cycle Section).

The 100 miles reliability trial on July 2nd from Kilburn to Bicester and back secured eleven starters. The winners proved to be 1. R. White ($2\frac{3}{4}$ h.p. Minerva); 2. A. W. Loughlin ($3\frac{1}{2}$ h.p. Peugeot); 3. P. Bounds (8 h.p. J.A.P.).

North Middlesex M.C.C.

A slow race on the 8th inst. proved a great success and most interesting. Results:

Fixed Gears.—1. Mr. Scholzig ($3\frac{1}{2}$ h.p. Triumph); 2. Mr. Bennett ($3\frac{1}{2}$ h.p. T.T. Norton); 3. Mr. Lowe ($3\frac{1}{2}$ h.p. Lincoln Elk).

Variable Gears.—1. Mr. Hilger ($3\frac{1}{2}$ h.p. Humber); 2. Mr. Boccock ($4\frac{1}{2}$ h.p. four-cylinder F.N.); 3. Mr. Dangerfield ($3\frac{1}{2}$ h.p. Zenith).

Leeds M.C.C.

A reliability trial from Leeds to Edinburgh and back took place last week-end. A large concourse of riders assembled in City Square, Leeds, at five o'clock on the 15th inst. There were very few non-starters out of a total entry of forty, including five in a special class for cars only. We give a list of survivors: W. Moorfoot ($2\frac{3}{4}$ Enfield); R. Ellis ($5\frac{1}{2}$ B.S.A.), valve trouble; H. Wilkinson ($3\frac{1}{2}$ Scott); J. R. Kelly ($3\frac{1}{2}$ Rex) arrived; P. Plews ($3\frac{1}{2}$ Rudge), punctures; W. Tetley ($5\frac{1}{2}$ Rover), puncture and burst tyre; G. Crossley ($3\frac{1}{2}$ Rover), slight belt trouble; C. P. Finn ($2\frac{3}{4}$ Enfield), tightened chain; S. G. Fenton ($3\frac{1}{2}$ Zenith); P. Cockroft ($3\frac{1}{2}$ Triumph); W. Bateson ($3\frac{1}{2}$ Triumph), broke valve and punctures; J. and H. Gash (6 B.G. and sidecar), puncture; G. Smith ($3\frac{1}{2}$ Scott); J. Robinson (5 V.S.), punctures; T. H. Baker (5 Rex and sidecar); S. Woolley ($5\frac{1}{2}$ L.M.C.), lost way; F. Roberts ($3\frac{1}{2}$ Singer); G. Spence ($3\frac{1}{2}$ Premier), slight skid in Newcastle; R. Glenn ($3\frac{1}{2}$ Triumph); W. E. Asquith ($5\frac{1}{2}$ Triumph), broken belt; H. Brook ($3\frac{1}{2}$ Triumph), broken belt; G. Sharpe ($3\frac{1}{2}$ Rover), burst tyre; J. Delmore ($3\frac{1}{2}$ Rover); A. Gray ($3\frac{1}{2}$ Rover), not reported; T. Hainsworth ($3\frac{1}{2}$ Rover); J. Dockray ($3\frac{1}{2}$ P. and M.), lost way.

Irish End-to-end Trial.

Nineteen competitors started in the above M.C.U.I. event on the 13th inst. from Mizen Head, to ride to Fair Head, a distance of 394 miles. The early hour of 1 a.m. did not prevent the sporting inhabitants from witnessing the start.



A group of the survivors: M. J. Lindsay, P. Phillips, J. Stewart, J. Healy, E. Clark, W. H. Humphrey, W. J. Chambers, L. Dobbin, T. Sloan, J. A. Carvill, and C. E. Murphy.

The first prize was the Palmer Cup. Douglas Bros. presented the second, the B.S.A. the third, and the Rex Motor Manufacturing Co. gave a special prize. At Ballyroy the results showed that the following had scored full marks at all open controls: J. Stewart, M. J. Lindsay, J. A. Carvill, P. Phillips, and W. J. Chambers. To determine the final winner it was necessary to utilise the times taken at the secret controls. 1. J. Stewart ($3\frac{1}{2}$ h.p. Triumph); 2. W. J. Chambers ($3\frac{1}{2}$ h.p. B.S.A.); 3. M. J. Lindsay ($3\frac{1}{2}$ h.p. Triumph). Gold medals were also won by J. A. Carvill ($3\frac{1}{2}$ h.p. Triumph) and P. Phillips ($2\frac{3}{4}$ h.p. Douglas), and certificates by E. Clark ($2\frac{3}{4}$ h.p. Douglas), J. Healy ($3\frac{1}{2}$ h.p. Rudge), L. Dobbin ($3\frac{1}{2}$ h.p. Rudge), W. Humphrey ($3\frac{1}{2}$ h.p. Humber), P. Sloan ($3\frac{1}{2}$ h.p. Rudge), and C. E. Murphy ($3\frac{1}{2}$ h.p. Triumph).



Start from the City Square of the Leeds M.C.C. 24 hours' reliability trial to Edinburgh and back last week end.



Some of the competitors at the start of the Norfolk M.C.C. Reliability Trial.

Ripon and District M.C.C.

Out of fourteen entries only two failed to complete the course in the 150 miles reliability trial for the President's Trophy last week. W. Hemsworth (5 h.p. Rex) and J. H. Rostron (3½ h.p. Triumph) tied for first place, C. Kay (3½ h.p. Rex) being second, and A. D. Calvers (3½ h.p. B.S.A.) third.

Walthamstow M.C.

A competition for the Henbrey Silver Cup was held on July 9th over a circular course of about twenty-three miles, which was covered four times. Watches and speedometers were barred. Competitors had to ride as near twenty miles per hour as possible. The following are the results:

Rider and machine.	Award.	Error.
1. T. C. Dutfield (3½ Triumph), cup and gold medal		7 20
2. G. Humphreys (2 Centaur), gold medal		8 3½
3. W. Wilson (3½ Minerva tricar), gold medal		8 14

Doncaster and District M.C.C.

The second competition of the series for the president's cup took place last Thursday, at Pickthorn Hill, the results being as follows:

Rider and machine.	Position on time.	Position on formula.	Marks awarded.
F. H. Dunstan (3½ Rudge)	X	.5260	100
T. W. B. Durant (3½ J.A.P.)	3½s.	.5626	93.5
E. R. Scott (3½ Premier)	4½s.	.5813	90.48
E. Goult (3½ Triumph)	X	.5353	88.37

The club desires to convey its thanks to the many willing helpers whose assistance so greatly contributed to make the competition a success.

Hampshire M.C.U.

At the first gymkhana at Winchester on the 12th inst., the prize winners were: 1, K. Dickson, 5 h.p. Vindec Special (Southampton); 2, E. H. Lawes, 5-6 h.p. F.N. (Aldershot); 3, G. Laphorne, 3½ h.p. Humber (Southampton). The August event will be held near Bournemouth, when the F.N. cup, presented by Mr. A. G. H. Alford, will be competed for.

Pontefract M.C.

The second twelve hours' reliability trial was held last Thursday over a course which included York, Staxton, Scarborough, Whithy, Harrogate, and Pontefract—190 miles in all. Only three out of nine starters completed the course. 1, H. Craven (8 h.p. Chater-Lea and sidecar); 2, E. Lee (3½ h.p. Scott); 3, Col. J. R. Shaw (4 h.p. Scott). Thanks are due to the Scarborough, Middlesbrough, and Harrogate clubs, and to Mr. F. Topham, of Ripon, who kindly worked the controls and several of the secret checks.

Manchester M.C.

A very successful scratch hill-climb was held on Saturday last on the usual club hill at Heyden Bridge. A large number of cycles and sidecars put in an appearance, owing no doubt to the perfect weather conditions. Entries were taken at the start, and the results were made on horse-power, time, and previous performances in club competitions. The following are the results on handicap: 1, H. Birkett (3½ h.p. Triumph); 2, G. H. Wilson (3½ h.p. Premier); 3, D. Sykes (3½ h.p. Dot); 4, S. Jackson (2 h.p. Humber); 5, W. Houghton (3½ h.p. Rudge-Whitworth); 6, J. Oliver (5 h.p. Matchless). P. Platt (3½ h.p. Bradbury) won the passenger class with sidecar.



Competitors in the Doncaster and District M.C.C. hill-climbing contest for the President's Cup series, the results of which appear on this page.

Club News.—

Harrogate Club's Severe Long Distance Trial.

On the 9th inst., in glorious weather, the annual reliability trial for the Muratti Trophy was held over an exceedingly difficult course of 214 miles. The course included

HARROGATE & DISTRICT M.C.C. 214 MILES RELIABILITY TRIAL.



Sealing the competitors' watches prior to the start.

such famous hills as Greenhow, Kidstones, Shap, Hart-side, and Killhope, also the famous miniature Stoupe Brow from Stanhope over the moors to Eggleston. The riders had to keep up an average of twenty miles per hour, and were likely to be checked at thirty-one places, of which no less than twenty-two were working. Taking the hot weather and the steep hills into account the majority of the entrants ran well, but the loose and dangerous corner of Kidstones Pass, Killhope Pass, and the hill out of Stanhope, brought practically the whole of the riders off, Kidstones being the scene of a number of falls, and up the Stanhope Hill, which is all loose stones and sharp corners, none of the competitors made a clean ascent in the saddle. The result, however, which is worked out on the marks lost at controls is very close, but strange to relate all the winners rode single-gear machines, the three two-speed geared machines soon being behind their schedule times. The result showing the number of marks lost and trouble experienced is as follows:

Name of Rider and Machine.	Marks Lost.	Remarks.
T. C. Atkinson (3½ Triumph)	1	Puncture
1. H. W. Fortune (3½ Triumph)	1	Broke valve, and failed on Killhope through slipping belt
3. S. Clay (3½ Triumph)	2	Failed on Killhope through slipping belt
4. E. R. Davies (3½ Triumph)	7	Broke valve, and puncture
5. F. Strafford (3½ Triumph)	22	Punctures
6. W. B. Atkinson (3½ Triumph)	25	Fell at corner of Kidstones and damaged machine
7. Jim Mackay (3½ Singer)	37	Broke valve and high tension wire
*C. P. Finn (2½ Enfield, 2-sp.)	—	Seized engine.
*C. Nettleton (3½ Humber, 2-sp.)	—	Gear trouble and punctures
*J. Tranmer (3½ Norton)	—	Failed on Kidstones
†E. Barret (7-9 Rex)	—	Failed Kidstones and Greenhow. Burst back cover.
†J. J. Day (3½ Bradbury, 2-sp.)	—	Collided with cow, and damaged machine

* Lost over 100 marks.

† Did not finish.

Essex M.C.

The 200 miles non-stop competition, including flexibility tests, arranged for June 24th, has been changed to 100 miles and will be run off on Saturday, July 22nd, starting from headquarters at 3 p.m. sharp. Will any non-competing members who would help in any way kindly communicate with E. J. Bass? On July 23rd the second standard ride is being held, full particulars and route cards from T. M. Tyson, 29, Osborne Road, Forest Gate.

Mersey M.C.

A secret hill-climb for members will take place on July 23rd. Competitors will be advised of a meeting place, and will then be conducted to the hill. At the same venue will be re-run the hill-climb held at Cilcau on June 22nd, the times at this event having been taken incorrectly. Only entrants in the postponed climb will be eligible.



A group of competitors at the starting point.

Exeter and District M.C.C.

A reliability trial was held last week-end over a circular course. Competitors had to ride at a schedule of 20 m.p.h. from Exeter to Minehead, 15 m.p.h. Minehead to Barnstaple, and 20 m.p.h. Barnstaple to Exeter. The competitors were checked at Minehead, at Lynton, and at Barnstaple at the Golden Lion Hotel, and again at Exeter. Result: 1, P. Pike (3½ h.p. Humber, two-speed); 2, A. M. C. Scott (3½ h.p. Rudge); 3, T. H. Birdsall (2½ h.p. Moto-Reve). There were fourteen starters. This is believed to be the first reliability trial to include Porlock, Countisbury, and Lynton Hills.

Otago (New Zealand) M.C.C.

The hill-climb on the North of the Kilmog Hill a few weeks ago resulted in some excellent performances. Owing to the difficulty of timing over such a long hill, competitors ran in pairs, the winners meeting each other in the final. Results: Singles (private owners)—McDougal (3½ h.p. Triumph) beat McDonald (3½ h.p. Norton). Singles (trade)—Gray (3½ h.p. Norton) beat Maddox (3½ h.p. Triumph). Twins (open)—Dickson (5 h.p. Indian) beat Wimpenny (Douglas).

The Motor Cycling Club.

In consequence of the interest excited by the Collier v. de Rosier match, the annual petrol consumption trial has been postponed until Saturday, July 29th. Entries will now be accepted until Monday, July 24th, by the trial hon. sec., L. Vedy, Breydon, Buckingham Road, South Woodford.

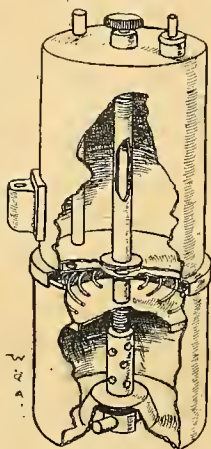
For August Bank Holiday a novel form of competition has been arranged in the form of a tour to Barnstaple and back via Minehead, Lynmouth, and Parracombe, with two brake tests and a hill-climb on the outward and two hill-climbs and one brake test on the return journey. Competitors completing both journeys in twelve hours will qualify for a gold medal, and Mrs. Charles Jarrott and E. H. Huil will give first and second prizes for the brake tests and hill-climbs. Full particulars may be obtained from E. Gwynne, White Lodge, Crediton Road, West Hampstead, N.W.

AMONG THE ACCESSORIES.

Messrs. the Bowen and Odery Manufacturing Co., Sentinel Works, 62, New Cross Road, S.E., have recently placed on the market several new and practical accessories, which when described will not fail to interest our readers.

The Sentinel generator is a splendid piece of work. Its exterior is smooth, and as free as possible from projections, and is in consequence easy to clean. It is composed of three brass spinings, while the water compartment is strengthened by the central tube, which prevents any strain on the main joint of the feed pipe, which might be caused by an accident or rough treatment.

On referring to the sectional illustration, the central strengthening tube will be seen, through which the water valve rod runs. This rod has a screw thread cut at the top instead of at the bottom, so that the joint at the upper part of the generator is water-tight. The water is fed through a long hole of small diameter, in which a wire closely fits, thereby ensuring a steady drip. The gas pipe shown at the side is of ample bore, and is consequently unlikely to become stopped up. The central filler tube of the container is drilled throughout its entire height, thus allowing the water always to

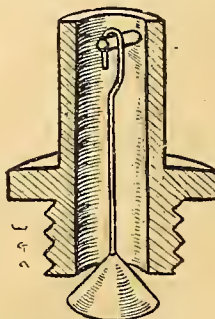


A well-designed generator.

attack new carbide. No felt filters are used anywhere, as the generator is specially designed not to clog up, and apparently does not.

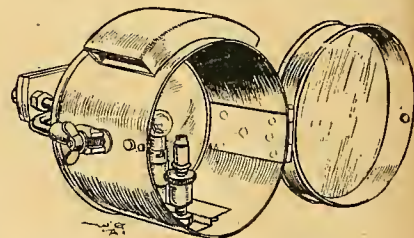
Yet another feature, which is illustrated separately, is the water tank filler cap, which is ingeniously made so as to prevent splashing, and this it does most effectively. The capacity is $\frac{1}{2}$ lb. of carbide, and a seven hours' light is claimed to be given. The clip is of neat and simple design, and is heavily plated on copper.

Next to the generator, the new Sentinel lamp deserves attention. In the first place, the excellent adjustable swing bracket is a splendid fitting. The wing nuts with springs and washer fall into a recess in a fork at the end of the bracket arms, and when screwed up the lamp remains firmly fixed in any position the rider desires, while they only need be loosened to allow the lamp to be removed completely. The lamp, it may be pointed out, is an entirely new model, and an exceedingly interesting point about its construction is that no rivet or solder is used, screws only being employed, so that the whole lamp may be taken apart or a damaged part replaced with a minimum amount of trouble. The particular type illustrated will, it may be seen, employ gas or electricity as an illuminant, while lamps may be had using either system.



A non-splash filler cap.

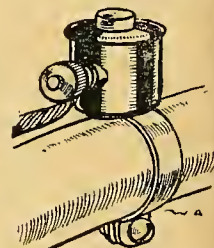
The burner or electric lamp holder is fixed in a slot, so that it may be focussed to suit the taste of the rider.



The Sentinel lamp for gas or electricity.

The mirror is of the Mangin type, and is of the best quality. The burner is screwed into an adjustable brass socket, which in turn is screwed into a hollow tube containing cotton-wool for filtering purposes, while the adapter on the burner allows it to be attached to the connection of any bicycle pump, so that it may be easily blown through.

Yet another simple and reliable device recently introduced by Messrs. Bowen and Odery is a magneto cut-out, which is illustrated herewith. It is strong and well made, has only one moving part, and is unlikely to get out of order. As stated in the makers' list, it is a smart, handy, and unobtrusive fitting for the handle-bar.



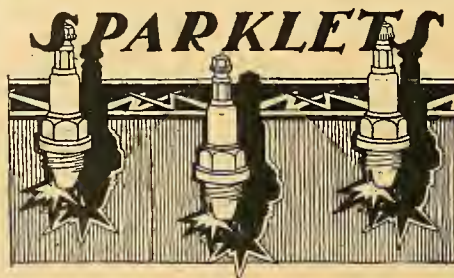
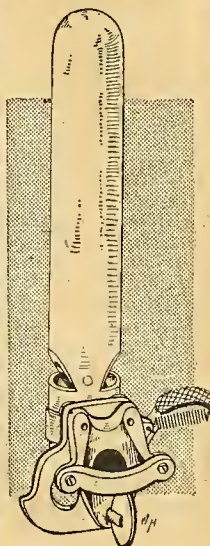
A neat handlebar switch.

Continental Tyre Success in the T.T. Races.

The Continental Tyre Co. are naturally jubilant over their success in the T.T. races. P. J. Evans's Humber and O. C. Godfrey's Indian were both fitted with Continental tyres, which gave no trouble of any kind.

Another New Exhaust Whistle.

Mande's Motor Mart, 136, Great Portland Street, W., and the Ser-292, High Holvice Co., Ltd., born, W.C., have both sent us a new exhaust whistle, which we illustrate. Among the advantages claimed for this road clearer are that it is not necessary to cut the exhaust pipe in two to fit it. All that is required is simply to cut a long slot in the pipe and insert the butterfly valve, clamping the whistle to the pipe by means of the brass band.



Change of Address.

Acer, Ltd., who specialise in cylinder grinding, have transferred their premises from Hanwell to Leabourne Works, Harrow. A revised price list is in course of preparation, and when ready will be sent post free on application.

German Reliability Trial.

About one hundred motor cyclists from all parts of Germany recently took part in a reliability trial. Each rider had to start from his own town with Naumburg as an objective. About fifteen or twenty only arrived, due to the bad weather. Two riders of 5 h.p. Rex de Luxe machines each completed a distance of 250 miles without any trouble. A hill-climbing competition which was to have followed the reliability trial was prohibited by the authorities.

Catalogues Received.



Alfred Noble and Co., Stoneleigh Works, Hill Street, Coventry, specialise in alterations to existing frames, building and redesigning frames and engines. The same firm also market a set of parts for constructing a 3 h.p. motor cycle engine.

We are in receipt of the latest catalogue of Messrs. Bransom and Kent, 40, Great Eastern Street, E.C. This is a large and voluminous publication, the contents of which are classified in a particularly convenient manner.

A Multiple Jet Adapter.

Among designers and manufacturers some doubt exists as to the superiority of a single or multiple jet for motor cycle carburettors. Messrs. Leader and Naughton, 1, Park Grove, Battersea Park Road, S.W., have introduced a detachable adapter which can be fitted over the jet of an ordinary carburetter so that motor cyclists may test for themselves which is the better. The adapter, which is simplicity itself, consists merely of a short piece of tubing with a conical top in which are drilled six fine holes through which the petrol from the single jet passes on its way to the engine, so breaking up the spirit into six fine columns. It is claimed that an increase of power is obtained owing to the homogeneous mixture it gives; also that a minimum of valve pitting occurs owing to complete and instantaneous combustion.

SOMETHING TO CROW ABOUT.

**THERE IS
NO DOUBT**

that to secure reliable and efficient service means reliable goods. These to be so must be well designed, skilfully made, and excellently finished, all qualities of which are embodied in the belt that has the always gripping, never slipping qualities—the


WATAWATA

BELT.

A belt that will enable you to obtain every ounce of power out of your engine without wastage of petrol and increase of running charges.

Write for Booklet D.

O. & W. ORMEROD, LTD., :: ROCHDALE,
London: W. B. BROOKE, 16a, British Grove, Hammersmith, W.



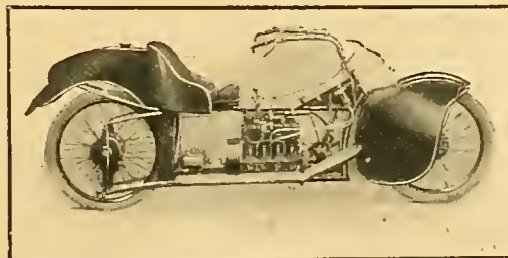
**The ideal Touring machine
for all ages**

THE WILKINSON

T.A.C.

(TOURING AUTO CYCLE)

4-CYLINDER 7 H.P.
CAR SPRUNG,
THREE SPEEDS,
WORM DRIVE,
BUCKET SEAT,
STARTING DEVICE
(Operated from seat).



BOSCH MAGNETO,
B. & B. CARBURETTER,
26 x 2½ TYRES,
LOW CENTRE OF
GRAVITY,
ABSENCE OF SIDESLIP.
CENTRAL INLET PIPE.

NOTE THE MUDSHIELDS.

**THE COMFORT
OF A CAR WITH**

PRICE 70 GUINEAS.

THE SPEED AND ECONOMY OF A MOTOR CYCLE.
WILKINSON T.A.C. COMPANY, LTD., 53, PALL MALL, LONDON, S.W.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



Section I.
Northumberland, Cumberland, Durham, and Westmorland.

Section II.
York and Lancashire.

Section III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

Section IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

Section V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

Section VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

Section VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

Section VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

Section IX.
Somerset, Devon, Dorset, and Cornwall.

Section X.
Scotland.

Section XI.
Ireland and Isle of Man.

WAUCHOPE'S



OFFER ALL THE ADVANTAGES

you can get elsewhere with some unobtainable anywhere else. The greatest show, the Best Values for Cash, and the most liberal of all exchange systems.

Ask for To-day's
List of Bargains,
which include:

4143.	3 h.p. 1910 LINCOLN ELK	£17 10
4147.	5 h.p. 1911 Cone Clutch REX	38 Gns.
4151.	3 h.p. QUADRANT Tocar	10 Gns.
4153.	5 h.p. 1911 INDIAN, free engine model	£50 0
4154.	5 h.p. 1910 Two-speed Twin ROC	40 Gns.
4157.	2 1/2 h.p. 1910 Standard DOUGLAS	£28 0
4158.	1 1/2 h.p. 1910 SINGER MOTO-VELO	£22 10
4160.	2 h.p. 1908 MOTO-REVE	£15 0
4161.	2 1/2 h.p. 1910 ROYAL ENFIELD	£23 10
4163.	5 h.p. 1908 V.S.	£25 0
4093.	7 h.p. 1910 Two-speed V.S.	45 Gns.
4040.	7 h.p. 1910 Two-speed INDIAN	£47 10
4123.	2 1/2 h.p. 1910 DOUGLAS	£30 0
4125.	2 1/2 h.p. 1910 DOUGLAS	£32 10
4133.	2 1/2 h.p. ARIEL	£8 10
4135.	5 h.p. 1907 Twin REX DE LUXE and sidecar	£22 10
	3 h.p. 1907 N.S.U.	£15 0
	1 h.p. 1910 Lady's MOTOCOCHE	30 Gns.
3934.	2 1/2 h.p. 1910 ROYAL ENFIELD ..	£27 10
3894.	1 h.p. 1910 MOTOCOCHE	£22 10
4060.	1 h.p. 1910 MOTOCOCHE	£22 10
3509.	3 h.p. 1909 MINERVA	£22 10
4040.	7 h.p. 1910 Two-speed INDIAN ..	50 Gns.
4110.	3 h.p. 1910 Free-engine TRIUMPH ..	£43 10
3923.	3 h.p. 1910 ZENITH GRADUA	£40 0
4033.	5-6 h.p. 1909 Two-speed F.N.	28 Gns.
4051.	2 1/2 h.p. 1910 ROYAL ENFIELD ..	£25 0
3933.	6 h.p. 1910 Two-speed ROC & sidecar ..	£47 10
3387.	6 h.p. 1909 EAGLE Runabout	£35 0
4100.	6 h.p. 1909 CHATER-LEA Carrette ..	£28 Gns.
3847.	3 1/2 h.p. FAFNIR	£16 10
4046.	1 1/2 h.p. MOTOCOCHE	£12 10
3507.	3 1/2 h.p. 1908 Two-speed N.S.U.	20 Gns.
3947.	2 1/2 h.p. 1909 DOUGLAS	£24 0
4006.	2 1/2 h.p. 1910 Two-speed F.N.	£27 10
3812.	3 1/2 h.p. 1910 PREMIER	28 Gns.
4093.	7 h.p. 1910 Two-speed V.S.	£55 0
3099.	4 h.p. Twin N.S.U.	£18 10
2965.	2 h.p. 1909 MOTO-REVE	20 Gns.
3323.	2 h.p. 1910 Twin N.S.U.	£22 10
3937.	3 1/2 h.p. 1906 REX	£12 10
3530.	5 h.p. 1910 Twin V.S.	£35 0
4092.	2 1/2 h.p. MINERVA	£17 10
3980.	3 1/2 h.p. 1908 Two-speed N.S.U.	£22 10
4045.	3 h.p. ARIEL	£10 10
3726.	2 h.p. BRADBURY	£10 10
3795.	2 1/2 h.p. F.N.	9 Gns.
3410.	3 1/2 h.p. N.S.U.	£18 10

Write for copy of List, which comprises the best 1911 models of all most famous makes, and a great variety of genuine Second-hand Machines repaired, renovated, and fully guaranteed.

WAUCHOPE'S

9, Shoe Lane, Fleet St.,
LONDON, E.C.

Telegrams: "Opificier, London."
Phone: 5777 Holborn.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent or forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 300, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Ifife and Sons Limited.

SPECIAL NOTE

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

1911 P. and M.'s and 1911 Bradburys, 2-speed, clutch, or standard models, for quick delivery.—Walkers.

1909 P. and M., £34; 1909 Triumph, £32; N.S.U. lightweight, £15; 5 1/2 h.p. twin Rex, £15; 4 h.p. Roc, clutch model, £20; all the above in order.—Walkers, Fishburn, Ferryhill.

6 h.p. Buchet and Sidecar; any trial; 26 guineas, or exchange smaller power.—Greenwood, Keswick.

1910 Standard Triumph, new condition, fast, guaranteed, faultless; £35.—T. Smith, Wooley Terrace, Drook.

2 1/2 h.p. Minerva, splendid traveller (guaranteed), ready for road; sacrifice £7/5, lowest.—Write, 221, Alice St., South Shields.

N.S.U., 1907, 5 1/2 h.p. twin, magneto, 2-speed, in good order; £25; exchange Triumph, Ariel, and cash.—Agar, Wombwell St., Spennymoor, Durham.

TRIUMPHS, Humbers, B.S.A., Royal Enfield motor cycles, lightweight, 2 speeds, free engines; write, wire, or phone for immediate deliveries.—Turrey and Co., The Motor House, Sunderland. Tel. No. 626.

3 1/2 h.p. Triumph, Roc 2-speed gear and free engine, 1911, practically new, with Millford casting steering sidecar; owner just bought, but is now going in for a car; what offers?—B., c/o Turrey and Co., Motor Garage, Sunderland.

3 1/2 h.p. 1910 Triumph, only ridden 950 miles, practically no worse than new; for quick sale accept £35.—Turrey and Co., Motor Garage, Sunderland.

N.S.U., 3 1/2 h.p., 1909, spring forks, magneto, handlebar control, new Continental and tubes, spares, splendid running order (in daily use); first cheque £24/10.—Mack, 57, Leafeld Rd., Darlington.

1911 New Speed Model Bradbury, fitted with drop handle-bars, or raised, £48, first cheque secures; 1910 Bradbury, fitted with 2-speed gear, only done 1,000 miles, quick sale £38.—Lockerbie, cycle and motor factors, Carlisle.

SECTION II.

York and Lancashire.

WOLF, 1910, 2 h.p., A.J.S. engine, new tyres; £23.—26, Emerson St., Wast.

1909 3 1/2 h.p. Triumph, good condition, standard model; £29.—7a, Bradford St. W., Bolton.

1911 3 1/2 h.p. Bradbury, condition as new, not run 1,000 miles; £43.—Rudd, Leadon, Yorks.

V.S., 5 h.p., Roc 2-speed gear, just re-enamelled, plated, and overhauled, very fast; £32.—Below.

REX, 1908, 5 h.p., in splendid condition, stand, carrier, etc.; bargain, £25.—Below.

REX, 1908, 3 1/2 h.p., just re-enamelled, plated, and overhauled, fine machine; cheap, £24.—Stanley Motor Garage, Westbrook St., Bolton.

HUMBER, 3 1/2 h.p., 1910, free engine, 2 speed; £33.—Aynsough, Beaufort St., Nelson, Lancs.

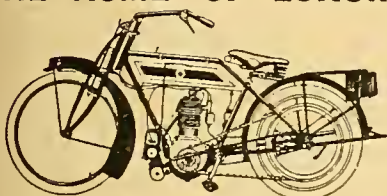
In answering these advertisements it is desirable to mention "The Motor Cycle."

WHY WAIT WEEKS!

Immediate Delivery Guaranteed.

1911 3½ h.p. PREMIER Tourist	£47 10
1911 3½ h.p. Tourist TRIUMPH	£48 15
1911 3½ h.p. Magneto RUDGE-WHITWORTH	£48 15
1911 5 h.p. REX DE LUXE, 2 speeds, free engine	£63 0
1911 7 h.p. REX DE LUXE, with coach built sidette	£84 0
1910 3½ h.p. Magneto REX, 1911 forks	38 Gns
Special 3½ h.p. Magneto REX, with pedalling gear	35 Gns
1910 3½ h.p. Twin REX DE LUXE, 1911 forks and fittings	£54 10
1910 5 h.p. Twin INDIAN, spring forks, green finish	£52 10
1910 3½ h.p. Magneto REX, 1911 forks, Continental non-skids	39 Gns
Special 3½ h.p. Magneto REX, Continentals, fitted with pedals	35 Gns
1910 5 h.p. Twin Tourist REX, Cantilever seat, non-skids	40 Gns
1910 5 h.p. REX DE LUXE, 2½ in. non-skids, 1911 fittings, cylinders, mechanical inlet valves	£54 10
1910 3½ h.p. REX, 1911 spring forks, Continental non-skids	39 Gns
1910 3½ h.p. Tourist REX, Cantilever seat, non-skids	38 Gns
1910 5 h.p. REX DE LUXE, mechanical inlet valves, 2 speeds, etc.	£54 10
1910 3½ h.p. Tourist REX, spring forks, Cantilever	38 Gns
1910 3½ h.p. Tourist REX, plate clutch and free engine, pedals	45 Gns
1910 5 h.p. REX DE LUXE, M.O.V., Cantilever seat, 1911 forks and fittings	£54 10
1910 3½ h.p. Tourist REX, footrests, Cantilever, Continental non-skids	38 Gns
1910 5 h.p. Twin Tourist REX, 1911 forks and fittings	40 Gns

THE ACME OF LUXURY.



£54 10s. THE IDEAL FOR SIDECAR WORK.

1910 3½ h.p. Tourist REX, Continental non-skids	38 Gns
1910 5 h.p. Twin REX DE LUXE, 2½ in. non-skids, latest improvements	£54 10
3½ h.p. Magneto REX, spring forks, pedalling gear	35 Gns
3½ h.p. Magneto REX, 84½ x 89, h.h. control, fitted with pedals	35 Gns
3½ h.p. Magneto REX, Illustrated specification on request	35 Gns
1910 3½ h.p. Magneto REX, 1911 forks and fittings	39 Gns
1910 3½ h.p. Standard Tourist REX, Continental non-skids	38 Gns
1910 3½ h.p. Tourist REX, Cantilever seat, spring forks	38 Gns
1910 5 h.p. Twin Tourist REX, standard model	40 Gns
1910 3½ h.p. Tourist REX, non-skids, Bosch mag.	38 Gns
1910 3½ h.p. Tourist REX, plate clutch, free engine	45 Gns
1910 4 h.p. N.S.U. Model de Luxe, spring forks	£36 0
1910 5 h.p. Twin Tourist REX, Cantilever seat	40 Gns
1910 3½ h.p. Tourist REX, Cantilever, spring forks, non-skids	38 Gns
1910 3½ h.p. REX, finished French grey	38 Gns
1910 3½ h.p. Tourist REX, Cantilever seat, spring forks	38 Gns
Ditto ditto ditto ditto	
Ditto ditto ditto ditto	
1910 5 h.p. Tourist REX, spring forks, Continental non-skids	40 Gns
1910 SINGER Moto-Velo, magneto, Druid forks	£26 0
1910 3½ h.p. Magneto REX, Continental non-skids, spring forks	38 Gns
1910 5 h.p. REX DE LUXE, M.O.V., 1911 fittings	£54 10
1910 3½ h.p. Tourist REX, Cantilever, B. and B.	38 Gns
1910 3½ h.p. REX DE LUXE, 2 speeds, free engine	£52 10
1910 3½ h.p. Plate Clutch REX, free engine, pedal starting	45 Gns

NEW SIDECARS from £3 10s. upwards.
Discount to Trade.

The Halifax Motor Exchange

LARGEST REX DEALERS.
16, Westgate, HALIFAX.

'Phone, 766. Telegrams, "Perfection"
Business Hours, 9 a.m. to 6 p.m.

Australian Agent—Allen, 6, Westbourne St., Petersham, N.S.W.

MOTOR BICYCLES FOR SALE.

ZENITH-GRADUAS, 3½ h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

BRADBURY'S.—All models in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

TRIUMPH, 1910, standard, excellent condition, engine just overhauled by Triumph Co.; £35 cash.—Sharman, Market Place, Brackley.

TRIUMPH, 1910, good order; owner going in for stronger machine for sidecar work; £37.—Baguley, Aston Manor, Newport, Salop.

1911 Models from stock; 2 h.p. Humber lightweight, 3½ h.p. standard B.S.A., 3½ h.p. free engine Bradbury.—Everitt's Garage, Droitwich.

B.S.A., 3½ h.p., free engine model, just received, not overhauled; cost £56; immediate purchaser, £50.—Deposit, Box 7,949, c/o The Motor Cycle Offices, Coventry.

4 h.p. Antoine-Chater-Lea, very low, Hellesen ignition, adjustable pulley, re-bushed throughout, new piston, climb anything, in perfect order; £13.—Atterbury, 22 Alton St., Crews.

LINCOLN Elk, 3½ h.p., magneto, footboards, X'fall spring saddle, new Dunlop tyre back wheel, h.b. control, Druid spring fork, in A1 order.—Wire best offer to R. Ivor Jones, Blaenau, Festiniog.

8 h.p. Twin, m.o.v., Minerva throughout, Bosch magneto, spring forks, torpedo tank, Roe clutch, and 2 speeds, Whittle belt, enamelled grey, excellent condition; £26.—J. Lidderdale, Berkawick, Stafford.

TRIUMPH, 1910, free engine, grand condition, re-bushed and cylinder ground on the 5th inst. by makers, Clincher tyres (front unpunctured); price £45; owner bought new machine.—Bailey, solicitor, Walsall.

DOUGLAS, 1911 model, scarcely soiled, standard model, tools, and spares, any trial, £30; Humber 2 h.p. lightweight, 1911, run very little, guaranteed as new, £28; Triumph, 1908, standard model, perfect machine, guaranteed, £28.—Chetwood, Nantwich, Cheshire.

THE North Wales Motor Exchange, Rhosdd, Wrexham. Telephone 283.—They are all here to be tried, bring your cash and ride them away: Rex, 5 h.p. twin, Bosch, handle-bar control, Roe clutch, fine sidecar machine, £25; Rex, 5 h.p. twin, footboards, Bosch, handle-bar control, very low built, lovely condition throughout, new tyre, £25; Rex, 5 h.p., Bosch, handle-bar control, spring forks, black and gold line, £20; N.S.U. lightweight, Bosch magneto, spring forks, Whittle Belt, a little beauty, like new throughout, bargain, £20; 3½ h.p. Peugeot, Simma magneto, new belt, footboards, adjustable pulley, climbs Birdip, a dier, £18; 3½ h.p. Rex, Bosch magneto, new 1910 Amac fitted, footboards, new belt, adjustable pulley, spring forks, good tyres, £14; here you are, 5 h.p. twin Rex and sidecar, spring forks, a grand combination, good tyres, a bargain, £14. Beginners send for bargain list.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

WOODGATE for Triumphs; deliveries from stock of all models; no waiting.

WOODGATE for Singers, clutch, standard and Moto Velo; immediate delivery.

WOODGATE for Ariels with decompressor; easiest starters on the market.

WOODGATE for Royal Enfield and Douglas lightweight; a fine range on view.

WOODGATE for a Splendid Selection of second-hand and trial models, ranging from £5 to £45; sidecars from £5/5; exchanges and payments arranged.—The Motor Cycle Depot, 543, Coventry Rd., Birmingham. Tel.: 372 Victoria.

TWO New Free-engine Triumphs in stock; 3½ h.p. Bat. £11.—Crosier, Melton Mowbray.

3 h.p. Humber, chain drive, free engine; sell cheap (exchange).—63, London Rd., Grantham.

2 h.p. Enfield, only soiled, latest pattern; best offer accepted.—38, West Gate, Mansfield.

1 h.p. Riley, running order, with accessories; £5.—Fisher, 30, Harnall Lane West, Coventry.

4 h.p. Bat, free engine, with Millford sidecar, first-class condition; £35/ owner buying car.—Roe, Lincoln.

3 h.p. Standard Premier, unpacked; sacrifice 35 guineas, no offers.—Sanders, builder, Barn Green.

HUMBER Lightweight, 2 h.p., perfect order; £27/10.—Meadow View, 159, Leam Terrace, Leamington.

INDIAN, 7 h.p., 1911, 6 weeks old, clutch, spares; £60; exchange single and cash.—Rodway, Horsefair, Birmingham.

TRIUMPH, 1909, November; first cheque for 31 guineas secures.—Davies, 55, Highfield Terrace, Leamington.

GENTLEMAN will sell his 1910 free engine Triumph for 40 guineas, with accessories.—68a, Regent St., Leamington.

GEO. MAIN and Co., Hotel St., Leicester, can make immediate delivery of Humber lightweight and 2-speed motor cycles.

DRY

BATTERY

IGNITION

WRITE TO—

SIEMENS BROTHERS & Co., Ltd.,

CAXTON HOUSE, WESTMINSTER, LONDON, S.W.

WHO WILL SEND

full particulars of remarkable results obtained with their Siemens-Obach system and full instructions in the method of employing this, the simplest, cheapest, and most reliable form of ignition

Batteries supplied to suit all reasonable space.

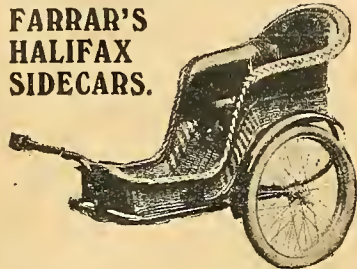
COIL AND BATTERY

complete from £1.

LESS POWER.

It is admitted by experts that, owing to the unique design, far less power is required to propel Farrar's Sidecars than any other style on the market.

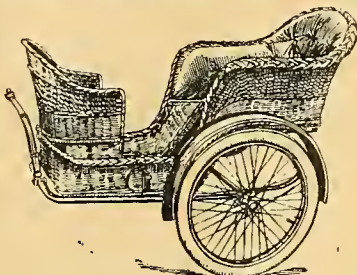
This is our Model de Luxe.
Complete £5 : 5 : 0 Complete

**FARRAR'S
HALIFAX
SIDECARS.**

Absolutely the finest value on the market.

**This is our Model E for Adult
and child.**

Complete £6 10s. Complete.



NOTE our front arm which grips the sidecar CENTRE. Nothing lopsided about this attachment

All our Sidecars are now fitted with Farrar's quick detachable joints and cranked back axles, refinements found on very few other makes.

MODEL "DE LUXE" £5 5
MODEL "C," with cane body £5 0
MODEL "D," with coach-built body £7 0
MODEL "E," with reversible child's seat £6 10

All complete with mudguard and

HUTCHINSON or CONTINENTAL TYRES
Disconnt to the Trade.

Delivery from stock to suit TRIUMPHS, REXES,
P. & M.'s, N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE.
SPRUNG LIKE A CAR.

Sole Agent for Australia and New Zealand:
Mr. T. HARRIS, Hunter Street, SYDNEY, N.S.W.

ENGINES.

5½ h.p. DE DION Pattero, water-cooled £7 0
5-6 h.p. SAROLEA, brand new, 1910 model,
fitted magneto, silencers, driving pulley,
etc. £14 14
BRAND NEW 5½ h.p. Twin N.S.U. £9 10
1½ h.p. DE DION, air-cooled £1 15
Phelon and Moore Engine and Frame £5 10
4½ h.p. HUMBER, water-cooled £6 10
2½ h.p. MINERVA, good puller £3 10
2 h.p. SIMMS Engine (vertical) and Frame £2 10
Other engines accepted in part payment.

NEW CARBURETTERS.

1911 B. and B., complete 25/-
1910 Amac, variable jets 22/-
5/- allowed for old carburetter.
1910 Amac, second-hand 15/-
1910 Amac, twin outlet 15/-

Farrar's Motor Exchange

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes
from G.P.O.)

Telephone 910.

MOTOR BICYCLES FOR SALE.

ZENITH-GRADUAS, 3½ h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester.

DOUGLAS, Model D, in stock for immediate delivery.—Sole district agents Paskells, Ltd., 62, High St., Leicester.

1911 Triumph, Tourist Trophy roadster, new April, Kempshall, picked machine, horn, 2 spare valves, etc.; 43 guineas.—Below

1911 8-10 h.p. J.A.P., overhead valves, Bosch, Chatter-Lea, 2½ in. Dunlops, J.A.P. adjustable pulley and carburetter, luxurious touring or racing mount, exceptionally fast and comfortable, short and low, practically new.—A. Mackenzie Cott, 44, Holyhead Rd., Coventry.

MOTOR Cycle, 3½ h.p., 2-stroke, Bosch magneto, handle-bar control, new April; bargain, £27/10—12, Bull Ring, Birmingham.

REX Tourist, 5-6 h.p., twin-cyl., Bosch magneto, spring forks; bargain, £24/10.—Brown's, 12, Bull Ring, Birmingham.

REX de Luxe, 1910, twin-cyl., 5-6 h.p., free engine, 2 speeds, magneto ignition, spring seat and forks, fitted with handsome coach-built sidecar; turnout £47.—Brown's, 12, Bull Ring, Birmingham.

1910 Rex Tourist, 3½ h.p., m.o.v., Bosch magneto, B. and B. carburetter, grand order; bargain, £29/10.—Brown's, 12, Bull Ring, Birmingham.

WOLF, 2 h.p., Stevens engine, magneto ignition, very light; bargain, £14/10.—Brown's, 12, Bull Ring, Birmingham.

1910 Twin Rex de Luxe, 5-6 h.p., m.o.v., Roc 2-speed, gear and free engine, spring forks, grand sidecar machine; £39/10.—Brown's, 12, Bull Ring, Birmingham.

ARIEL, 1910, 3½ h.p., W. and P. engine, Roc 2-speed gear, B. and B. carburetter, fitted with sidecar; sell turnout £38/10.—Brown's, 12, Bull Ring, Birmingham.

MOTOR Cycle, 3½ h.p., magneto ignition, B. and B. carburetter, handle-bar control, spring forks; bargain, £10/10.—Brown's, 12, Bull Ring, Birmingham.

ANTOINE, 3½ h.p., m.o.v., magneto ignition, torpedo tank, handle-bar control carburetter, Lyso belt; bargain, £14/10.—12, Bull Ring, Birmingham.

N.S.U., 4 h.p., twin-cyl., magneto ignition, B. and B. carburetter; bargain, £14/10.—Brown's, 12, Bull Ring, Birmingham.

1911 Bradbury, only ridden 200 miles; owner must sell, ill health; £40, or nearest offer.—Bunting, King's Rd., Oakham.

TRIUMPH, 1910½, little and carefully used, new belt, power guaranteed as new; expert examination invited.—Wynn, Alcester.

1911 Centaur, 3½ h.p., perfect condition, very little used; £35.—J. Wrighton, 257, Wellingborough Rd., Rusliden, Northants.

B.S.A. Motor Bicycles; immediate delivery.—Watkins, the B.S.A. agent, Snowell Green Corner, and Stoney Lane, Sparkhill.

1911 2 h.p. Humber Lightweight, 2 months old, Palmer tyres, no fault; £33 cash.—Box No. 7,749, The Motor Cycle Office, Coventry.

1910 Triumph, £35; 1911 5-6 h.p. F.N., £26; both perfect; X.P.a. latest saddle, 25/-.—Leadbeater, Wellingborough Rd., Northampton.

BIRMINGHAM Motor Cyclists.—See my half column advert. for a selection of bargains.—P. J. Evans, 358, Stratford Rd., Birmingham.

5-6 h.p. Rex de Luxe, 1908, clutch, recently overhauled, very powerful, 1910 h.b. control; £23; exchange lightweight.—Waring, Sutton Coldfield.

HUMBER Birmingham Depot, 78, New St. Tel.: Central 7298. All models now in stock, including French grey and all black 3½ h.p. 2-speeds.

HUMBER.—We are now showing, and booking orders for, the famous "Twin Lightweight" T.T. winner. Give us a call and see this marvellous solo touring mount and hill-climber.

HUMBER, 2-speed, 3½ h.p., ideal and economical for sidecar work; trials and exchanges arranged; Humber repairs executed on the premises.

HUMBER.—A splendid selection of second-hand motor cycles, all in good condition, from £10 upwards.

HUMBER Motor Cycle Riders.—If you are in want of advice on any point please give us a call—78, New St., Birmingham, or 'Phone, Central 7298.

MINERVA, 3½ h.p., Amac, 1910, Whittle as new, tyres excellent, all accessories; bargain, £16.—Smith, 27, Commercial Rd., Grantham.

3½ h.p. 1907 Quadrant, perfect order, all spares, foridden riding, lady's cycle part exchange; £15; seen and tried.—Binks, Benedicts Sq., Lincoln.

5 h.p. Twin Rex, 1911, new, just delivered; Handy Hobart, 2½ h.p., 1911 model, new; what offers?—A. J. Robertson, 15a, Broad Bridge St., Peterborough.

TWIN Peugeot, 3½ h.p., 1911 frame, enamelled grey, as new; £17/10; see photo, or ride 50 miles.—Victoria, Shirley Rd., Leek, Green, Birmingham.

3½ h.p. Standard 1911 Bradbury, little used, best offer, or exchange lightweight, preferably open frame, cash adjustment.—Blundell, 33, Bowling Green St., Leicester.

**FARRAR'S
MOTOR
EXCHANGE,**

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes
from G.P.O.)

Telephone 919.

SINGLE-CYLINDER REXES.

3½ h.p., 1910, with 1911 spring forks.....	£35 0
3½ h.p., 1910, black finish.....	£32 0
3½ h.p., 1910, grey finish.....	£32 0
3½ h.p., 1909, Tourist, very good.....	£28 0
3 h.p., 1908, Featherweight magneto.....	£18 0
3½ h.p., 1906, Tourist, M.O.V., spring forks.....	£14 0
3½ h.p., 1905, low machine, M.O.V.....	£11 0

TWIN-CYLINDER REXES.

7 h.p. de Luxe, two speeds, M.O.V.....	£48 0
5-6 h.p., 1908, two-speed, and sidecar.....	£32 0
5-6 h.p., spring forks, 26 in. wheels.....	£16 10
5-6 h.p., special model, 1909, magneto.....	£27 10
5-6 h.p., de Luxe, clutch model.....	£24 0
5-6 h.p., two speeds and free engine, Bosch.....	£28 0
5-6 h.p., de Luxe, 1908, two-speed model.....	£28 0
5-6 h.p., de Luxe, 1908, two speeds, special, good.....	£29 10
5-6 h.p., 1908, two-speed de Luxe, 1909 engine.....	£32 0
5-6 h.p., 1907, Tourist, Bosch magneto.....	£21 0
5-6 h.p., 1907, Lloyd's variable gear, Bosch.....	£23 0

N.S.U.'s	N.S.U.'s	N.S.U.'s
5 h.p. Twin, Bosch magneto.....	£19 0	
5½ h.p. Magneto, 2 speeds.....	£25 0	
1908 Lightweight, Bosch magneto.....	£17 0	

OTHER MAKES.	OTHER MAKES.
1911 New Hudson, three speeds.....	£47 0
3 h.p. Triumph, M.O.V., very good.....	£18 0
3½ h.p. Fafnir, M.O.V., grand goer.....	£12 0
1910 Twin Moto-Keve, almost new.....	£23 0
3 h.p. Singer, Bosch magneto, V belt.....	£16 0

SIDECAR COMBINATIONS.

5-6 h.p. Clutch Model Rex and new sidecar.....	£29 0
5-6 h.p. 2-speed 1908 Rex and Sidecar.....	£33 0

All fitted with Magneto and Spring Forks.

TYRES. TYRES. TYRES.

Clincher Dreadnoughts, rubber-studded.....	30/-
Continental, rubber non-slids, 26 x 2½.....	30/-
Hutchinson, ribbed tread, 26 x 2½.....	18/6
Continental, beaded, 26 x 2.....	18/6
Tubes, all sizes, guaranteed.....	9/6

£3 DOWN SECURES ANY OF THESE.

BALANCE 5/- WEEKLY.	
2½ h.p. King, vertical, 26 in. wheels.....	£8 0
2½ h.p. Minerva, good.....	£7 0
2 h.p. Minerva, M.O.V., 2-ray carburetter.....	£7 0
3½ h.p. Rex, vertical, M.O.V., 26 in. wheels.....	£11 0

£4 DOWN SECURES ANY OF THESE.

BALANCE 6/- WEEKLY.	
3½ h.p. low Rex, 1908, spring forks.....	£14 0
3½ h.p. Fafnir, M.O.V.....	£12 0
3½ h.p. 1906 Rex, M.O.V., spring forks.....	£14 0
3 h.p. Singer, Bosch magneto, V belt.....	£16 0

CARS AND TRICARS.

5½ h.p. Humberette car, 2 seater.....	£18 0
5½ h.p. Rexette, two speeds, a beauty.....	£24 0
One ditto, re-varnished.....	£20 0
6 h.p. Rover Tricar, good goer.....	£17 0

MISCELLANEOUS BARGAINS.

Brooks Brood saddle.....	9/6
F.R.S. 58/- Lamp set.....	30/-
Cowey speedometer, only done 582 miles.....	£3 3
Second-hand sidecar, rigid.....	£3 10
Mills-Falford Castor Wheel Sidecar.....	£6 6
Vertical Frame, with 26 in. back wheel, etc.....	£1 15
Prested accumulators, new, 75 amp.....	9/6
Tricar Frame, suit 6 h.p. engine.....	35/-
Lycett's Tubular Carriers, new.....	4/11
New Lycett's Saddle, coil springs, L/109.....	15/-
New Frame for vertical engine.....	30/-
New Prested Midget Trembler Coils.....	15/6

WANTED.

Triumphs, Rexes, Minervs, N.S.U.'s, Douglas's, Moto-Reves, and other magneto machines.

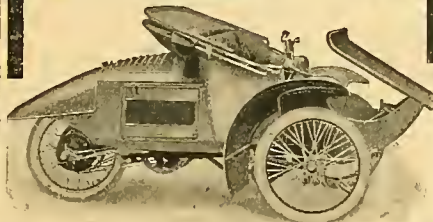
Cash waiting.

MOTOR BICYCLES FOR SALE.

- HAMPSTEAD** Bargains.—Rex, 5, Heath St., Hampstead. Tel.: 2678 P.O.—As below.
- HAMPSTEAD**.—1909 Douglas, splendid condition; £24 and £22; all accessories.
- HAMPSTEAD**.—Douglas, 1911, any models, from stock; 5 per cent. extra for easy payments.
- HAMPSTEAD**.—Bradburys, 1911, any models; immediate delivery; cash or extended payments if desired.
- HAMPSTEAD**.—Triumph, 1911, free engine model, almost new; £50 with accessories.
- HAMPSTEAD**.—1909 P. and M., good order, with accessories; bargain price, £30.
- HAMPSTEAD**.—1911 Lincoln Elk, shop soiled only; special price, £30.
- HAMPSTEAD**.—Motosacoche, good condition, new Dunlop tyres; £10; all accessories.
- HAMPSTEAD**.—1911 brand new standard Triumph in stock; only house in London for immediate delivery.
- HAMPSTEAD**.—Sole London wholesale and retail agents for Lincoln Elks; in stock.
- HAMPSTEAD**.—1911 F.N., 4-cyl., latest type, only few weeks old; £44.
- HAMPSTEAD**.—F.N.'s, latest models, 1911, in stock; no extra for easy payments.
- HAMPSTEAD**.—3h.p. Advance, fine condition, all accessories; a bargain, £8.
- HAMPSTEAD**.—2h.p. F.N., latest model, all accessories; £24.
- HAMPSTEAD**.—2h.p. V.S., magneto, spring forks, all accessories; £12.
- HAMPSTEAD**.—Almost new 1911 5h.p. blue Indian, clutch model; £48.
- HAMPSTEAD**.—1910 free engine Triumph, good condition, with accessories; £39.
- HAMPSTEAD**.—Rex, 1909, magneto, spring forks, good order; bargain, £19.
- HAMPSTEAD**.—4-cyl. F.N., 4h.p., good order; £16; all accessories.
- HAMPSTEAD**.—Humber, 1910, 2-speed; £30; good order.
- HAMPSTEAD**.—1911 Bradbury, splendid condition; £35; all accessories.
- HAMPSTEAD**.—Royal Enfield, late 1910, splendid condition, all accessories; £26, special bargain.
- HAMPSTEAD**.—1911 Douglas, almost new, with accessories; £36; condition like new.
- HAMPSTEAD**.—3h.p. 1911 two-speed Humber, almost new, with accessories; £45.
- HAMPSTEAD**.—Only house for great bargains and quick delivery of new 1911 machines you cannot get elsewhere; agents for all makes, and makers of the famous Rex's sidcar and exhaust whistle.—Only address, 5, Heath St. Tel.: 2678 P.O., Hampstead.
- FOR Sale**, a 4h.p. Jap-Chater-Lea—Apply, Mr. Wynne, 27, Neigard Rd., Catford, S.E.
- REX**, 1911, not ridden 100 miles; £35, lowest—56, Fulborough Rd., Southfields, S.W.
- MOTO-REVE**: £20; 1909, 1910 magneto, twin, 2h.p.—24, Albert St., Regent's Park.
- TRIUMPH**, 1908; £26—Lovejoy, 25, Rock St., North Finsbury Park Tube, London.
- MOTOR Cycles**, second-hand, all prices; write for lists.—H. E. Kettle, Smarden, Kent.
- 3h.p. Rex**, in splendid condition, h.b. control; £12.—10, Benham Rd., South Hackney.
- ROVER**, 2h.p., perfect condition, Whittle belt; £8/10, near offer—176, High Rd., Leytonstone.
- F.N.**, 1h.p., perfect condition; £5; exchange push-erle and cash—40, Replingham, Southfields.
- 1911 Bradbury**, 3h.p., never been ridden; £44.—Kempton, Music Warehouse, Faversham, Kent.
- 3h.p. P. and M.**, 1910, with accessories; £49.—7, Victoria Place, Eastbourne.
- 5h.p. Twin Rex** and Sidcar; £15/10.—61, Colvestone Crescent, Dalston, N.E.
- 1911 Standard Bradbury**, 6 weeks old, all accessories; £45.—106, Albert Rd., Peckham.
- £8 Bargain**, £8.—3h.p. motor cycle, Brown engine, good condition.—Brown, 271a, Tooley St.
- HUMBER** Lightweight, as new; £32.—Box No. 7,965, The Motor Cycle Offices, 20, Tudor St., E.C.
- 3h.p. F.N.**, everything first-class, spares; £11; any time.—3, Kingsbury Crescent, Neasden, N.W.
- 1911 Bradbury**, free engine model, 2 weeks old, never ridden; £52.—Smith, 52, High St., Southend.
- INDIAN**, 1910, 5h.p. twin, little ridden, grand machine; £58, bargain—41, Ashford Rd., Cricklewood.
- DOUGLAS**, 1910, perfect condition; £25, no offers.—56, Fulborough Rd., Southfields, S.W.
- 4h.p. Motor Cycle**, low, handle-bar control, accumulator; £13/10.—386, Fore St., Lower Edmonton.

Premier Motor Company, Ltd.,

Aston Road, BIRMINGHAM.

**The MOTORETTE.**

The best thing in light Two-seaters.

6.7 h.p., Water-cooled, Two-speed, Reliable as any car, 90 Gallons, less Hood and Screen

Made also as delivery vehicle.

We are now able to give EARLY DELIVERY.

Why wait for delivery? We can supply from stock the following 1911 machines:—

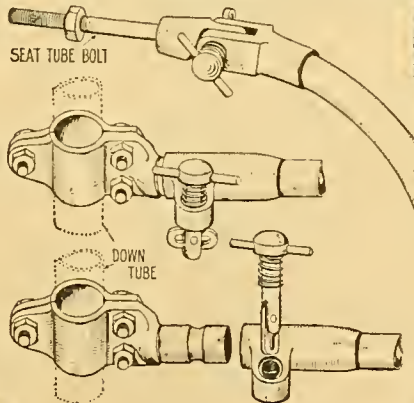
TRIUMPH, standard, 3½ h.p.
 REX, tourist, 3½ h.p.
 REX, cone clutch, 3½ h.p.
 REX DE LUXE, twin-cylinder, 5 h.p.
 REX, cone clutch, twin-cylinder, 5 h.p.
 INDIAN, two-speed, 7 h.p.
 ARIEL, standard, 3½ h.p.
 HUMBER, two-speed, 3½ h.p.
 B.S.A., standard, 3½ h.p.

Second-hand Machines.

We have always a good stock of high-class and reliable Second-hand Machines of various makes
 Cash, Exchanges, or Deferred Payments.
 List sent free to any address.

P.M.C. "QUICKFIT" Couplings

FOR SIDCARS.



PATENT 1442.

With our Quickfit Couplings any sidcar can be attached in sixty seconds and detached in forty seconds, single-handed. No tools required. SAFER than ordinary fittings—no nuts to come off or bolts to "strip." The strain on frame tubes is greatly reduced. Price 30/- the set of three couplings, to fit any make. 5/- allowed on old fittings (any make).

Send for List of the famous P.M.C.

Sidcars. Early delivery.

By far the best value obtainable.

MOTOR BICYCLES FOR SALE.

- REX**, 5, Heath St., Hampstead, can give immediate delivery of following 1911 machines:
- REX**, 3h.p., brand new, 1911 clutch model, handle starting; £42.
- BRADBURY** Standard Free Engine or 2-speed Model; immediate delivery from stock.
- HUMBER**, 1911, 3h.p., two-speed and free engine model; immediate delivery.
- BAT**, 7-8h.p., 1911, new, for immediate delivery; £60.
- TRIUMPH**, 1911, standard model, for immediate delivery, £48/15; and clutch models.
- DOUGLAS**, 2h.p., 1911, standard, model D; immediate delivery.
- DOUGLAS**, 2h.p., 1911, model E, two-speed and handle starting; £48.
- KERRY-ABINGDON**, 3h.p., 1911 model; for immediate delivery.
- F.N.**, 4-cyl., 5-6h.p., 1911, and lightweight, two-speed; immediate delivery.
- LINCOLN** Elk, 3h.p., 1911, £34; or 2h.p., £28/10; no waiting.
- HANDY** Hobart, 3h.p. twin, 1911, or 2h.p.; no waiting.
- RUDGE T.T.** Standard and free engine now in stock; no waiting.
- B.S.A.**, 1911, 3h.p., for immediate delivery; no waiting; £50.
- BAT**, 5-6h.p., in stock, for immediate delivery.
- ALL** the Above for immediate delivery; terms, cash, exchange, or extended payments.—Only address, Rex, 5, Heath St., Hampstead. Tel.: 2678 P.O.
- F.N.**, 4-cyl., shaft driven, perfect order; bargain, £22/10.—73, Church St., Camberwell Green.
- 4 CYL. F.N.**, 1909, with accessories, in perfect running order.—Wilson, 86, High St., Southend.
- N.S.U.**, 5h.p., 2-speed, free engine, magneto, and sidcar; £30.—36, Hurlingham Rd., Fulham.
- TRIUMPH**, 1910, very good order, Solar lamp, spares; £35.—Fellows, 265, Charges St., Piccadilly.
- 2h.p. J.A.P. Racing Cycle**, as new, perfect order, low, £24 fast; £18, others.—13, Maple Rd., Surbiton.
- EAGLES**.—Humber, 1911, 3h.p., 2-speed model, Palmer tyres, Whittle belt, almost new; £40.
- EAGLES**.—N.S.U., 3h.p., 1908, magneto, spring forks, Whittle belt, perfect condition; £20.
- EAGLES**.—Minerva, 3h.p., magneto, low built, adjustable pulley, h.b. control, fine condition; £17/10.
- EAGLES**.—N.S.U., 4h.p. twin, 1910, Bosch magneto, m.o. valves, 1911 spring forks, 2-speed gear, free engine; £35; nearly new.
- EAGLES**.—Singer Velo lightweight, 1910, Bosch magneto, Druid forks, adjustable pulley, latest improvements; £20.
- EAGLES**.—Moto-Reve lightweight, 1910, single-cyl., little used; £18.
- EAGLES**.—We have a few brand new single-cyl. N.S.U.'s, magneto ignition, spring forks, improved carburettor, h.b. control, tool case, full set of tools, 3h.p., £27; deferred payments arranged.
- EAGLES**.—Immediate delivery of the N.S.U. 2-speed gears, all sizes in stock; £5/15.
- EAGLES and Co.**, High St., Acton, N.S.U. West London district agency.—Early delivery of 1911 models; liberal allowances for machines in part payment.—Tel.: 556 Chiswick.
- 2h.p. Minerva**, long bars, tyres good, low, good running order; £7.—Heap, Elmside, Oakhill, Surbiton.
- 7h.p. 1911 Wilkinson**, T.A.C.; cash offers wanted.—Box 7,828, The Motor Cycle Offices, Coventry.
- TRIUMPH**, 1910, Cowey, perfect condition; £36/10, lowest.—56, Fulborough Rd., Southfields, S.W.
- 1911 Standard Rudge**, Kop Hill winner, £40; Smith speedometer, 50/-.—Dixon, Redfords, Enfield.
- TRIUMPH** Motor Cycle, 2h.p. J.A.P., Whittle belt; £8.—King, florist, 200, Hce St., Walthamstow.
- BRAND New Moto-Reve**, just been left on our hands; accept £31/10 clear.—Barker, High St., Kensington.
- SAROLEA**, 2h.p., perfect order, fine climber, splendid tyres; £12.—Rogers, 1, South Norwood Hill, S.E.
- ENFIELD**, 2h.p., Dunlops, only done 100 miles, as new; £35.—H. 57, Florence Rd., Stroud Green, N.
- HUMBER**, 3h.p., long bars, low position, in going order; only £8.—Dunceaster, 240, High St., Acton, W.
- REX**, 3h.p., and sidcar, sparve, going order; £8/10; apply after 6.—G., 74a, Garthage Rd., Forest Hill, S.E.
- TRIUMPH**, 1909, good condition, lamp, spares, etc.; £31.—Jackson, 119, Breakspears Rd., Brockley, S.E.
- JAMES**, 1911, safety model, free engine, used twice; £50 or near offer.—Gray, 1, Old Oak Rd., Acton Park.
- NOBLE**, 2h.p., Chater, Brown-Barlow, Palmers, Derwent, reliable; £10.—Atkinson, Heathfield, Sussex.

MOTOR BICYCLES FOR SALE.

WILKINSON T.A.C., late 1910, 7-8h.p., magneto, 5 speeds, like new; £45.—1, Ebner St., Wandsworth.

INDIAN, late 1910, 5-6h.p., twin, m.o.v., magneto, as new; £42/10.—1, Ebner St., Wandsworth.

2-4 h.p. De Dion Pattern, accumulator, in perfect condition; £12.—Angarde, 59, Robsart St., Brixton, S.W.

3-2 h.p. Triumph, late 1909, exhaust whistle and accessories; £29.—Write, J. Le Grand, 16, Haverstock Hill, N.W.

7 h.p. 2-speed Indian Motor Cycle, good condition, very fast; £47/10.—At Wanchope's, 9, Shoe Lane, Fleet St., London.

N.S.U., 4h.p., 2-speed gear, horn, tools, etc., ridden once only; £50; exchange entertained.—Bunting, Wealdstone.

HUMBER Lightweight, 2h.p., new in May, not a scratch; 28 guineas.—Bunting, Wealdstone.

PHELON and Moore, 1910; £47; seen any time.—Popham, 297, Fore St. Lower Edmonton, London, N.

BARGAIN—3h.p. Ascat, fine condition; £9, or near offer; seen after 7.—Jeweller, 50, Richmond Rd., Bayswater.

TRIUMPH, 1911, standard, delivered July, unriden, brand new; what offers, cash only?—Frith, 326, Essex Rd.

3-2 h.p. Excelsior, Dunlop tyres, good condition; must sell; £26/10.—Evans, 685, Seven Sisters Rd., Tottenham, N.

ANTOINE, 4h.p., Chater-Lea, splendid condition throughout, stand, carrier, etc.; £9/10.—5, Brooksbury St., Islington.

N.S.U., 3h.p., m.o.v., magneto, Gradna gear, footboards, nice order; sacrifice, £18/10.—7, Trevint St., Earlsfield.

QUADRANT, 3h.p., excellent condition, Bowden control; £12, offer.—Seen, Earl's Court Garage, Earl's Court Station.

4 h.p. Lagonda, just overhauled, new Lyso belt, Palmers, B. and B., h.b.c.; £12/10.—191, Philip Lane, Tottenham.

F.N., 1h.p., geared pulley, splendid compression and order, little used; £15 lowest.—Motorist, 4, Lloyd's Av., E.C.

LATE 1909 3h.p. Humber, with Rac 2-speed gear, in excellent condition; £25, no offers.—E. McGrath, Gillingham, Kent.

3-2 h.p. Centaur, m.o.v., 2 accumulators, spring forks, 32 tyres as new; £16, near offer.—Lee, 69, Grove Lane, Camberwell.

ALCYON, 5h.p., twin, good tyres, easy starter, fine condition; £13.—After 6 evenings, 124, Hollybush St., Plaistow, E.

MATCHLESS, 6h.p., 2 speeds, new tyres, perfect condition; £50; also sidecar.—E., 4a, Belsize Grove, Hampstead, N.W.

3-2 h.p. Minerva, B.B. carburettor, 2 accumulators, 32 footboards, reliable; £13/10.—128, Highbury Hill, Highbury, N.

12 Guineas—3h.p. M.M.C., B. and B., Clinchers, footboards, lamp, accessories; offers.—55, Haggerston Rd., N.E.

F.N., 2h.p., 2-speed, shaft drive, late 1910, in perfect condition, equal to new; 27 guineas.—534, High Rd., Tottenham, N.

3-2 h.p. Shaw for Sale, splendid order, must sell; £26/15, a bargain.—Apply, A.P., Densworth Cottage, Chichester, Sussex.

AUTO, 4h.p., 90x90, B. and B., 2 cords, new back, plain oil; inspection any time; £28/10.—351, Monera Rd., Manor Park.

DOUGLAS, late 1909, 3in. belt, machine in excellent order, ridden very little; £25.—Motor, Ingleside, Golden Manor, Hanwell, W.

DOUGLAS, 1910 (July), perfect condition, practically unriden; expert examination invited; £30.—Rogers, 2, Birgin St., Dover.

3-2 h.p. Bruneau, light, low machine, two accumulators, 32 Stanley D. belt; £5/10.—20, Malham Rd., Forest Hill.

MINERVA, 2h.p., Bosch, h.b.c. Amac, new tyres, perfect throughout.—Motor, 23, Fairview Rd., Norbury.

CENTAUR, 3h.p., good condition, c.d., reliable, with accessories; £10/10.—Henry, 107, Cornwall Rd., Brixton.

RUDGE-WHITWORTH, 1911, 3h.p., clutch model, in stock.—Keene, 301, Goldhawk Rd., Shepherd's Bush, W.

TRIUMPH, 1910, sound as a bell; any trial; £37.—Box No. 7,966, The Motor Cycle Offices, 20, Tudor St., E.C.

TWIN 3h.p., will do over 40m.p.h.; £12, or offer.—Seen running at 9, King's Parade, Church End, Finchley.

T.A.C. 7h.p. 1911 Engine, gear box, and transmission, perfect order; £50, or near offer.—4, Church Rd., Acton.

2,000 MILES

— FOR —

TOTAL 6/6 COST

This is what is possible from a STANDARD "FLASH" TYPE

HELLESEN DRY BATTERY.



Numbers of riders obtain this mileage—you can do the same. Write us and we will give you every assistance.

C. Why pay more for Accumulators and have the additional worry and expense in continually charging them?

AA COILS

are the most efficient Coils on the market, for the simple reason that they are specially manufactured for use with Dry Batteries which necessitates a low current consumption to obtain the maximum mileage.



FIG. 3.

PRICE 13/6

NEW TYPE **AA** ALL METAL

HANDLE-BAR SWITCH.

1-WAY 2/3



2-WAY. 2/9

New model now ready with improved action. The large number sold enables us to fix the price as before.

A. H. HUNT,

115-117, Cannon St., London, E.C.

MOTOR BICYCLES FOR SALE.

TOTTENHAM—Bradbury, 3h.p., 1911, standard, £48; clutch model, £54/10; 2-speed model, £55; delivery from stock.—Below.

TOTTENHAM—Triumph, 1911, clutch model, £55; standard, £48; delivery from stock.—Below.

TOTTENHAM—Rudge-Whitworth, 1911, clutch model, £55; standard model; delivery from stock.—Below.

TOTTENHAM—Humber, 1911, 2-speed model; delivery from stock; £50.—Below.

TOTTENHAM—Humber, 1910, 2-speed model, 1911, improvements, as new; £40.—Below.

TOTTENHAM—Humber lightweight, 1911; delivery from stock; £37.—Below.

TOTTENHAM—Triumph, 1911, standard model; delivery from stock; £48/15.

TOTTENHAM—Fafnir, 4h.p., Simplex, new engine and magneto, Whittle, spring forks; £27/10.—Below.

TOTTENHAM—Kerry, 5h.p., twin, free engine, and coach-built sidecar; £20.—Below.

TOTTENHAM—Kerry, 5h.p., twin, Bosch magneto, rebored, rebushed, and new pistons fitted; £20.—Below.

TOTTENHAM—Scott, 1911; delivery '26th July; best offer.—Below.

TOTTENHAM—N.S.U., 5h.p., twin, Whittle, magneto, low built, sidecar Chater-Lea, spring forks; £33.—Below.

TOTTENHAM—Rex, 1909, 5h.p., twin, tourist model, all as new; £28/10.—Below.

TOTTENHAM—Rex, 1910, 3h.p., tourist model, slightly soiled; £32.—Below.

TOTTENHAM—Rex, 3h.p., single-cyl., 1909, magneto, grand machine; £25.—Below.

TOTTENHAM—Triumph, 3h.p., perfect order, with sidecar; £20.—Stamford Hill Motor Co., 128, High Rd., Tottenham. Phone 1982.

TRIUMPH, 3h.p., 1909, perfect condition, lamp, generator, horn, tools; £32.—7, Circus Rd., St. John's Wood.

1908 Triumph, excellent condition, nearly new belt and Palmer cord back tyre; £29.—Baker, 67, St. Aubyn's, Hove.

TRIUMPH, 1906, coil, handle-bar control, 1910, perfect condition; £15.—Johnson, 15, Golden Manor, Hanwell.

1911 F.N., 4-cyl., 5-6h.p., latest type, as new, lamp, mirror, horn; bargain, £38.—Harrison, 422, High St., Lewisham.

BRADBURY, 1911 300 miles, handle-bar mirror, horn, watch holder, etc.; a bargain, 39 guineas.—50, Clapham Rd., S.W.

BAT, 3h.p. M.M.C., spring frame, 1910 Bosch, tyres, splendid condition, Amac, perfect; £15.—27, Magdalen Rd., Wandsworth.

3-2 h.p. Brown, magneto, new piston and cylinder, 32 Kempshall and Dunlop; £24.—38, Hinton Rd., Wallington, Surrey.

1910 Indian, 5h.p., fine machine, in new condition, spares, and accessories; £35.—W. Cook, The Warren, Wanstead.

1908 Motor Cycle, 2h.p. Kerry engine, torpedo tank, footboards, good condition; £12.—Pintney Garage Co., High St., Putney.

REX, 3h.p., perfect condition, accessories; trial run if necessary, Amac; nearest £16.—Write, Motorist, 14, Heath Rd., Twickenham.

1910 Triumph, free engine model, new 1911 engine, latest improvements, condition excellent; £48.—Owtram, solicitor, Haslemere.

1911 F.E. Triumph, immediate delivery; the best over net price.—Car Supply Co., 5 and 6, Coventry St., W. Gerard 7561.

BUCHET, 2h.p., low, spring forks, h.b.c., stand, carrier, lamp, tools, spares, etc.; £7/10, or offer.—35, Lynton Rd., Kilburn, N.W.

1911 Rex, 3h.p. and 5 h.p. models, in stock, ready for immediate delivery; best exchange terms.—Wrench's, 120, Hampstead Rd.

REX Motors, latest models ready for immediate delivery; any model you require will be brought for your inspection without obligation within 20 miles.—Wrench's, 120, Hampstead Rd.

6 h.p. Stevens Twin Engine, w.c., 2-speed, chain drive, wheels perfect; offers, or exchange motor cycle.—Mitchell, 36, Selsey St., Bow, E.

3-2 h.p. m.o.v. Fafnir-Chater, low frame, No. 6, h.b. control, good tyres, seen any time.—Smith, 122, Creek Rd., Deptford, S.E.; £12.

2-2 h.p. Motosacoche, 1911 model, only ridden 3 months; bargain, £25.—Particulars, Box 7,956, The Motor Cycle Offices, Coventry.

5-6 h.p. Twin Kerry, twin coil, silencers, induction pipes, adjustable pulley, cradle-plates all perfect; £6/10.—Heuley, Frimley, Surrey.

HUMBER, 3h.p., chain drive, good headlight, tyres, excellent running order; £7; by appointment.—S.F., 43, Clarendon Rd., Putney.

MOTOR BICYCLES FOR SALE.

7.8. 3½ h.p. magneto, 1911 B and B. Truffault forks, new B104 saddle, tools, spares; £18-4. Forest new Av. Whipp's Cross, Lepton.

h.p. Free-engine 1911 Rex, m.o.v., just as new, elntel model, tourist; 38 guineas.—At Wauchope's, 9, Shoe Lane, Fleet St., London, E.C.

911 Indian, 5 h.p., Red, purchased May, 1,500 miles. good as new, free engine clutch; £46/10.—Thompson, 112, Hatfield Rd., St. Albans.

7.N. 1½ h.p., lightweight, magneto, 26in. wheels, Continental tyres, excellent condition; £15.—West, 46, the Promenade, Seven Kings, London.

3 h.p. Brown, handle-bar control, B. and B., guaranteed perfect condition, starts easy, tools and spares; £9/15.—98, High St., Horsey.

h.p. Kerry, spring forks, new belt, spare accumulator, belt, takes sidecar, excellent condition, 26x2; 12/10.—R., 72a, Mare St., Hackney.

TRIUMPH, 1909, £30; owner will ride it anywhere in England to meet bona-fide purchaser.—No. 1952, The Motor Cycle Offices, Coventry.

3 h.p. 1911 Moto-Reve, all latest improvements, twin, never been used; £37.—Box No. L3,841, The Motor Cycle Offices, 20, Tudor St., E.C.

18.—7.9 h.p. twin Peugeot, Bosch magneto, 2-speed gear, B. and B. spring forks, low built, grand deca machine.—Sinclair, East Meley.

MINERVA, m.o.v., B and B, 1911 carburettor, h.b. control, Dunlop, excellent engine, going order; 0 guineas.—Pawnbroker, 13, Peckham Rye.

h.p. Imperi, with Bosch magneto, will sell separately, if required, in good going order; £9.—Apply, 7, King's Rd., Fairfield Rd., Edmonton.

EXCELSIOR, 3½ h.p., vertical, low built, no pedals, very good order, complete machine, with accessories; 12; after 5 p.m.—40, Balam Grove, S.W.

AFNIR, 3 h.p., Amac carburettor, magneto, footboards, good solo machine, very low; £16; after 7 p.m.—Tate, 24, Comerford Rd., Brockley, S.E.

S.A.—Early deliveries of these splendid mounts from the Cripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

h.p. Peugeot, Truffault, Hellesen, h.b.c., excellent condition, very low; £14/10; lightweight part exchange.—Rowans, Conway Rd., Southgate.

10 late, Royal Enfield, new condition, Palmer cords, fin. belt new, lamp pump, tools, etc.; £24 cash, no offers.—Jibb, 165, Hook Rd., Epsom.

TS an Indian, single-cylinder, 1910, perfect order, climb anything from 4 to 40 per hour; first cheque £25.—Rogers, 1, South Norwood Hill, S.E.

MOPOSACOCHE, 1910, Palmer tyres, Whittles belt, Druid spring forks, magneto, etc.; accept £20.—Simpson, 6, Battersea Rise, Clapham Junction.

MOTOR Cycle, 2 h.p., De Dion engine, h.b. control, spring forks, tyres and general conditions perfect; 18, or near offer.—2, Thornsett Rd., Anerley.

h.p. Rex, smart machine, fine condition, Stewart speedometer, F.E.S. lamp, spare tubes, all complete; 32; no offers.—9, Mortimer Rd., Kensal Rise.

AT, 1911, 3½ h.p., very little used, faultless, and as new, spare belt and accessories, guaranteed.—Baillard, R.N., H.M.S. Formidable, Atlantic Fleet.

DOUGLAS, 1909, a very fine machine, in splendid condition, not done 3,000 miles; price £24/10; approval, deposit.—Rose, Motor Works, Uxbridge.

DOUGLAS, latest models in stock.—Rose, Motor Works, Uxbridge.

10 Royal Enfield, as new, Whittle and rubber belts, new heavy Dunlop studded tyre, 60; worth spares; bargain, £28.—Talbert, 46, Surrey Sq., S.E.

F.N. 2½ h.p., 2-speed, late 1910, beautiful condition, Palmer cord and bottled tube on back; £27/10, or close offer.—V.H.B., 13, Kidderpore Av., Hampstead.

h.p. 1910 Triumph, clutch model; cost £55, for immediate sale price £43/10; first-class condition.—At Wauchope's, 9, Shoe Lane, Fleet St., London.

h.p. Quadrant, free engine, accumulator, in good condition and good running order; £10, a bargain.—Oxleyder Works, 1, Choumert Rd., Peckham, London.

A. H. GOLD, special agent for the Brown; full value allowed for second-hand machines in part payment.—Motor Cycle Works, Underhill, New Barnet.

INDIAN, 1910, 5 h.p., fully equipped with accessories and spares, very fast, and in perfect order; will accept first offer over £38.—R., 170, High St., Lewes.

h.p. Minerva, spring forks, h.b. control, Whittle, f. electric horn, 21 tyres, splendid condition, also forcar to fit same; £11.—70, Denmark St., Plaistow, E.

F.N., 4-cyl., in new condition, £25; also 9 h.p. Singer trier, in splendid going order, lamps, spare tyre and spares, £45.—Taylor, 112, New King's Rd., Fulham.

MATCHLESS, 7 h.p., late 1910, Chater-Lea coach-built sidecar, free engine, 2 speeds, Whittle belt, Michelin studded tyres; £59.—239, Broadway, Cripplewood.

A.J.S., 2-speed, and Singer lightweight, 1911 models, shop-soiled only, what offers? F.E. Triumphs and Rodges, immediate delivery.—Morris, 139, Finchley Rd., N.W.

THE EASTERN GARAGE COY.

In view of the urgent demand for new high-class Motor Cycles, we have made special arrangements which enable us to offer the following:—

New Machines in Stock.

TRIUMPH	Clutch Model.
TRIUMPH	Standard Touring.
ZENITH GRADUA ..	3½ h.p. J.A.P. Engine.
ZENITH GRADUA ..	6 h.p. J.A.P. Engine.
DOUGLAS	Standard Model "D."
RUDGE-WHITWORTH	Standard Touring.
RUDGE-WHITWORTH	Clutch Model.
BRADBURY	Standard Touring.
BRADBURY	Clutch Model.
MOTOSACOCHE ..	2½ h.p. Free Engine.
REX (1910)	5 h.p. M.O.I.V. Touring.
REX (1910)	3½ h.p. Clutch Model.
MILLFORD SIDECARS	Eight Models.

We have various other machines due, and shall be pleased to quote delivery dates of HUMBER, INDIAN, SCOTT, P. & M., BAT, etc.

The following is a selection of our

Second-hand Machines.

ZENITH GRADUA, 1911, 3½ h.p.	£47
L.M.C., 1909, 3½ h.p., two speeds, free engine, spring forks, Bosch magneto, B. & B. carburettor, h.b.c.	£23
REX, 1910, 5 h.p., tourist, Lucas headlight set, etc.	£35
DOUGLAS, 1910, Model D	£23
CHATER-SAROLEA, 1910, 5 h.p. twin, B. & B. carburettor and Bosch magneto, both h.b.c., finished grey	£30
TRIUMPH, 1910, 3½ h.p., touring model	£35
REX, 1909, 5 h.p., standard tourist	£25
MINERVA, 1907, 2½ h.p., stand, carrier, Brooks saddle, spare belt	£12
MOTOSACOCHE, 1910, 2 h.p., latest model, with Druid forks, free engine, Whittle belt	£25
P. & M., late 1910, 3½ h.p., two speeds and free engine	£47
REX, 1910, 5 h.p., No. 2 Speed King, touring handlebars and saddle, Cowey speedometer, Lucas lamp set, etc.	£36
INDIAN, 1910, 5 h.p.	£37
TRIUMPH, 1910, 3½ h.p., free engine model	£43
CHATER-J.A.P., 1910, 5 h.p., overhead valves, ball bearing engine, J.A.P. carburettor, Bosch magneto, both h.b.c., Chater spring forks, stand and carrier, No. 9 frame, Davison's tank, Mabon clutch, Brooks best saddle, 2½ in. tyres, all possible refinements, soiled only	£55
MOTOSACOCHE, 1910, magneto, spring forks, Whittle belt	£20
HUMBER, 1911, 3½ h.p., two-speed model	£42
CHATER-PEUGEOT, 5 h.p. twin, B. & B. carburettor, h.b.c., Brooks saddle	£16

The above machines have all been thoroughly overhauled in our workshops, and we guarantee them to be perfect.

The EASTERN GARAGE Co.

418, Romford Road, FOREST GATE, E.

Telephone: Stratford 10. Telegrams: "Egaraco, London."

MOTOR BICYCLES FOR SALE.

MOTOSACOCHE, 1½ h.p., good condition, Whittle belt, spring forks, accumulator, and dry battery, new Palmer back; £12.—Briant, 71, Sheen Rd., Richmond.

2 h.p. Douglas Motor Cycle from £20; call and inspect our large and varied selection of lightweights.—Wanchope's, 9, Shoe Lane, Fleet St., London, E.C.

MINERVA, 2½ h.p. vertical, Longuemare, 26in. wheels, low, good order; £12, or offers; would ride 40 miles to purchaser.—Jas. H. Waley, Five Oaks, Billingshurst.

h.p. Motor Bike, Ariel, engine perfect condition, £27; and 2½ h.p. De Dion, less tyres, frame slightly damaged, £6.—Bond, 15, Atherton Rd., Forest Gate.

A. H. GOLD, New Barnet. — Immediate deliveries of Brown, Rex, Bradburys; cash, exchange, or gradual payments.—Motor Cycle Works, Underhill, New Barnet.

ENFIELD, 1911, 2½ h.p., perfect, speedometer, backrest, Testophone, Garner whistle, Palmer cords, Brooks big 250 seat; sacrifice, £32.—Sear, High St., Ealing.

TWIN Peugeot, 5 h.p., Kempshalls, Whittle, adjustable pulley, new tubes, low, fast, any trial in sidecar; £22; sidecar £35/5.—40, Talfourd Rd., Peckham Rd., S.E.

IF You Want Bargains in second-hand motor cycles, you can get them at Wauchope's.—Wauchope's, 9, Shoe Lane, Fleet St., London, E.C. just off Ladgate Circus.

5 h.p. Twin Rex, Mabon clutch, Whittle, h.b.c., spring forks and saddle-pillar; owner wants light machine; £14, or nearest offer.—Wilson, 297, High Rd., Streatham.

h.p. Twin Minerva, Mabon clutch, Cowey speedometer, 2½ in. tyres, h.b.c., practically new; 30 guineas.—Garaged Ravensbourne Garage, Southend, Cator, S.E.

SINGLE F.N., 1910, with up-to-date fittings, 2 speeds, speedometer, lantern generator, and spares, in perfect condition; £28, or offer.—Manchester, 3, Prince's St., Southend.

TRIUMPH, 3½ h.p., new 1908, with 1911 sidecar, marvellous engine, thoroughly reliable, exceptional condition, etceteras; £29.—271, Lauderdale Mansion, Maida Vale.

h.p. Fafnir-Chater-Lea, footrests, foot brake, long bars, good machine, £10; also 2 h.p. Minerva, new Dunlop tyres, perfect, £9.—Humphries, 8, The Village, Charlton, S.E.

No 6 Chater-Lea Cycle, complete, less engine, accumulator and coil, footboards, very low; £6/10; or good push cycle, 25in., and cash.—Gates, 106, Camberwell Grove, S.E.

1911 Standard Douglas, week old, receipt shown, unscratched, 3 spare valves, tube, horn, tools, etc.; £37; bought sidecar machine.—Barnard, 77, High St., St. John's Wood.

BRADBURY, 1911, only done 300 miles, Cowey speedometer, V.M.S. lamp, watch, mirror, spares, etc.; absolutely perfect; £45.—Thwaite, 55, Nevill Rd., Stoke Newington.

h.p. Minerva Twin, h.b.c., adjustable pulley, spring forks, splendid condition, just overhauled, 2 new C.A.V. accumulators, too powerful for owner; £22.—Jenno, Shortlands, Kent.

h.p. Triumphs; 5 h.p. and 7 h.p. passenger machines; 2 large variety of good sound second-hand machines for immediate delivery.—Wanchope's, 9, Shoe Lane, Fleet St., London.

1909 F.N. Lightweight, 1½ h.p., magneto, spring forks, Palmer studded tyres, like new; £17/10; exchange S.C. lathe and cash.—Aero, 2, Dana St., Shacklewell Lane, Dalston.

MOTOSACOCHE, Druid spring forks, Whittle and round belts, Rom back, Clincher front tyres, all spares and accessories, in perfect condition; £13.—Miller, 1, Heath Gardens, Twickenham.

MOTOSACOCHE, 1½ h.p., dry cell, spring forks, Palmer, Dunlop, new pulley, belt, battery, rushed, excellent order; take first offer over £9.—Newell, South Park, Reigate.

5 h.p. Twin Rex, Bosch magneto, B. and B. carburettor, 26 in. inch belt, new Continental, 2 new tubes, very fast, good for sidecar; £20.—E. B. Cole, 82, Pellatt Grove, Wood Green, N.

h.p. Singer, 1911, B. and B. carburettor, Whittle belt, Rom back, Bosch magneto, overhauled this year by makers; genuine bargain; any test; 17 guineas, lowest.—Lamb, Sutton, Dartford.

1909 Minerva, 3½ h.p., spring forks, Continentals, bottled tubes, h.b. control, very powerful lamp, and accessories; £13; machine very little used.—Lamberhurst, Priory Av., Southend-on-Sea.

LIGHTWEIGHT 1½ h.p. F.N., magneto, spring forks, just fitted new engine, tyres perfect, tools, spares, numbers, also new suit Dunhills best overalls, rider 5ft 9in.; lot £16.—Write, F., 11, West View, Highgate Hill, N.

TRIUMPH, 3½ h.p., 1908, guaranteed absolutely perfect, not ridden 200 miles since new, piston rings, engine bearings, and valves renewed, climb any mortal hill.—Can be seen and tried at 2, Milner St., Cadogan Sq., S.W.

MOTOR BICYCLES FOR SALE.

1 1-h.p. Motosacoche, 1910, in perfect condition, free engine, Whittle belt, spring forks, magneto, tubular stand and carrier, footrests; £23.—Harley, 95, Victoria Dock Rd., Canine Town, E.

RENE-GILLET, 5-h.p. twin, nearly new, low dropped frame, tyres, hardly used two new extra covers and tubes, toolbag, stand carrier, etc.; £24, great bargain.—Motor, 168, Wandsworth Rd., S.W.

3 1-4-h.p. Roe, 1910, Chater No. 9 frame, Bosch magneto, Amac variable carburettor, tyres almost new, Continental, splendid sidecar machine; £16; must sell.—Desoutter, 12, New Burlington St., W.

WIN-PRECISION Motor Cycles: immediate delivery 1911 model, gradual payments, £2 monthly, cash £45/10; particulars on application.—De Nevers Automobile Agency, Empire House, Piccadilly, W.

19 10 1/2 Triumph, free engine, new condition, little used, perfect order, guarantee over 500 m.p.h., Whittle belt, exhaust whistle, spares, tools, horn, numbers; £43.—28, Wellesley Rd., Chiswick.

MOTO-REVE, 2-h.p. twin lightweight, late 1910, done 800 miles, perfect condition; expert examination invited; complete, ready for tour; bargain, £26/10.—Motorist, 105, Evering Rd., Stoke Newington.

19 10 3-h.p. Rex de Luxe, £26/10, no offers; late spring forks, cantilever seat, low, drip lubrication, free engine lub, ball bearing magneto, in excellent condition throughout.—93, Hessel Rd., West Ealing.

BAT Motor Cycle, 6-7-h.p., magneto, good running order, Rom tyre nearly new, Whittle belt, Mabon clutch, Autoclipse lamp and generator, spares; £24.—Head, The Chestnut, Cumnor Rd., Sutton, Surrey.

TRIUMPH, just been overhauled at a cost of £7, including new cylinder, piston, bushes, re-enamelled and plated, spring forks, guaranteed perfect; no three to ride; £18.—B. Russell, 128, High Rd., Kilburn.

MOTOSACOCHÉ, 1-h.p., Whittle, spring forks, Sturmey-Archer Tricoaster, stand, carrier, handle-bar control, capital condition, and powerful low build; £15.—Keene, 301, Goldhawk Rd., Shepherd's Bush, W.

PREMIER, 20, Holborn Viaduct, London.—Immediate delivery 1911 models: 3-h.p., £47/10; free engine, 27/7 extra; 2-speed, 210/10 extra; catalogue and particulars free; trials arranged; agents everywhere.

2 1-h.p. Quadrant, B. and B. carburettor, h.b. control, dry battery, 27/10; or would exchange for 1-h.p. Motosacoche; also sidecar 26x2 1/2. Michelin tyre, in good condition, £22/18.—Winchelsea, Manor Rd., East Molesey.

6 h.p. De Dion, w.c. engine, like new, perfect, complete with contact valves, carburettor, clutch, and pump, £12/10; 3-speed gear box, new, light, £5/10, suit quadricycle, etc.; the lot £15/10.—G., 39, Calderden Downs, Tunbridge Wells.

3 1-h.p. 1910 Tourist Trophy Rex, all spares, £35; 3 1/2 h.p. 1908 Vindex, Truflaut spring forks, all spares, £26; 7-h.p. 1909 Peugeot, Chater-Lea fittings, and sidecar, all spares, £30.—Mebbs, 181, Gt. Portland St., W.

2 1-h.p. Motor Bicycle, loop frame, low, light, reliable, good condition throughout, nearly new Palmer, new battery, engine perfect; bargain, must sell, sacrifice, £6; seen any time, trial.—Thomson, 77, Handcroft Rd., West Croydon.

3 1-h.p. Aster, powerful, pulls sidecar anywhere, Chater-Lea spring forks, Peter Union tyres, Longueux magneto, accumulator, belt, over valve and clutch; trial; accessories; bargain. £10/10.—17, Bedford Sq., Olark St., E.

SPECIAL 3-h.p., Minerva engine, and Bosch magneto, £6/10. Phoenix 2-speed gear in 26x2 1/2 wheel with steel-studded tyre, £3/10; Phoenix Cob frame and tanks, £2; offer.—J. Chapman, 47, Highbridge St., Waltham Abbey.

GRANDEX.—1910 Moto-Reve, 2-h.p., beautiful condition, worth £30, for £24 cash, on approval; midge bicar, 3-h.p., Patin, £11. Grandex—1 demostration 2-h.p. Grandex, only used 100 miles, £28/10.—28, Gray's Inn Rd., W.C.

19 09 Triumph, specially low frame, X'Poll spring seat, front wheel stand, new back tyre, Advance pulley, and many detail improvements, recently overhauled by makers; £35.—Box No. 13,845, The Motor Cycle Office, 20, Tudor St., E.C.

MOTO-REVE, 2-h.p., twin-cyl., 1910 model, very little used, spring forks, magneto, Kempshall non-skid, lamp, horn, tools, etc., French grey, beautiful condition, fast, and splendid climber; sacrifice £21.—11, Thornssett Rd., Anerley, S.E.

IMMEDIATE Delivery of Win motor cycles, 1911 model, standard throughout, Precision engine, £45/10 cash, or gradual payment £2 monthly; further particulars on application.—The De Nevers Automobile Agency, Empire House, Piccadilly, W.

TRIUMPH (August, 1909), fitted Roe 2 speed, handle starting, new Palmer cord, Whittle belt, engine just overhauled, with new 1911 piston, £36; sidecar to fit same, nearly new, £40; without Roe 2-speed and sidecar £28.—45, Culford Rd., Southgate Rd., N.

19 10 Triumph, T.T. roadster, new July, magnificent condition, very little used, really trustworthy machine, tyres uncured, very fast, do 60, and climb anything, Autoclipse lamp, exhaust whistle, spare valves, rings, tools, etc.; £36.—101, South Norwood Hill, S.E.



The fawn suit is ideal for this weather, and strongly recommended.

ALBANY Motor Cycle Clothing and other Specialities. 'STANDARD' SUIT.

In grey-green or fawn double texture Paramatta cloths. Guaranteed absolutely waterproof.

JACKETS ONLY.—Double breasted. Deep storm collar and adjustable strap to keep out rain and dust. Inside and outside wind cuffs. Seams stitched and solutioned, etc., etc. 18/-.

LEGGINGS ONLY.—Leather adjustable boot straps. V-shaped gussets, and patent dome fasteners to exclude rain, wind, and dust. Extended gaiter. No tire-some buttons. Easily shipped on or off. 8/-.

Complete Suit, 25/-

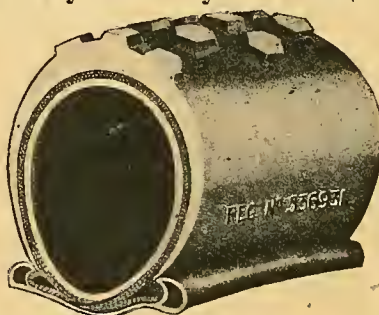
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Terms: Nett cash with order. Goods sent carriage paid by return. Send chest measurement and length desired for Jackets, and inside leg measurement only for Leggings. Send now for illustrated catalogue to—

G. RAWES & SONS,
The Albany, Oldhall St., Liverpool

MOTOR BICYCLES FOR SALE.

MOTOSACOCHÉ, new September, 1910, ridden or 1,700 miles, just overhauled, new tyre, perfect condition, free engine, extra large saddle, variat pulley, Whittle belt; what offers?—Gilbey, Olip Ahersoch, Carnarvonshire; machine in London.

SINGER Motor Cycle, 3-h.p., magneto, ignitic spring forks, and saddle, new cover rear wheel cost £50, just overhauled, perfect condition, must sold, owner going abroad; will accept £18, bargain. Parsons, 145, Brigstock Rd., Thornton Heath.

IMMEDIATE Delivery from stock of 1911 models 2-speed Bradburys, free-engine Ridges, 2-speed Douglas, free-engine L.M.C., and other first-class make so difficult to procure without waiting.—Call or write to Wauchope's, 9, Shoe Lane, Fleet St., London, E.C.

TRIUMPH, 1910, free engine model, fitted with horn, lamp, generator, Lucas reflex light, spa Watawa belt, and Mills and Falford carrier who sidecar fitted with self-contained acetylene lamp; £4 no offers.—C. Moss, 1, St. George's Mews, Priory Hill.

V.S. 1910, 7-9-h.p. 2 speeds, steel studded back tyre spare cover, Whittle belt, butt-ended tubes, spares, Cowey speedometer, F.R.S. lamp, Montague spring wheel sidecar, with lamp, etc., luggage carrier £45; no offers.—Dr. Goodden, 5, Oxford and Cambrid Mansions, N.W.

2 h.p. Moto-Reve (1909) magneto, Whittle belt, ty and engine perfect; the machine is in magnificent order throughout, and nicely fitted up; oil and petri gauges control all on the handle-bars; sacrifice, £19. Sydenham Autocar Co., 153, Sydenham Rd., Sydenham S.E. Tel.: Syd. 435.

3 1-h.p. 1908 Browa, Mabon clutch, free engine, sple did condition, lamp, generator, horn, all spar and tools, Mills-Falford sidecar, with locker under sam tyre like new, Whittle belt, complete; £25.—Motor politician District Garage, F. Mebes and Sons, establish 1893, 181, Great Portland St., W.

WIN Precision Motor Cycles.—Immediate delivery 1911 model, Druid forks, Bosch magneto, and B. carburettor, Dunlop tyres, £45/10; cash, gradual payments, £2 monthly; trial by appointment any reasonable distance.—Jennings, 268, Horseley R (near Public Baths), Holloway, London.

MOTOR Cycle.—4-h.p. J.A.P., Chater-Lea frame, ju been overhauled, replated, re-enamelled, for handle-bars, Kerry head lamp and generator, B. and I carburettor, tyres as good as new, also a spare on very low and fast, 50 miles an hour, can do over; bargain, £35, or near offer.—H. E. Ashdown, Runn mode, Willington Rd., Hounslow, S.

HAZEL Lightweight Motors.—We are now in a pos tion to give early delivery of our 2-h.p. model the lowest, shortest, and lightest machine of its powe on the market, fitted with Jap engine; price 35 guinea second-hand machines in part payment; many good second-hand machines in stock at reasonable prices.—20 Griggs Cycle and Motor Co., 24-28, Woodford Rd Forest Gate, London, E.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

DAN GUY, Weymouth, Triumph agent. — Deliv clutch model next week; £55.

DAN GUY, Singer agent. — Free clutch, £55; i stock.

DAN GUY, Weymouth.—Bradbury agent: roadst models in stock; £48.

DAN GUY.—1911 Moto-Velo, shop soiled, only £30

DAN GUY, Weymouth.—1908 Triumph, guaranter condition; £28/10.

DAN GUY, Weymouth.—1909 Douglas, good runn order and condition; £24; offers.

DAN GUY, Weymouth.—1910 Enfield, absolutely a new; £28.

DAN GUY, Weymouth.—1909 Phelon-Moore and sid car, enamel, engine, and speed gear in splendi condition; any trial; £35.

DOUGLAS, 1911, model E, hand starting, 2-speed £48; in stock.—Moffat, Yeovil.

2 1-h.p. F.N. shaft driven, good condition, 1910; £22 —Rashleigh, Citedel, Plymouth.

PHELO-MOORE, 3-h.p., 1911, as new, ridden 50 miles; £52 cash.—Pitt, chemist, Barnstable.

DOUGLAS, 1910, Dunlop tyres, good condition £28/10, lowest.—Overmass, South St., Exeter.

NEW HUDSON and Moto-Reve in stock for immu diate delivery.—Duggan, agents, Raleigh St Plymouth.

19 10 N.S.U., 2-speed, free engine; any trial or ex amination; £28, offers.—Coffin, Holwell, Sles borne, Dorset.

3 1-h.p. Clyde, magneto, Amac carburettor, in goo running order; £8, or near offers.—Western Uffenhue, Devon.

3 1-h.p. Rex, powerful, low, practically new Palm 3 1/2 tyre back, new trembler; bargain, £10.—Hocke, Petersfield House, Chard.

P and M, 2-speed, late 1909 spare cover, lamp, etc perfect order throughout; £34, lowest.—Woo photographer, Barnstable.

MOTOR BICYCLES FOR SALE.

RANK REYNOLDS, Broadway, Dorset. Tel.: No. 8, Upwey. Telegrams: Reynolds, Upwey. New 5 A. motor cycles for hire.

h.p. Single-cyl. Autoine, in grand condition, not done 1,000 miles, accumulator ignition; £14; approval. Reynolds, Broadway, Dorset.

OVERS, Humbers, Singers, Zenith-Graduas, N.S.U., F.N.'s; Cornish agents, Hammond and Jefferies, 10, St. Austell: immediate delivery.

2 h.p. Fairy Twin Lightweight, Bosch magneto, last 1 re-bushed, spring forks; bargain, £12/10.—Walton, Golden Hill, Stourton Cundle, Stalbridge, Dorset.

1 h.p. Humber, 1911, 2-speed, hand starting, first-class condition, makers' guarantee unexpired, 12 Montgomery sidecar, P.R.S. lamp, full accessories, 10s, small spares, luggage hold-all, owner purchasing; price £45.—Reid and Evans, Garage, Exeter.

SECTION X.

COTLAND.

TWO Model E. Douglasses with 2-speed and hand starting, in stock; £48.—Dall, Ladybank, Fife.

TRIUMPH, 1909, standard, plating and enamel very good, back tyre and belt almost new, footboards, 10s valve and plug; £29.—No. 7, 942, The Motor Cycle Office, Coventry.

DUNDEE.—Sole agents for Douglas, New Hudson, etc., second-hand machines always in stock; every-thing for the motor cyclist; repairs.—Dundee Motor and Cycle Co., Nethergate, Dundee.

COTLAND'S Largest Motor Cycling Firm.—Don't wait for months on your new mount. We can give immediate delivery of Indian, Premier, Douglas, Zenith, S.A., N.S.U. and Lincoln. Elk. Besides these, we stock P. and M., Roe, and Norton, and can supply any other make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

SECTION XI.

ireland and Isle of Man.

TRIUMPHS, 1911 models; immediate delivery from stock; no waiting.—Higgins, agent, Atheny, Ire-land.

h.p. 1911 Indian motor cycle, ridden 900 miles, new in May; too powerful; £55.—G. Ormrod, Magil-gan Camp, Bellarena, N. Ireland.

TRICARS FOR SALE.

1 h.p. Humber, 2 speeds, free, chain driven; £12.—32 Franklin, London Rd., Kingston.

ALLDAYS Traveller, holds three and child; seen evening by appointment; £22.—Crees, Rayleigh Essex.

VERY Handsome Tricar: a bargain; will drive par-chaser 50 miles.—9, King's Parade, Church End, inchley.

h.p. Coachbuilt Magneto Forecar; sell £15, or ex-change lightweight.—Walker, 49, Belvoist St., Leicester.

h.p. Water-cooled Tricar, in splendid condition; sell or exchange for good motor cycle.—Haanam, Lon-don Rd., Sheffield.

h.p. Quadraat Tricar, wheel steering, 2 speeds, chain drive, good condition; reliable. £18.—Quadraat, c/o Hooper and Barty, 15, Walbrook, E.C.

HUMBERTTE, 5-h.p., w.c., 2 speeds, car drive, wheel, new tyres, beautifully sprung; trial after 7; £20.—Nelson, 8, Park Lane, Stoke Newington.

h.p. Stevens Tricar, B. and B., h.b., magneto, 2-speed gear box, pedal clutch, new tyre and tubes, in perfect order; £20.—Western, Uffculme, Devon.

1 h.p. Water-cooled Tricar, Coronet engine, Osborne 2 4-speed pulley, tyres in excellent condition, fast and powerful; £11.—Evans, 4, Penrill Rd., Bangor.

SINOER Tricar, 4 h.p., splendid condition, magneto, 2-speed, new tyres, B. and B. carburettor, tools, spares, etc.; £18.—Wilson, 6, The Promenade, Golders Green.

h.p. Coachbuilt Tricar, French grey, red lined, water-cooled, 3-speed, worm drive, wheel steering, electric lamps, in beautiful condition; £45.—George Burke, 313, Stanley Rd., Liverpool.

TOTTENHAM.—Tricars; 3 h.p. Triumph, water cooled, single-cyl. engine, £15; 3 h.p. White and Poppe, single-cyl., water cooled, 2-speed gear, £14.—Stamford Hill Motor Co., 128, High Rd., Tottenham. Phone 982.

A. O. Sociable, late 1910, new condition, Cape hood, wind screen, electric side and tail lamps, head-light, new tyres, accessories; £73.—Sterling's Motor Works, Sidney Rd., Stockwell.

1 h.p. Raleighette Tricar, 2 speeds, water-cooled 32 Fafnir engine, coachbuilt seats, almost new, lamps, horn, tools, accessories; £27.—Wait and Co., Ltd., Motor Clyde Works, Leicester.

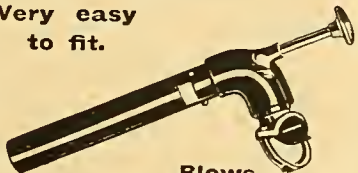
1 h.p. w.c. Humber Tricar, coachbuilt, h.b.c., chain drive, 2 gears, free engine and clutch, grand condition, plenty spares, running daily; £20, or near offer.—Phillipson, Whittington, Oswestry.

h.p. Zenith Tricar, low and smart, spring frame, 3 speeds, spring bucket seat, brand new non-skid spare tyre, tubes, valves, splendid condition; first cheque £32 secured.—28, Wellesley Rd., Chiswick.

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M.C. Alarm
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Very easy
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Yours truly, C. B. ———"

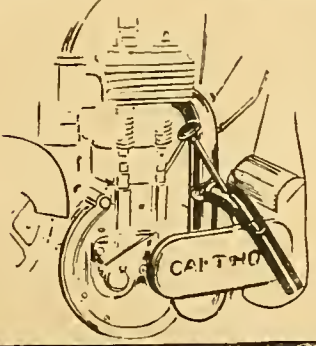
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Garner M.C. Alarm,
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TRICARS FOR SALE.

1908 Rex Litette, 6h.p., 2 speeds, handle starting, magneto, water-cooled, adjustable pulley, coach-built, 3 lamps, just overhauled, £6 worth spares; £32.—Wilson, Dixon's Yard, St. John's St., Chester.

TRICAR, powerful De Dion, w.c. wheel steering, open frame, two speeds, new Dunlop car tyres, B. and B. carburettor, Bowden control; sell or exchange good motor cycle.—14, Bridge St., Middlebrough, Yorkshire.

RALEIGHETTE, 2-speed, foot clutch, 2 bucket seats, Biaks carb., car tyres, Hellesen ignition, new Reynolds, spares for every part, perfect £26.—Craggs, 548, Liverpool St., Weaste, Manchester.

SPECIALLY Built 5h.p. Light Tricar, twin-cyl., nir cooled, Bosch magneto, h.b. controlled Amac, semi automatic, Roe gear and clutch, anatomical-seat: cost £75; any trial; £35.—Motoriste, Asylum, Exminster.

REX 1911 7h.p. Sidette, perfect condition, Rom tyre on back, Lucas lamp and generator, full kit of tools, the original machine as shown at Olympia; owner buying car.—Edwards, Sandford Rd., Syston, near Leicester.

6 h.p. Chater-Lea Tricar, Bucket twin engine, Palmer cord tyres, wheel steering and control, two speeds, free engine, chain drive, starts like a car, in perfect order; any trial or examination; £35, or offers.—Buddle, builder, Ramsgate.

6 h.p. Tricar, Antoina twin engine, magneto and accu-mulator ignition, 2 speeds, handle-bar control, Pal-mer cord tyres, painted grey; what offers? or exchange for a Triumph 1910 motor cycle.—P. c/o Messrs. Tur-vey and Co., Garage, Sunderland.

REXETTE, 6h.p., 2 speeds, wheel steering, water-cooled, coach-built, B. and B. carburettor, in splen-did condition throughout; trial by appointment; price £40; would consider motor bike or Trimo in part ex-change.—Copping 12, Moulsham, Chelmsford.

SIDECARS AND FORECARS.

OKALEIGH Sidecar, not done 200 miles, not puac-tured, fit Triumph.—Ball, Blagdon, Bristol.

SIDECARS built to order from £5/5, or for hire.—British Eclipse Motor Works, 86, High Rd., Lee.

RIGID Sidecar, coachbuilt, aproa, 26in. Palmer; £4/10.—J. Norris, Little Pagehurst, Staplehurst.

8 **GUINEA** Model Sidecar, brand new, Chater-Lea fit-tings; £5/5.—Matthews, pawbroker, W. Croydon.

SIDECARS, brand new, beautifully upholstered, fit any make; £3/10.—Rey, 5, Heath St., Hampstead.

RIGID Sidecar, 26x21, good tyre and tube, nicely up-holstered; bargain, £3/10.—11, Normanton St., Brighton.

F.N. Repairs Department, Highbury Baro, N.—Special sidecars for F.N.'s, 2 1/2 in. a.s. tyre, first-class design; from £8.

MILLS-FULFORD Rigid Sidecar, 1911, £14 new, case torpedo body; what offers?—Hattersley, 51, Otley Rd., Headingley.

MILLS-FULFORD Spring Frame Forecar, good con-dition, complete less tyres; 50/-. — Carter, Heather, Ashby-de-la-Zouch.

FORECAR Attachment, 26in. wheels, Palmer tyres, splendid condition; £3/10.—Murray's, 37a, Charles St., Hatton Garden, Holborn.

5 h.p. Rex-de-Luxe, late 1910, 2 speeds, handle start-ing, no sidecar, been very little used, and in first-class condition; £48.—Davies, 43, Henry Rd., Gloucester.

WILTON Cycle Co.—Sidecars, £5/5, £6/6, £8/10; Chater-Lea spring wheel models, £8/8 and £10/10; delivery from stock.—110, Wilton Rd., Victoria, S.W.

MORRISON'S Spring Wheel Sidecar, protected, cheapest and best spring wheel on the market; 8 guineas; write for list.—Morrison and Co., Dover St., Leicester.

BROWN Forecarriage, foot brakes, rubbered foot-boards, would convert moocarr; room wanted; ac-cept best offer received this week.—Grocock, Horncastle Rd., Boston.

SIDECARS, best on the market, lowest riding pos-sion, strongest lugs; complete, madguard, tube, tyre, upholstered in green pegamoid; £5.—Hitchen's, Easton Rd., Morecambe.

MIDDLETON'S, wholesale, retail, export, sidecar manufacturers; 12 models, 2-seaters, commercial narrow doorways, etc.—Watson St., Newington Green, London, N. Phone, 2126.

SIDECARS.—A postcard will bring you illustrated list of the best, cheapest, and most up-to-date sidecars on the market; trade supplied.—Jack Cairns, sidecar and fittings manufacturer, London Rd., Preston.

SIDECARS; largest stock; best value in England; all built of Chater-Lea fittings; prices, £6/10, £5/10, £4/15; second-hands from £3/15, fitted free while you wait.—O. A. Edgar, 123, Holloway Rd., N.

KERRY-ABINGDON, 1911, 3 h.p., 2-speed gear, and 8 guinea coach-built sidecar, new Whittle belt, Michelin steel studded back, lamps, belt, and tube case, the whole as new; £55.—Walter Heath, Bakery, St. Albans.

CHATER-LEA Sidecars and frames.—Don't be de-ceived by fraudulent advertisers trading from pri-vate houses, pawbrokers' shops, etc., and offering in-ferior goods as genuine Chater-Lea. When in doubt write Golden Lane, London.

SIDECARS AND FORECARS.

TOTTENHAM.—Sidecars; 1911, nicely upholstered at any machine, £3/10/6; quick detachable, £3/17/6; Millford Herald, £6/6; Mills-Pulford quick detachable cane body, £11, in stock.—Stamford Hill Motor Co., 128, High Rd., Tottenham. Phone, 1982.

PHENIX Sidecars.—The makers of the famous Phoenix motor bicycles beg to advise that they are now making a Phoenix sidecar of the highest grade at a low price, i.e., with Continental, Michelin, or Hutchinson tyres, 6 guineas nett, fitted free; a few second-hand sidecars from 60/-; sidecar on hire.—Phoenix Motors, Ltd., Motor Cycle Depot, 736, Holloway Rd., London, N.

SIDECAR COMBINATIONS.

3 1/2 h.p. Rex Motor Cycle and sidecar; £13.—Knight, 105, Church Rd., Willesden.

5 h.p. 1907 Rex, nearly new sidecar; £18/15, or separate.—18, Queen's Rd., Dalston, London.

5 h.p. 1909 F.N., Bosch magneto, Rom tyres, Liberty car; £28.—Waterton, 88, Shepherd's Bush Rd., W.

F.N., 4-cyl., 1911 model, 2 speeds, torpedo sidecar, screen, etc.; £55.—Earl, 10, Kelvin Rd., Highbury, N.

3 1/2 h.p. Free Engine Model and sidecar, must sell; £20, or nearest offer, complete.—48, Queen's Rd., Norwich.

19 11 2-speed Humber and Sidecar, Palmer cord, new last week; any trial; £51.—84, Rodenburt Rd., Clapham.

4 h.p. N.S.U., 2-speed gear, only once ridden, with or without sidecar; £50, or near offer.—Bunting, Wealdstone.

7 h.p. Vindec Special, 2-speed, free engine, with new 14 guinea Millford castor wheel sidecar; £45, or offer.—33, Killyon Rd., Clapham.

5 h.p. Rex de Luxe, 1910, Roc 2 speeds, magneto, sidecar, as new; £49; appointment.—Rex, 68, Vanderbilt Rd., Wandsworth, S.W.

4 h.p. J.A.P., 2-speed, Bosch, Palmers, sidecar, perfect throughout; £33; light solo part considered.—Batchelor, Crossgate, Capar, Fife.

7 h.p. Twin Peugeot-Chater, 2 accumulators, art cane sidecar, rigid, new condition; great bargain, £23.—F., 41, Ashford Rd., Cricklewood.

CHATER-LEA. 6 h.p., twin, coach sidecar, Whittle 1911 B. and B., adjustable pulley, 2 1/2 in. Palmer cord; £25.—40, Replingham, Southampton.

6 h.p. Antoine, free engine, and sidecar, handle-bar control, B. and B., wants lightweight; £20, lowest.—Wingrove, Tea Gardens, Burnham Beeches, Bucks.

3 1/2 h.p. N.S.U., magneto, 2 speed, free engine, Millford sidecar, spares; seen any time; trial; splendid condition; £28.—Owen, 56, Wood St., Walthamstow.

F.N., 2-speed, 2 1/2 Palmer cord, special sidecar, electric lamp, spares, splendid condition; 35 guineas; appointment.—111, Mount View Rd., Stroud Green, N.

19 08 9 Twin Rex de Luxe, Roc free engine, good tyres, Whittle, Chater-Lea sidecar, adjustable pulley; bargain, £25.—B., 101, Ledbury Rd., Bays water.

QUADRANT Light Sidecar Combination, good condition, Whittle belt, bargain, £13; head lamp and Autoclipse generator, 7/6.—58, Trentham St., Southfields.

19 10 F.N., 5 h.p., 4 cyls., with sidecar, in excellent condition; £28, or near offer; available early August; owner going abroad.—J. Hamilton, Capel House, Kew.

6 h.p. Twin Antoine, magneto, Druid spring forks, adjustable pulley, and rigid sidecar, apron, and accessories, nice offer; £19/19.—Stewart, Market Sq., Horsham, Sussex.

5 h.p. V.S., 2-speed, magneto, Liberty sidecar, enamelled red, in perfect condition, all spares, 3 belts, F.R.S. lamps; owner giving up riding; seen any time.—127, Hoe St., Walthamstow.

3 1/2 h.p. Rex, sidecar, brand new, 24 Continental tyres, 2 tubes, back tyre studded, lamp, generator, burn, 2 accumulators, complete, ready for road; £20.—Mace Brunswick St., Hanley.

8 h.p. Bat-Jap, new June, 1910, P. and M. 2-speed gear, Bat carburettor, new S.G. belt, Millford castor coach-built sidecar, nearly new tyres, in splendid order; £55.—W. Cottis and Sons, Ltd., Epping.

LATE Model P. and M. 2-speed motor cycle and Mills-Pulford castor wheel sidecar, complete with lamp horn, speedometer, and all spares; cost over £70, accept £38.—Hough, Her Majesty's Theatre, Walsall.

4 1/2 h.p. Bat, spring forks, cylinder, tank, h.b.c., and cane sidecar, plated springs, fast and powerin combination, tyres as new; £21, or exchange lower power and cash.—H.S., 33, St. Stephen's Rd., Bow, E.

19 10 3 1/2 h.p. Humber, 1911 Roc 2 speeds, Mills and Fulford 13 guinea cane sidecar, with canoe front and side door entrance, new Easter, perfect condition £42, accept lightweight part exchange.—Kerby, 14, Little Park St., Coventry.

8 h.p. Matchless-Jap and sidecar, 2-speed and clutch spring footboards, new Brooks B250P seat, brand new Michelin, 650x65, steel studded, spares; cost £90 last September, perfect condition throughout; £55; must sell.—Oscar Greig, Pensile, Nailsworth, Gloucestershire.

ESTABLISHED 20 YEARS

IN THE HEART OF THE TRADE



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Cash, or Exchanges,
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GLORIA coachbuilt sidecar,
£73 18MATCHLESS, 6 h.p., two-speed,
with Millford cane spring-wheel
sidecar, complete .. £84

DOUGLAS, Standard, 38 Gns.

DOUGLAS, Two-speed .. £48

ZENITH 3 1/2 H.P. .. 52 Gns.

BRADBURY 3 1/2 H.P. .. £48

PREMIER, free engine .. £55

ENFIELD 2 1/2 H.P., shopsoiled, very
slightly only, reduced to £40

MATCHLESS, 3 1/2 H.P., 45 Gns.

A.J.S. 2 1/2 H.P. .. 37 Gns.

TRIUMPH, free engine, with
Millford sidecar, £66 complete.

Colmore Depot,

35, COLMORE ROW,
BIRMINGHAM.

261, Deansgate, Manchester.

62, High St., Leicester.

250, Stafford Street, Walsall.

SIDECAR COMBINATIONS.

6 h.p. Twin N.S.U., 1911, new 18th March, 1/2 spring fork, automatic carburettor, 2-speed free engine, new Palmer back, Continental, fr. hermetic-tyre sidecar—£47; any trial—W.C.W., Ashdown Rd., Worthing.

19 10 5 h.p. Rex de Luxe, 2 speeds, new Druid 1/2 just fitted, tyres perfect, ins. Whittle belt, usual spares, together with rigid sidecar, the whole in good condition; trial run willingly arranged; £32.—Worrall, Uplands, Brentwood.

MATCHLESS. 8 h.p., 1911, and sidecar, deliver March, twin belts, cost with accessories £12. Cowey speedometer, perfect condition; any trial; 5/12, tubes, tools; accept £77/10; owner buying car.—Turner, 5, Princes Gate West, Liverpool.

4 h.p. Scout and Sidecar, splendid running order, bushed throughout, and new timing gear last Ma Watawata, spare new Dermatine, fast, excellent clim spares; sacrifice £14; would exchange lightweight.—Moor, 8, Broadway, Addiscombe, Croydon.

19 10 Rex de Luxe, 2 speeds, free engine, Whit cantilever, trip recorder, lamp, etc., and Mills-Pulford sidecar, tyres as new, all in perfect order; trial appointment, 40 guineas; also portable shed for sale £4; owner buying car.—Clark, Harden House, Waverley Rd., Enfield.

TANDEM.

4 h.p. Roc, 2-speed, tandem bicycle, bucket seats, 20 from ground, see description, "Motor Cyclist" March 14th; £26.—Hass, 11, Dod St., E.

MOTOR TRICYCLES AND
RUNABOUTS.

6 h.p. Runabout, convertible to tri-car, excellent condition; first reasonable offer accepted; room wanted.—Liddendale, Weeping Cross, Stafford.

GLORIA Sidecar, run about 500 miles only; cost £16/16 will accept £12, or very near offer.—1, 955, The Motor Cycle Offices, Coventry.

5 h.p. Sociable Runabout, good condition, complete with accessories; photograph in "The Motor Cycle" June 15th; £30.—Rowley, furnisher, Skegness.

3 h.p. Tricycle, water-cooled, and Whippet trailer, L. gnomare carburettor, perfect condition; £27; m. ell.—Toothill, tobaccoist, Duke St., Park, Sheffield.

FOR Sale, cheap, or exchange, 2-seater wheel steer three-wheel runabout, tyres almost new, 2 speed spare tyre, minus engine, or with engine; photo & particulars.—A. Moyse, Kessingland.

19 11 Morgan Runabout, 8 h.p., J.A.P. engine, speeds and free engine, Bosch magneto, Dunlop tyres; cost £80 two months ago, accept £60; owner buying car.—Apply, 42, Duke St., Norwich.

BEAUTIFUL Little Fafnir Racing Runabout, 8 h.p., magneto, 2-cyl., 3 speeds and reverse, water, Cape hood, electric lamps, every refinement, business reverses reason for selling; practically new; can or part exchange for 1910 or 1911 N.S.U. or Triumph 27a, Clifton Hill, Brighton.

GENTS Tricycle, maker, Hobarth, London, in excellent condition, can alter to fix or free wheel, necessity, tyres good condition, had very little wear, cost £27 when new; will take £7, or near offer, a good bargain; gentleman confined to bed no more use for.—H. E. Ashdown, Runnymede, Willington Road, Hounslow, S.

QUADCARS.

TWO Small Chassis, with wheels and steering gear suitable for runabout; £10 each.—Porter, build Tottenham.

PHENIX Quadcar, 8 h.p., seats side by side, Bosch magneto, 2 speeds, reverse, in good order; trial £50.—Nadin, Haultwhistle.

PHENIX Quadcar, 7 h.p., Fafnir, water-cooled, magneto, splendid condition; 30 guineas, exchange 1/2 mph or Bradbury.—Gealy, Tumble, Llanelly, Wales.

CARS FOR SALE.

WE Have to dispose of the following cars, all of which are in excellent running order:

6 h.p. Minervette, 2-seater, lamps; £27/10.

6 h.p. De Dion-Swift, 2-seater, excellent running order; £15.—Below.

5 h.p. Renault, 3 and reverse, nearly new grooved Dunlop; £20.—Below.

7 h.p. Panhard, 4 speeds and reverse, hood and screen, Stepney, lamps; £45.

8 h.p. De Dion (genuine), 3 speeds and reverse, expanding clutches, detachable tonneau; £50.

8 h.p. Speedwell, hood and screen, spares, and lamps, tyres in very good condition; £40.

16 22 h.p. Dennis Limousine, Aster engine, worm drive, extremely silent and good appearance; £95 Sully and Co., 10, Old Town, Clapham. Phone Batter 1781.

ARGYLL Car, 6 h.p., good condition; trial; £22/1 quick sale.—14, Upper Kennington Lane.

6 h.p. De Dion, Model Q, Stepney, lamps, and accessories; offers?—David, 2, Cromwell Rd., Rugby.

THE MOTOR CYCLE

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A Surfeit of Six Days' Records.

THE number of riders who are attempting to cover the greatest possible distance in six days continues to increase, and there is a fresh aspirant to fame practically every week. When the A.C.U. announced its decision to suspend all riders who exceeded the legal limit of speed in connection with road records, we made it particularly clear that we concurred with the Union's desire to prevent any excess of the limits prescribed by law and reason. Suspension, however, does not seem to have had the slightest effect, and the nature of the attempts is becoming almost farcical. We fail to see that anyone can prove that such records are of any benefit to the pastime, because were it necessary to demonstrate that a machine would run six days without being fitted with new parts, it would be more sensible to employ a relay of riders to ride the machine until it would run no further either owing to failure of some part of the mechanism or to destruction of the tyres. Every motor cyclist, and practically every prospective motor cyclist, knows that, with ordinary running repairs to tyres and relays of riders, a good make of motor cycle is capable of a continuously higher speed than has been accomplished in one of these six days' records.

It is, therefore, more a trial of the man than the machine, and has developed into a physical endurance contest which is illegal. In addition the checking is becoming more difficult, and not enough precautions are being taken to check the actual mileage covered.

Another phase of the movement is that we have six days' lightweight records, and it is very uncertain where to draw the line between light, medium, and heavy weights. In the absence of any control over those riders who wish to attempt these feats of endurance,

we sincerely trust that manufacturers and accessory dealers will consider the best interests of the pastime and refrain from assisting riders who may be contemplating further onslaughts.

Looking Ahead.

IT may seem very early indeed to talk about regulations for the 1912 Tourist Trophy Races, but if we are to see this contest held again another year it would be distinctly advantageous, particularly to the manufacturers of the machines, if the Competitions Committee of the A.C.U. could meet as early as possible and settle the lines upon which the races are to be run. It is evident that it would greatly assist the industry if the 1912 T.T. models could be exhibited at the Show in November. All the lessons we are likely to learn from the 1911 races have been duly absorbed, and there is really no reason why there should be any delay in announcing the regulations for another year. The all-important questions seem to be—(1) Are we to level up the singles with the twins of 585 c.c., (2) or further cut down the twins to the 500 c.c. single-cylinder standard, or (3) shall the difference be settled by mutual concessions?

The T.T. machine is, with modifications, usually the touring mount of the following year. Why not be still further advanced and exhibit the 1912 touring and racing mounts together? While on this subject various suggestions have been made for lessening, if possible, the danger of racing at high speeds on a twisty course. The suggestion to limit the speed and develop the contest into a high-speed reliability trial is a distinctly good one. We further suggest the adoption of a formula taking into account weight of the machine and rider, speed, and cylinder capacity.

THE QUESTION OF WATER COOLING.

STRAWS, we are told, show how the wind blows, and on these premises one may argue that since the Green and Rex Companies have been experimenting with water-cooled single-cylinder engines there is a tendency for motor cycle manufacturers to think seriously about using this method of cooling. It is a question, however, whether this is a step in the right direction, and, to see if this be so, it is perhaps as well to contrast the advantages of the system with the disadvantages. In a motor cycle the former are few. First and foremost comes the fact that water cooling allows a higher compression ratio to be used, and, therefore, there is the distinct probability of the efficiency of the engine being increased. Secondly, the fact that there is a volume of water and two thicknesses of metal between the explosion and the air slightly reduces the noise made by the engine. Thirdly, the fact that the valve chest is kept at a reasonable temperature results in long life to the valves and seatings, and most undoubtedly obviates the risk of the exhaust valve lengthening to any appreciable extent. Fourthly, the overheating bugbear is exorcised. Fifthly, carbonisation is very largely reduced, and, sixthly, owing to the absence of carbon deposits and the comparatively low temperature of the engine, "konking" is practically avoided.

Disadvantages of Water Cooling.

On the other hand, here are some of the disadvantages: First, extra complication; second, extra cost; third, increased weight; fourth, increased liability to damage; fifth, possibility of cylinder jackets bursting in winter.

With regard to the weight question. This in the ordinary type of machine is evidently an important one, as if the thermo-syphon system of cooling be employed it means that the radiator and tank must be placed somewhat high, and the result is a decided liability for the machine to be top heavy. In the cases of the Green engine and the Scott the same remark scarcely applies, as topheaviness is avoided in the first case by carrying the bulk of the water on a level with the engine, and in the second by placing the engine low down in the frame.

The risk of burst jackets is, I confess, not a very large one, yet still worthy of consideration, but it cannot be denied that with a small engine and with a small volume of water the liability to freeze is very much greater than with the ordinary car engine.

During the past winter I was using a water-cooled machine, and cannot but testify that it was decidedly a nuisance to have to empty the radiator and jackets when there was any likelihood of frost occurring during the night.

The Improved Conditions when Water Cooled.

Of the advantages I consider the fact that the valves work under much better conditions to be probably the greatest. The increase of efficiency made possible by the use of a high compression is a rather more questionable one, as high compression in a single-cylinder engine is all against smooth running at low speeds. This fact does not, of course, apply to the Scott engine, which for all practical purposes is a

four-cylinder one, and hence the high compression does not make itself felt in any disagreeable manner. On the other hand, there is just the possibility that a water-cooled engine may run too cool, and it is a well-known fact that when running below a certain temperature an explosion engine loses considerably in efficiency. The generally accepted axiom is in fact that the hotter the engine can be run the better it is, but, of course, there is a limit which it is inadvisable to pass. There is no masking the advantage of a water-cooled engine when a two or three-speed gear is used, but it is open to argument whether in the hands of a moderately careful rider it is capable of giving any better results than a well designed air-cooled engine.

Risk of Damage in Case of a Fall.

As to the risk of doing damage to the radiator, this is a point that cannot be overlooked, as spills with motor cycles are not at all infrequent, and if the radiator become damaged to any extent, as is likely, even in the event of a mere side-slip, it is a matter which, besides running the owner into a fairly high bill for repairs, will probably result in his having to ride home by train.

If the machine be designed purely and simply for sidecar work the question assumes rather a different aspect, as in the hands of a novice it is undeniable that a water-cooled engine with a two or three-speed gear would give better results in the long run than an air-cooled one, but for single-cylinder solo work I look upon water cooling as a refinement pure and simple, and it cannot, after one has seen what the air-cooled engine can do, be regarded as a paramount necessity.

ELDORADO.

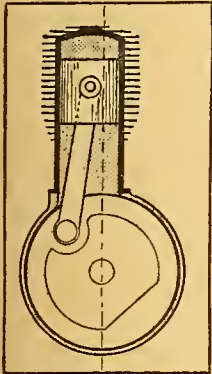
THE INTERNATIONAL MATCH—ENGLAND v. AMERICA.



Collier v. de Rosier. This photograph gives a good idea of how the two champions kept close together throughout the whole series except when one or other suffered a stop.

An Experience of the Lightweight Humber.

IT is now some weeks since Mr. H. L. Davey invited us to test the capabilities of the 2 h.p. lightweight Humber, an invitation we were not slow to accept. We are now in a position to relate our experiences and opinions, and can do so more confidently after being privileged to give the machine an extended test in its everyday life, so to speak. By this we mean that our trial has not been confined to a single spin on a machine specially tuned for the occasion, but rather to the only reliable guide to a prospective buyer—frequent runs day in and day out. First of all, we may recapitulate the mechanical features of this interesting little machine, and in doing so we should like to impress the reader that this entirely British production is no copy; indeed, careful study of its design would lead one to the opinion that it is the most original machine on the market.

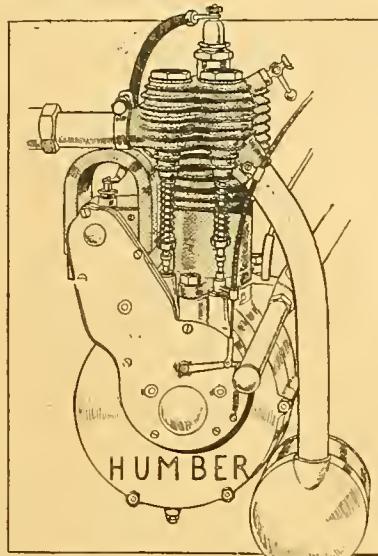


The offset cylinder of the Humber. The dotted vertical line shows the extent of the offsetting.

An Offset Cylinder Explained.

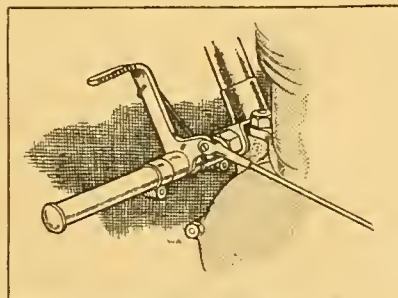
The principal departure from standard practice is the offset or *décalé* crankshaft—the Humber being the only British built motor cycle engine embodying this feature. In the first illustration a vertical line has been produced through the centre of the crankshaft, and it will be observed that it does not coincide with the vertical centre line of the cylinder or gudgeon pin. This practice, which is common to cars, and we believe first standardised by the Brasier Co., is based on the theory that this relative disposition of the cylinder and crankshaft enables the connecting rod to exert a more direct thrust on the crank pin during the firing stroke, thus eliminating, or, at any rate, considerably reducing, the side pressure of the piston on the cylinder wall. By this arrangement the in-

ternal friction or negative work of the engine is reduced to a minimum, and the utmost efficiency being essential in the case of a lilliputian engine such as the Humber, we must commend the makers



2 h.p. m.o.i.v. Humber lightweight engine, magneto and parts.

for their enterprise in thus leading the way. It is claimed that an engine with offset cylinder is (1) more powerful, (2) runs more smoothly than the more orthodox type, and (3) gives more rapid acceleration. It says much for the mechanical efficiency of the engine when we assure readers that the little 60 x 70 mm.



Footbrake mounted on left footrest.

Humber, geared 6 to 1, has without pedal assistance frequently carried an 11½ stone rider up Stoneleigh Hill, Warwickshire, with its gradient of 1 in 9.

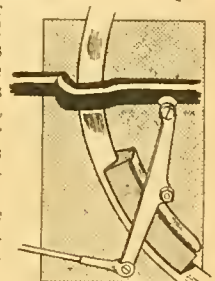
A Spark Lever Suggested.

The engine runs very smoothly, and, above all, silently. It has a wonderful pick-up for its size, though we must admit that knocking has manifested itself on several occasions due to the fixed ignition. We are strongly of opinion that an advance spark lever would mitigate this trouble to a large extent. At first we were troubled with the belt fastener pulling through, which happened every 150 miles. We came to the conclusion that it was due to disintegration of the

canvas strands of the belt caused by the belt passing over the small contour of the engine pulley. After raising the gear ratio from 7 to 6 to 1 by means of the adjustable pulley, our trouble in this direction disappeared.

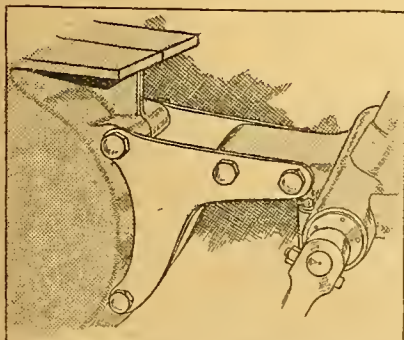
The Well Proportioned Parts.

The design of every part of the lightweight Humber, however minute, is in keeping with the special features of the machine. The tiny petrol taps, the baby B. and B. carburetter, the light foot brake and handle-bar levers, the smallest sized magneto, all go to make a pleasing *tout ensemble*; in fact, it is a 3½ h.p. standard pattern machine in miniature. For town work the little Humber would be hard to beat on account of its ease of starting and general handiness. It is an exceedingly popular machine for running down to tennis courts or golf links, and we have constantly used our machine for that purpose, and never once has it failed us. As regards speed, this brave little 2 h.p. has surprised many a motor cyclist, for thirty-three miles per hour is understating its powers.

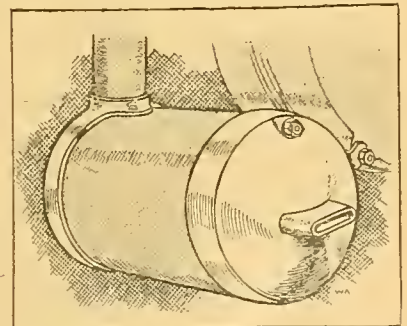


Foot brake shoe acting on belt rim.

Altogether, the machine is well fitted up, has a finish that is exceedingly good, and is highly to be recommended for beginners. A number of tyros have sampled the running of our machine, and two we know were soon afterwards writing cheques to Humber, Ltd. By the way, we had almost forgotten to mention its wonderful economy, which is excusable to some extent when we mention that the engine runs on a mere "whiff" of petrol, and one seldom has recourse to the garage. Further, tyre troubles are practically non-existent. Our machine has Palmers—a fact which may account for the makers' apparent belief that a repair outfit for the toolbag would be superfluous. The Humber is not an engine of the kind which gums up every time it is left to cool down. It always seems free, and seldom if ever refuses to start at the first push of the pedals.



Method of supporting the engine, also showing magneto platform cast in one with the crank case.



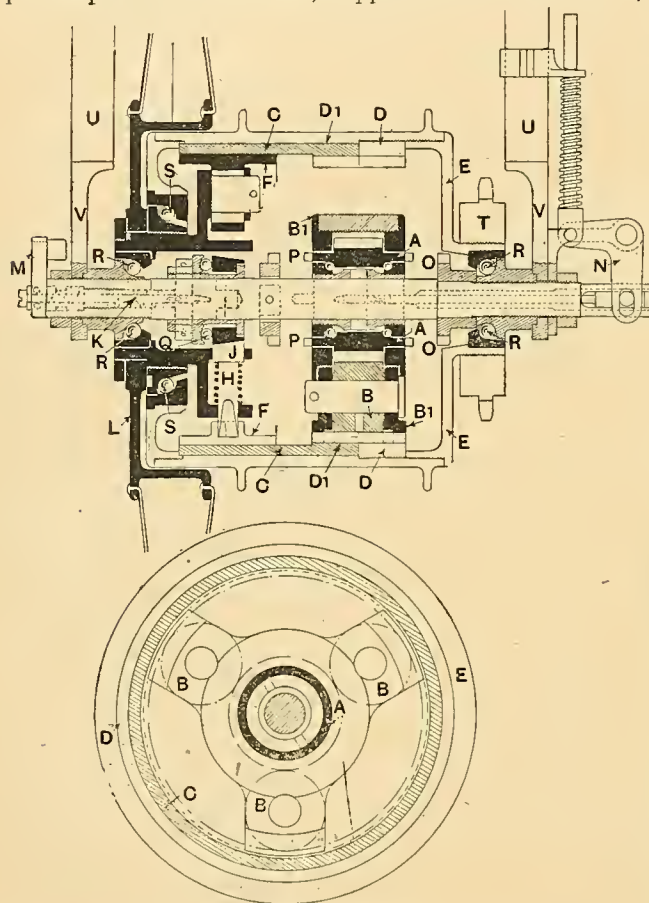
The silencer which has aluminium end plates and a single outlet for burnt gases.

TWO NEW CHANGE-SPEED GEARS.

A Three-speed Hub Gear.

NOW that so much enthusiasm has been raised regarding change-speed gears by the success of these devices in the Manx races, a description of a three-speed hub gear designed by a Coventry engineer, Mr. J. W. Player, 57, Old Allesley Road, will be of more than usual interest.

The gear provides three separate ratios, the middle one being direct. A single sun pinion A and a set of planet pinions B are used, supported on each side



Player's Three-speed Hub Gear.

- | | | |
|--|--------------------------|---|
| A. Sun pinion. | E. Hub shell. | O.P. Dog clutches for locking sun pinion. |
| B. Planet pinion. | F. Clutch ring. | Q. Thrust bearings. |
| B1. Planet carriers. | H. Clutch expander. | R. Main bearings. |
| C. Driving sleeve. | J. Clutch cone. | S. Bearing for clutch and belt rim hub. |
| D. Internally toothed ring on hub shell. | K. Clutch spring. | T. Pedalling clutch. |
| D1. Internally toothed ring on driving sleeve. | L. Belt rim hub. | U. Chain stays. |
| | M. Clutch lever. | V. Fork ends. |
| | N. Gear operating lever. | |

by a planet carrier B1, but two internally toothed rings are employed, one being the driving and the other the driven member. The planet pinion carriers have teeth on their peripheries which can be engaged with the internally toothed rings by the sliding of the gear members. The sun pinion can also be locked to the spindle by the dog clutches O.P. when in each of its extreme positions. As shown, the gear members are in central position which gives a direct ratio; the planet pinions being in mesh with both internally toothed rings. The low gear is obtained by moving the gear

members to the right by means of the gear lever N and the rod working up the hollow spindle to which the gear members are attached. This locks the sun pinion; the planet pinions are in engagement only with the internally toothed ring on the driving sleeve D1, but the left pinion carrier remains in mesh with the internally toothed ring D of the hub. This causes the hub to revolve at a slower speed than the driving sleeve. The high gear is obtained by moving the gear members to the extreme left; this leaves the right-hand planet pinion carrier in mesh with the internally toothed ring on the driving sleeve whilst the planet pinions are engaged with the internally toothed ring on the hub shell. This causes the hub to revolve at a faster speed than the driving sleeve. To enable the gear changes to be made readily the driving sleeve is frictionally connected to the belt rim hub L by the clutch rings F operated by the lever M, and to avoid any chance of damaging the gear teeth the changing and clutch operating mechanisms are so connected that the clutch is always disengaged before gear changing takes place.

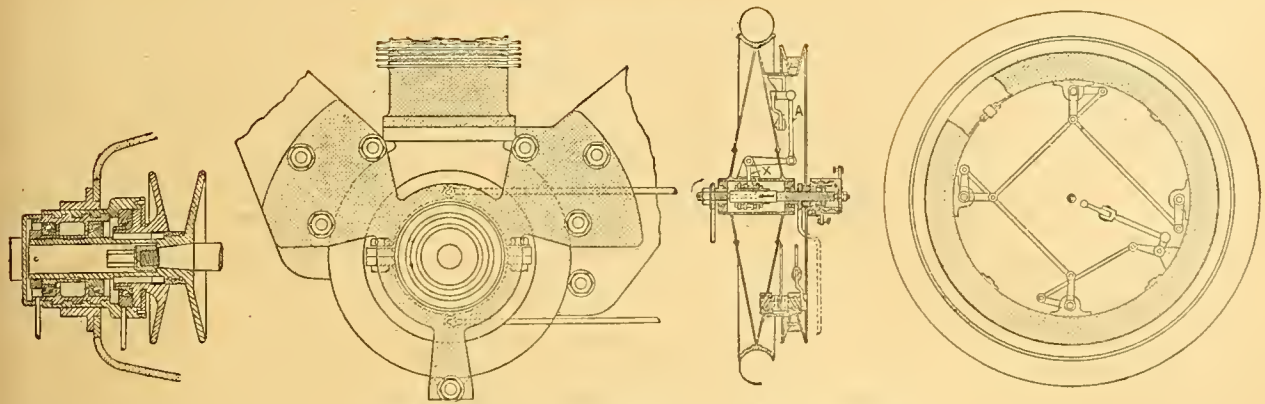
The Matador Variable-speed Gear.

Still another variable pulley gear in which both pulley grooves expand and contract has been brought to our notice by Mr. M. H. Thompson, of 2, Crowhurst Road, Brixton, S.W. It has been designed by Mr. H. Houlding, of Preston, who recently demonstrated to us the effectiveness of his gear. A wide range of ratios are obtainable, from 3 to 1 to 11 to 1, a further movement giving a free engine. The outer flange of the engine pulley is worked by a coarse-pitch thread, and slides on four keys formed on the shaft of the inner flange. The opening and closing of the rear pulley flange is controlled by four double screws and four keys, the keys being fixed between the screws. The inner flange is secured to the spokes. The sectional drawing, which will be found reproduced on the next page, illustrates the method of controlling the movable flanges. By moving the operating lever, pedal, etc., the two levers attached to the engine pulley (which are interconnected with two on the screw box of the back wheel) are brought into action. The movement of the screw box causes the shaft which runs through the hollow spindle of the back wheel to be pushed in or drawn out, thus actuating the lever X, which sets in motion the levers attached by connecting rods to the four double screws.

An adjustable nut is mounted on the bar A, so that, should the belt stretch, it is possible to take up the slackness without cutting the belt.

It is possible to use the engine pulley as a variable pulley or the belt rim in conjunction with any existing adjustable pulley.

The gear has been tested in London traffic, and afterwards with a sidecar and 11 stone passenger from Coventry to Preston on a 3½ h.p. Jap-Moveo. The original model, which we inspected and tried, was certainly much heavier than it need be, but that is more a question of standardisation. Seated in the sidecar, we were restarted twice from a standstill with very little effort on the part of the engine on a gradient of 1 in 12. In traffic the low gear ratios were a decided advantage.



Sectional drawings of the Matador variable gear described on previous page.

A Conversion and How it was Effected.

TO convince a male pedal cyclist of the joys of motor cycle riding is no difficult matter in these days of perfected machines. But the other day I determined to try a bold experiment. I chose as my subject a young lady of twenty-three, who loved riding in a luxurious motor car, who hated pedal cycling, and was in every sense the last person in the world to whom one would imagine motor cycle riding would appeal. The young lady in question, who, by the way, is my niece, is one of a nervous family, and at first I was somewhat diffident in broaching the subject to her. However, I did so, and she agreed to take the plunge if I thought she could manage it. I confess I doubted, but having so far committed myself, I had to say I thought she would. So far so good.

The next thing was to get hold of a suitable mount, so in my trouble I turned to Mr. O. L. de Lissa, who proved to be a friend in need, and kindly placed two Motosacoche at my disposal, one for my niece and the other for myself. Not only did he do so, but persuaded his wife to bring the machine to a secluded road and give that valuable instruction which in cases like this is so welcome.

Eventually on one glorious May afternoon we met at the appointed rendezvous, the lady's machine was jacked up on its stand, and Theodora, who knew not the carburetter from the magneto, was told to seat herself in the saddle. "This thing," said Mrs. de Lissa, pointing to the exhaust lifter, "is what you hold up when you want to start; you let it go after pedalling a little way, and pull it up when you want to stop."

The Knack of Starting Overcome.

Theodora said she understood, but she really didn't, and started to pedal. She dropped the lever, which Mrs. de Lissa had been careful to call a "thing," with the result that the other thing stopped her dainty feet from going round, and nothing happened.

Naturally she lacked the knack of starting a magneto machine, but on the third attempt the engine fired, and maintained that gentle teuf-teuf so peculiar to the Motosacoche. Theodora then obediently pulled up the first-mentioned thing, and let it go again several times, so as to be quite sure, as her mother had been careful to tell her, to know how to stop.

She started the engine on the stand two or three times, and managed quite well, when Mrs. de Lissa showed her that other "thing" (the throttle lever),

which made it go fast or slowly. This she experimented with, and at last felt confident enough to start on the road.

Now Theodora has just gained a "first aid" certificate, and though she has never had a case, I veritably believe she thought she would herself be the first person on whom her skill would have to be expended before the journey was over. But after a push off she started, and in a few minutes she was playing with the levers, going fast or slow at will, and passing motor cars and horse-drawn carriages as though she had long been used to motor cycle riding. About a couple of miles had been covered, and the first hill (quite a decent one) had been negotiated without a touch of the pedals—a fact which speaks volumes for the behaviour of the Motosacoche in the hands of an utter novice.

I had made a convert, who is now an enthusiast longing for a motor cycle of her own. The only difficulty the pupil experienced was that of starting—a difficulty which on a Motosacoche is in reality non-existent, and to prove this Mrs. de Lissa several times mounted and started with ease, even on an up-grade, just to show how easily it could be done. It is merely a knack.

I myself followed on one of the 1911 2½ h.p. Motosacoche, which pleased me greatly. AILETTE.



The only lady motor cyclist in or near Pickering—Mrs. Wright, who rides a 2½ h.p. twin N.S.U. Her mount is capable of ascending all ordinary hills. Mr. Wright's machine is a M.R.

THE ADVANTAGES OF TOURING ABROAD

COMPARED WITH A HOLIDAY IN ENGLAND.

HAVING left my motor bicycle one day in a provincial garage, the proprietor asked me when I returned the meaning of the letters "G.B." that were fixed on to the back mudguard. He told me that three or four young men had been arguing about it. "What's that," said one. "I don't know," said another. "Do you know?" "Not the vaguest idea." "Oh, you idiots," chimed in another, "don't you know they stand for Gordon-Bennett?" "Of course they don't mean that, but are for use abroad, and stand for Great Britain." This brings me to my point, viz., touring abroad. Having myself once embarked on a Continental tour, I am bound to say that the contemplation of another tour will always take my thoughts first of all abroad. No, it's not patriotic perhaps, but one goes touring not for patriotic reasons, but for pleasure.

The Boredom of an English Tour.

After a couple of tours in England it gets rather tame, the general scenery is nearly always the same, and in a very short time one can see all of the best known beauty spots, and then, perhaps, there is a long ride through dull, uninteresting country to the next place. At nights when we put up at Cokeville, in Mudshire, our chief aim and object in life is to leave it as soon as possible. In most ordinary country towns there is nothing to see, nothing picturesque, nothing of interest, and for the most part everything is deadly dull. Then, again, Sunday is always rather a difficulty. How different it all is abroad; as soon as we land we come into contact with new customs, new faces, new languages—in fact, everything is entirely changed. When one is on a steamer and enters an English port one is interested in it as a whole, the dock porters are scarcely noticed, the railway officials in their dark uniforms are not very different from the Customs officers who presently will try their luck with our baggage. How different on entering a foreign port. French say. You go up on deck and watch everything with a very different kind of interest; first the quaint blue-bloused porters attract your attention, then some swaggering Customs officer with blue uniform and an enormous cloak. Next you are staring with awe at some fierce and mighty under-chief stationmaster in gorgeous uniform. Then, after having successfully emerged from the Customs, you start off into the town; everything is so different, old-fashioned buildings meet you at every turn, even a common or garden tramcar comes in for its share of attention. In England you would drop into an inn and ask for a glass of beer almost without noticing it—the dropping in I mean, not the beer—abroad it is a novel experience in itself. You've first got to try and make the proprietor understand you, and then you've got to try and not get swindled over the cost or the change. Then, again, in England in the open country you spin along without looking at the country, while abroad everything attracts your attention, every turn of the road opens up something fresh; every peasant is well stared at, and if perchance you meet an ox-drawn cart your first thought is probably to photograph it.

More Sources of Amusement Abroad.

When in England you arrived at Cokeville during the afternoon you never thought of going out to see the sights, simply because there were none, but in any French town, however small, there is always something of interest—perhaps a *château*, possibly a cathedral, or a fine church, or at least a certain amount of amusement and enjoyment can be obtained by walking through the streets and studying the people, and there are sure to be several little narrow side streets that will well repay a visit.

It is never dull. I remember once at Rouen having quite a crowd round me, while I was trying to persuade the waiter at a café that a bottle of wine would not only fill my flask but leave me a glass or so over. Then, again, if you chance upon another Englishman quite complacent about the perfection of his French and his accent, who also takes every opportunity of airing it, you will be sure to get some fun. The reader may have seen in *Punch* a short time ago the picture of the English lady on a steamer about to leave France, who, wishing to air her French, shouted to her children, who were still on the quayside, "*Mes enfants, prenez garde ne pas être gauche derrière.*" Such priceless gems can really be picked up sometimes. I don't know whether a foreign tour is actually more interesting, but the fact remains that in a foreign town one finds it hard to see all that there is to be seen in the time at disposal.

The Actual £ s. d. of a Foreign Tour.

The actual touring portion will be found to be much cheaper than in England, the hotels are far better in every way, and food is much cheaper. I am not, of course, referring to the large palatial hotels, but to those that the average motor cyclist is likely to patronise—the average fourth or fifth class hotel mentioned in the Michelin guide book, a book, by the way, no tourist should be without. Hence, money for money, I consider that better value can be obtained abroad. "What about the Channel crossing?" someone will say; "you can't do that on nothing." True, but it will be found that, as a rule, the longer the sea passage taken, the cheaper proportionately is the fare, and there is no need to travel first-class. But there are more ways of killing a cat than by drowning it, so there are more ways of crossing the Channel than in the usual steam packets belonging to the various railway companies. If an intending tourist take the trouble to find out, there are several lines of steamboats, from London and elsewhere, to the Continent which will take him and his machine at very low rates indeed, but he must not grumble if they are not as comfortable as the *Lusitania*. The enterprise of our motor and cycling clubs have made it so easy to go abroad nowadays; nearly all the bother formerly met with from the customs being eliminated, it is really worth while to give the Continent a serious thought when the next holiday tour is under consideration. Do not try to do too much—eighty miles per day is quite enough, and should be covered in the morning for preference, leaving the afternoon for sight-seeing, etc. Take my tip and go—you will like it.

PETROLIA.

AMONG THE ACCESSORIES.

MOTOR cyclists must be hard to please if they find themselves nowadays unable to obtain just the little fitments and accessories they require. So apparently infinitely various are the devices and contrivances made for the motor cyclists' convenience that their manufacture may be regarded as quite an industry in itself. We recently had an opportunity of inspecting some of the many motor cycle accessories sold by A. H. Hunt, Ltd., of 117, Cannon Street, E.C., whose name is well-known in connection with the Hellenes dry cells, and we illustrate three of them.

A Spring Plug Terminal.

The first is a sparking plug terminal which should appeal to a large number of motor cyclists, as much by its neatness as by its universal adaptability. It will be seen that it comprises a vulcanite cover for the cable-joint, which screws on to a boss terminating in a spring

directions, so that the spring plug can be pushed into it in three different positions, and consequently the most suitable fixing can be made according to whether the high tension cable is attached to the plug from above, from below, or from the side.

A great many terminals fail under the strain which is imposed upon them by a long high tension cable, more especially when the cable is not brought in a direct line to the plug head. The fitting described avoids this entirely, and permits not only the strongest but the neatest wiring arrangement to be made. At the same time, it is extremely well-made, and looks quite well.

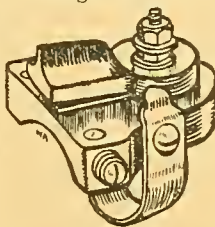
Of the two switches illustrated the first is of the change-over two-way variety, and has a body of ebonite. The three contacts are on the upper face of the body, and are let into it almost flush. The middle one is connected up through the contact spring to the terminal attached to the thumb-piece, whilst the other two communicate with screw terminals at either side of the switch.

A Switch with Screw Interrupter.

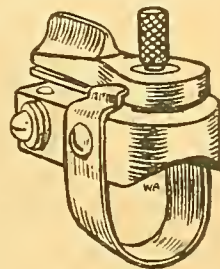
The second switch is of a somewhat similar sort to the last, and has also a

vulcanite body, but is only of the single way type. The knurled thumb-nut in the pivot on which the thumb-piece turns is an interrupter which when screwed down makes contact to earth through the metal of the handle-bar which is directly underneath it; a half turn of the nut is sufficient to interrupt the current, and it is, therefore, unnecessary to carry about a separate interrupter plug—which nearly always gets lost.

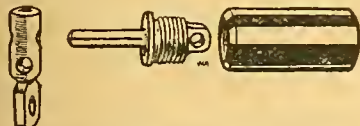
The above firm's latest catalogue is just to hand, and a copy will be gladly supplied to any reader on application. The latest type of Hellenes dry battery is tubular in shape and designed to fit on specially made clips, manufactured after the manner of pump clips, on to a convenient part of the frame of the machine. One of these clips forms the earth connection. The casing is of fibre and will not crack. The firm supply specially wound induction coils for use with their dry cells which consume a minimum of current. These should be specified in conjunction with a make and break contact maker. Another recent introduction by the firm is a 5in. grease injector for Douglas, and other machines fitted with change-speed gears.



Hunt's two way handle-bar switch.



A handlebar switch with screw interrupter.



A spring plug terminal sold by A. H. Hunt.

push-plug. The latter fits into, and holds itself secure in, a brass terminal which is permanently attached to the sparking plug. This terminal, besides having a central hole, is drilled across in two

HINTS AND TIPS FOR MOTOR CYCLISTS.

By ROAD RIDER.

ABSENCE OF COMPRESSION AFTER VALVE GRINDING.

357. It is not uncommon to hear a motor cyclist say that his compression totally disappears after he has ground in his valves, but that it reappears as mysteriously after the engine has run a few miles. Such phenomena are usually due to imperfect cleansing of the valve chest after grinding. Particles of carbon or, worse still, of the abrasive, are left on the valve seats, and prevent the valve sitting down tight to its work, and they often score the seating before they are blown out through the exhaust, and so nullify the labour spent on the grinding.

The orifices leading to the combustion chamber should always be plugged with wadding during grinding operations, and when they are finished the seating and valve chest should be most carefully mopped out with a damp rag and sluiced with paraffin. If the compression is poor when operations are complete the engine should not be run until the intruding particles have been found and removed.

RUSTY BELT SCREWS.

358. A machine came into my hands for repair the other day, and amongst other things I found the screws of the belt fastener rusted so

tightly home by a long spell of work in wet weather that it was all but impossible to shift them. I will therefore give directions to riders who may find themselves stranded with a like mishap when they are miles from anywhere, and the belt too slack to propel the machine any further without adjustment.

The best makeshift on the road is to raise the gear by means of the adjustable pulley. Struggles may only spoil the fastener, and perhaps another is not available. Failing this expedient, examine the slot in the screw heads. If this is in good order, and has not been burred by rough usage, sit down on the road with one leg on each side of the back wheel; leave the belt over both pulleys, and turn it till the joint lies in the rear pulley rim about level with the clip of the stand. Get out your longest screwdriver, put one hand on the inside of the rim to get a purchase, and screw with all your strength. If this will not shift the screw, deepen its slot by very gingerly filing it out with the edge of a fine file, such as is sold for the purpose of trimming platina.

If this method fails, you will have to cut the screw out with a cold chisel, or file the head square and turn it out with pincers or spanner. The latest types of fastener have screws with square heads for a spanner.

MAGNETO CONTACT BREAKER GAPS.

359. The manufacturers of magnetos wisely recommend a very small gap or break at the platinum points of the magneto, usually about $\frac{1}{32}$ in., but in actual practice a wide margin is permissible, and I have known magnetos fire satisfactorily with a gap nearly five times as wide. Nevertheless it pays to keep the break accurate. Too wide a break may have the effect of cutting out the ignition if the spark advance lever be used to its full range.

Stopping by the roadside recently, I could not persuade my engine to restart for a long time, and finally I found the adjustment of the fixed platinum on the magneto contact breaker had shaken loose, so that the gap was very wide on the break; but the engine fired perfectly except on the last three notches of ignition advance. Adjustment of the gap restored the full range of control.

It is better to adjust these points too closely rather than too widely, and some magnetos are very sensitive on the point. If no gauge is handy, use a slip of ordinary writing paper; see that it is nipped tight between the two platina in the "make" position, and that it just slips out freely in the "break" position.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Blowback from Carburetter.

My motor bicycle has an air-cooled engine, and, when running, it sprays back from the carburetter a little. Can you tell me if this is right, and how to remedy it?—R.

The blowback in question is caused by either the inlet valve closing late, in which case the piston has already begun to deliver a negative pressure along the inlet pipe, or by the sudden closing of the valve and the rebound of the mixture from the same. In the first case, it would be bad, and in the second also; but one can be cured by altering the timing of the valve, and the other by the fitting either of a long pipe from the extra air, or some description of funnel, which will prevent the waste petrol from leaving the carburetter.

Analysis of Petrol Combustion.

I want to know something about what might be called the physiology of the motor, that is, the mechanism of oxidation of petrol by the magneto spark. Do you look upon the spark as a heat-producing mechanic sufficiently potent to combust, or rather start the combustion of petrol? Or do you think that certain peroxides, such as ozone, are formed by the spark which materially alter the temperature at which petrol combustion takes place? Do you know of any published work that deals with the intermediate products of petrol combustion and their variation with increments in the air take?—S. R. WILLIAMS.

One would be inclined to look upon the ignition mechanism as a means of providing an intensely hot spark, which will ignite a rather variable mixture of atomised petrol and air, as the so-called gas in the cylinders is rather more composed of minute particles of petrol floating about in air than of gas. It is just possible there might be a minute trace of ozone, due to discharge, but we cannot remember any exhaust analysis which showed a trace of the same. Some time ago there was a paper read before the I.I.A.E., which dealt with the exhaust analysis of internal combustion engines. Doubtless, if you were to obtain a copy of this you would be able to see for yourself exactly what the products of combustion were, and you will find that there is a great deal more petrol than is generally supposed at certain speeds.

Accuracy of Valve Surfaces.

I bought a second-hand 3 h.p. bicycle a few months ago, and recently had occasion to replace the inlet valve (automatic). The compression was no better than when I used the old one, and so I again ground in the new one. I then thought the bad compression and loss of power might be due to exhaust valve, so ground that in, with the same result. Is it necessary that valve should hold petrol when ground in?—A.O.

We imagine that the trouble in question is entirely due to the strength of the springs on the valves. If you had a much stronger exhaust valve spring and a rather stronger one to the inlet you would find that all trouble would cease, provided the valve fitted perfectly on its seating. You can discover this by brushing the surface of the seat with red lead and then placing valve firmly on the seat, noticing what points on the valve are not touched with the lead.

Excessive Vibration.

My mount is a 3½ h.p. Peugeot, automatic valve (inlet), and B. and B. carburetter, magneto ignition. When on the road the engine gives jerky explosions (not misfiring), which cause excessive vibration, so much so that it has nearly broken the petrol pipe on two occasions. This happens when the throttle is about one-third open and the air lever about one-half open. If I close the throttle a little it reduces the vibration. I may say that the petrol seems to waste from the carburetter and overflows the lid of the float chamber round the needle. Does the needle want grinding; if so, how is it done, and will it not alter the petrol level?—A.B.J.

We think you will find that the grinding in of the float chamber needle would improve matters considerably. You can do this quite easily by removing the float chamber and placing a little extremely fine crocus or carborundum powder on the seating, and very carefully turning the needle round in exactly the same manner as when grinding in a valve. The needle, being delicate, should not be ground in over much, and if carefully done we do not think you will find there is any material alteration in the level of the spirit.

"Hunting."

When my machine attains a speed of 45 m.p.h. for some unknown reason it automatically cuts itself out, which I believe is commonly known as "hunting," and refuses to go any faster. I have fitted new valve springs and a new magneto contact breaker spring, and have also written the manufacturers on the subject, who advised me to clean the back of the contact breaker. I have done so, but there is absolutely no difference. Perhaps you may be able to throw some light on the subject?—T.C.B.

Your trouble seems to depend entirely on what strength of valve spring was fitted in place of the old one. When going very fast it is absolutely necessary to have an exceedingly powerful valve spring, otherwise when a certain critical speed is reached the valve begins to float, and a "cut out" effect is at once felt. It is just possible that the same effect might be caused by dirty or defective carbon brushes, and the renewal of these would clear you of your trouble.



L. E. Forster, of Warrington, with his 5 h.p. twin cylinder Rex. He covered a kilometre in the Douglas promenade speed trials at the rate of 61½ miles per hour.

SELECTION OF POPULAR
TOURING ROUTES.

"C.S." (Oxford).—Route from Oxford to Newport (Mon.) Your best route from Oxford would be—Faringdon, Lechlade, Cirencester, Malmesbury, Bristol, cross by the railway through the Severn Tunnel, Tunnel Junction, Newport.

"C.M.T." (Birmingham).—Route from Birmingham to Scarborough: Birmingham, Sutton-Coldfield, Lichfield, Burton, Derby, Mansfield, Worksop, Tickhill, Doncaster, Selby, York, Malton, Sherburn, Seamer, Scarborough. Distance, approximately 166½ miles.

"L.G." (Camden Town).—Route from London to Exeter and Newquay: London to Brentford and then proceed *via* Staines, Basingstoke, Whitchurch, Andover, Amesbury, Wincanton, Ilchester, Chard, Honiton, Exeter, Okehampton, Launceston, Bodmin, Newquay.

"A.W.B."—Route from Leeds to Torquay: Leeds, Doncaster, East Retford, Newark, Nottingham, Loughborough, Leicester, Lutterworth, Rugby, Leamington, Stratford-on-Avon, Evesham, Tewkesbury, Gloucester, Bristol, Axbridge, Taunton, Exeter, Chudleigh, Newton Abbot, Torquay. Care should be exercised with regard to police activity at Doncaster, East Retford, Glastonbury, Taunton, and near Bath.

"E.S.L." (Bodmin).—Route from Bodmin to Windermere and back through Llangollen and Gloucester: Bodmin, Launceston, Okehampton, Crediton, Tiverton, Taunton, Axbridge, Bristol, Gloucester, Tewkesbury, Worcester, Kidderminster, Bridgnorth, Wellington, Whitchurch, Chester, Warrington, Wigan, Preston, Lancaster, Kendal, Windermere. It would be extremely awkward

to avoid some of the towns and would take you considerably out of your route. Bristol is for some reasons preferable to Bath for traffic riding. Worcester, Lancaster, Whitchurch, and Chester present no difficulties, but Wigan can be avoided by proceeding *via* St. Helens and Ormskirk to Preston. Lancaster is quite easy. A good return route would be Preston, Ormskirk, Liverpool, across the ferry to Birkenhead, Chester, Wrexham, Llangollen, Oswestry, Welshpool, Montgomery, Ludlow, Leominster, Hereford,

Ross, Gloucester, Bristol, Axbridge, Bridgwater, Taunton, Bampton, South Molton, Barnstaple, Torrington, Holsworthy, Launceston, Bodmin. There is not very much difference in the distance. Approximately, the outward route is 404 miles, and the return journey would be about forty miles more.

"R.A.G." (West Hartlepool).—Route from Durham to Portsmouth: Durham, Darlington, Northallerton, Boroughbridge, Wetherby, Aberford, Knottingley, Doncaster, Bawtry, East Retford, Newark, Grantham, Stamford, Alconbury, Buckden, St. Neots, Bedford, Luton, St. Albans, Watford, Rickmansworth, Ickenham, Uxbridge, Colnbrook, Staines, Basingstoke, Winchester, Twyford, Bishops Cleeve, Wickham, Fareham, Cosham, Portsmouth. The distance is approximately 312 miles, and although somewhat more devious than could be set out, the roads are certainly the best.

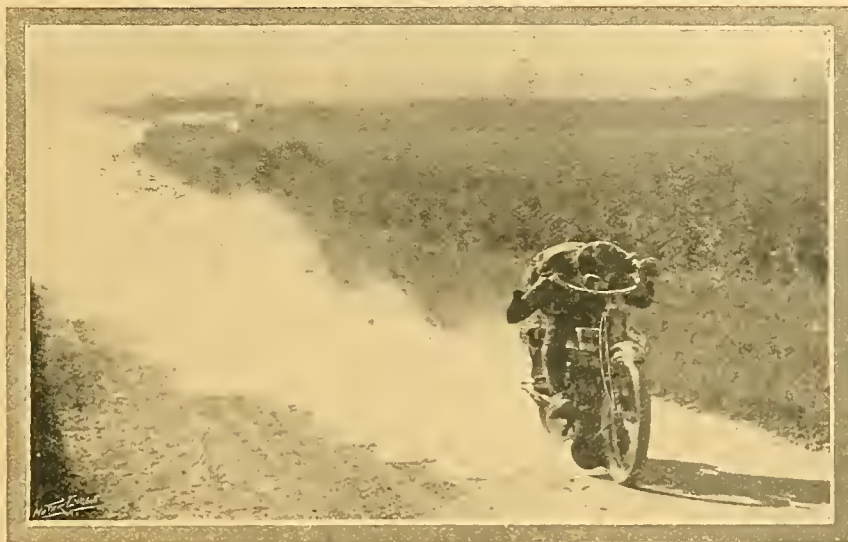
"A.S.K." (Bristol).—Route from Bristol to Hull: Bristol, Thornbury Heath, Berkeley Road, Gloucester, Tewkesbury, Evesham, Stratford-on-Avon, Warwick, Coventry, Sharnford, Leicester, Loughborough, Nottingham, Radcliffe, Newark, Lincoln, Brigg, New Holland, then crossing the River Humber by boat to Hull, making the journey total up to 220 miles. An alternative route, which is 238 miles in length, not necessitating the crossing of the ferry, is the same as far as Nottingham, but branching off here, and going through Mansfield, Worksop, Tickhill, Doncaster, Selby, Howden, N. Cave, S. Cave to Hull.

"J.S.B."—Route from Northampton to Llandudno: Floore, Weedon, Daventry, Coventry, Stonebridge (turn right), Castle Bromwich, Brownhills St. Georges (turn left), Shrewsbury, Llangollen, Corwen, Bettws-y-Coed, Llanrwst, Llandudno. Approximate distance 177 miles.

EXPERIENCES WANTED.

"K.S.K." (Winchester). Roc two-speed conversion fitted to a Triumph.

SCATTERING THE DUST.



E. Goult (3½ h.p. Triumph) trying for fastest time in the Doncaster M.C.C. speed trial. This photograph is an object lesson in itself for the dust is not being churned up by speed alone, but owing to the fact that the owner arranged the exhaust gases to blow direct on to the ground—a trouble not unknown on standard pattern machines.

CLIPSTONE TRACK SPEED TRIALS OF THE NOTTINGHAM M.C.C.



J. Truman (5 h.p. Bat-Jap) and F. P. Johnson (5 h.p. Matchless-Jap) at full speed half way along the course in the twin-cylinder class, which was eventually won by F. P. Johnson.

Occasional Comments 'Lyon' by

Tackling Steep Hairpin Bends.

Some riders are not acquainted with the adjustment employed by experts for negotiating very acute bends on steep gradients, when the corner is so abrupt that the engine has to pull, and pull hard at very low speeds indeed. The usual plan is to obtain a very fierce suction at the carburetter jet, and so to provide the engine with plenty of rich mixture. The desired conditions cannot always be obtained by shutting the extra air, and hence crack climbers of the freak variety often partially obstruct the bottom air supply, either by using a liner in the choke tube, or by fitting a shutter to the main airholes.

For an occasional freak climb it will suffice to put wooden plugs in one or two of the airholes, or to stuff a drilled cork in the stub funnel of a B. and B. carburetter. But when a rider has frequently to negotiate one of these freak climbs, it will pay him to fit a permanent main air shutter, with a short lever to operate it. Personally, I consider that such a shutter is a desirable fitment on most machines. If the engine is obstinate in starting at any time, the chance of constricting the main air supply is very useful; and I often use one in starting my engine by pulling up the back wheel, or when I have to push off on an adverse gradient.

Variable Jet Carburetters.

Quite a number of riders are now using the novel B. and B. variable jet carburetter, and a hint may be of service to those untutored in its manipulation.

It is a mistake to regard a variable jet carburetter as a substitute for a case of loose jets of different sizes, *i.e.*, to wangle its lever in the hope of identifying one particular jet opening which will give an ideal adjustment for all sorts and conditions of work. The jet aperture of such devices should be constantly varied with the work in hand, and the best expedient is to enlarge the jet opening in harmony with the throttle.

To give a practical example, when riding my new B. and B. in traffic, I run on a small jet and a small throttle opening. When indulging in a sprint on the level, or climbing a bad hill, I open up the jet as I open up the throttle. In fact, I should be of the opinion that the jet lever might well be linked up to the throttle lever in ordinary riding, and I may perhaps experiment in that direction.

Hall Caine on Motor Cycling.

Mr. Hall Caine has been spreading himself in the columns of *The Isle of Man Times*, denouncing motor cycling in general and the T.T. races in particular. Fortunately for the future of the Manx races, a prophet is often without honour in his own country, and the feeling in the island generally is not sympathetic towards the famous novelist's prejudices.

In fact, a semi-editorial column of the same issue takes a diametrically opposite line, and, with that delightful frankness characteristic of journalism in a country where the libel laws are flimsy, administers a rebuke to our critic for driving a foreign-made car.

The novelist draws a harrowing picture of sick people clamouring for doctors, whom they are unable to obtain because the roads are closed for a race. There are no days in the year when the inland residents of the island can so easily obtain medical attention as on the race days, for the A.C.U. provides doctors and ambulance men all round the course.

The Collier-de Rosier Match.

It often happens that great athletic tests, to which the world of sport is eagerly looking forward, are marred by some trifling mishap, and the great Collier-de Rosier match was no exception. De Rosier won the shortest sprint with less ease than we had imagined probable. In the intermediate distance his front tyre collapsed, and Collier's victory was, therefore, of no significance. In the long-distance race, Collier's switch lever caused him to lose a good deal of ground, and, barring this trouble, Collier might have won, and, again, he might have lost, for de Rosier knew he had only to keep going to scoop £130, and had, therefore, every inducement to spare his engine.

It is to be hoped that another meeting can be arranged, and that in the event of either rider encountering trouble the event may be re-run.

Waterproof Collars.

I notice that my colleague "Road Rider" always recommends celluloid collars for tourist wear. Some riders dislike them, both because of their bluey appearance, and also because of an alleged inflammability, which is probably non-existent. May I therefore mention a patent collar known as the "Artee," procurable from most hosiers, which is made of waterproofed linen. It looks exactly like an ordinary collar, can be cleaned with a wet sponge, and is said to keep its shape perfectly in drenching rain.



Group of competitors ready for the start of the final in the Cliptone Track speed trial, arranged jointly by the Notts A.C. and Notts M.C.C. F. P. Johnson (5 h.p. Matchless-Jap), R. A. Johnson (3½ h.p. Premier), J. W. Mitchell (T.T. Triumph). (See page 751 last week.)

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Conduct in the Isle of Man.

[5752].—Referring to the correspondence in *The Motor Cycle* regarding conduct in the Isle of Man during T.T. race week. One youth was checked to ride a T.T. mount past the house I was staying at on Douglas Promenade forty-seven times on Sunday, July 2nd, with the exhaust pipe out of silencer resting on magneto chain cover and making a dreadful noise. Several motor cyclists made some wild remarks about his conduct. I think the Douglas authorities will fight against another race meeting being held on the island after such exhibitions as the above, and not the only sample. The only question I will ask is, Why don't such men enter for the race?

AN OLD READER.

Silence.

[5753].—For the past two years in India I have kept a Motosacoché, which never failed me, and I was particularly pleased with the silence of the machine. I noticed from your paper that the question of the exhaust was receiving attention in England, and I hoped on returning home to find that it had been solved. You may judge of my surprise when I find that there has been practically no improvement in the last five years.

In looking about for a machine which would be easy to run, and up to a sidecar, I finally chose a —, and one of the points which took my attention was the large exhaust box. The noise, however, is as overpowering as on any other motor cycle, and I freely admit it gets upon my nerves. Is there no method of really silencing a motor cycle? I hear the Scott is absolutely silent. If so, cannot the four-stroke single-cylinder also be made silent?

In the accounts of the Manx racing, I was struck by the unanimity with which all the writers dwelt on the "roar of the engines" as they went dashing past.

Noise is delightful to youth, and perhaps it is this fact which retards improvement in the direction which I have indicated. But I despair of the rapid increase of riders among the older generation (to which you so often look forward) if noise is to be the invariable attendant of the motor cycle, and if silence must for ever flee before her.

R. B. WOOD.

A Suggested 1912 Design.

[5754].—I have a 1911 two-speed twin lightweight which at present gives me every satisfaction, but, like every one else, I have my own ideas on the subject of lightweights, and would like to give a short description of my ideal machine for 1912, with the object of finding out whether anyone would build me such a machine (cost not to exceed £50), and also if such a machine were built would it be successful? My weight in riding apparel is 10 stones. Specification is as follows:

Engine.—2½ h.p. twin, of any well-known make, with mechanically operated valves and cut-out.

Ignition.—Bosch magneto, controlled from handle-bars.

Carburettor.—B. and B. lightweight.

Gear.—Zenith-Gradua, with free engine position.

Transmission.—Whittle belt, not less than ¾ in.

Saddle.—Xl'fall spring saddle.

Stands.—Front and back.

Frame.—Strong and low, fitted with footboards and Druid spring forks, wide mudguards, with side shields.

Tyres.—26 x 2½ non-skid.

Carrier, tools, etc., would be included, of course, as on every other motor cycle.

I do not think the weight should be much over 120 lbs., and the machine should be able to go anywhere, and be extremely comfortable.

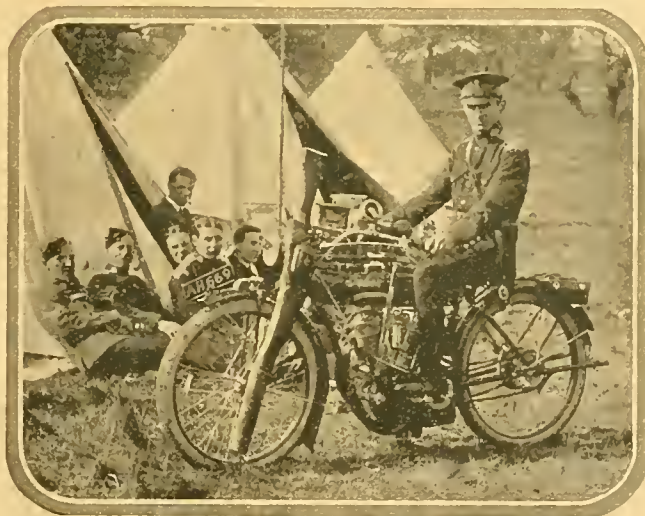
I should be most pleased to see any suggestions from readers, the only points on which I am quite determined are a Zenith-Gradua gear, with a free engine position for wheeling the machine about in and out of garage, etc., a twin engine for comfort and easy starting, and no hand brakes.

TITUS.

The Motor Cycle as a Scouting Mount.

[5755].—I am sending you a photograph of myself on a 7 h.p. twin Indian.

As a scouting mount this machine proved itself a great success at the recent Norfolk Yeomanry Camp at Wells. Its silent running amongst the horses, power to start up any hill, and great petrol capacity, to my mind make this machine an ideal mount for military work. I had most awful roads to traverse, very often on grass, but not once



Lc. Cpl. C. Bettinson. (See letter No. 5755.)

in sixteen days (working about six hours per day) had I occasion to open the toolbag.

I send you this, thinking it might be of interest to your readers.

Lc. Cpl. C. BETTINSON, K.O.R.R.N.Y.

The Lady Motor Cyclist.

[5756].—Having seen from time to time in your paper photographs of lady motor cyclists, I thought that perhaps my experience would be of interest to some of your readers. My machine, which is a 2½ h.p. Condor, was converted from an ordinary diamond to an open frame (as shown by the photograph) by the Condor Motor Co., Coventry, and has proved very satisfactory during the time I have been riding it. It will be noticed that the dressguarding is very simple, but it has proved to be quite sufficient. The outer covers, wheels, and frame were second-hand. All other parts were new with the exception of the engine, which was thoroughly



The Condor machine referred to by Miss "E.H."

overhauled, new piston rings, connecting rod and valves being supplied, the engine now pulling with great flexibility, and I have not yet come across a hill that I cannot climb. The entire conversion came out at a very reasonable figure, and if any of your readers who are thinking of a similar venture would like further particulars I should be pleased to supply same.

I must add the usual disclaimer, being only interested in the firm so far as being a satisfied customer. E.H.

Foreign Machines and British Riders.

[5757].—I am sure every reader of your excellent paper will be pleased to note the dignified tone of your editorial comment on the letter of Mr. W. H. Wells which you print below his communication on page 748 of the last issue. You are quite right when you say in effect that in no other country would a foreign victory be so impartially dealt with as here. Certainly it would not be in America—last of all nations to accept defeat graciously in any shape or form.

As to Mr. Wells's gibes about foreign, and especially American, machinery being employed in this country to assist our manufacturers and others to carry on their work, one can find in the United States, wherever one looks, examples in plenty of good British machine tools (some of them Coventry made), British typewriters, and other products, and all are spoken of in the highest terms by their American users.

There is such a thing as good taste in writing a letter to the press, and if some of our foreign trade friends cannot learn anything else from the British, I think there is just a possibility that, in this direction at least, they might be able perhaps to take a lesson from the inhabitants of this "effete" (?) country.

It will, I am afraid, serve the purpose of our foreign rivals in the motor cycle trade but little if they throw away what they gain through victories by flouting the good opinions expressed with subsequent exhibitions of vain-glorious and altogether unwarranted egotism.

We are, I am sure, all greatly obliged to Mr. Wells for explaining the reason why some British riders prefer to ride foreign machines in competitions. Of course, none of us had associated the matter with any idea of £ s. d. previously. CHAS. S. LAKE, A.M.I.Mech.E.

[5758].—I find it impossible to comprehend the attitude of your correspondent, Mr. A. C. Davison, which he exposes in a letter under the above heading, published in the issue of July 13th.

He appears to regard everyone who rides an American machine as being necessarily devoid of all sentiments of

patriotism, whilst it would appear that Messrs. Godfrey, Franklin, Moorhouse, and Alexander are not only traitors to their country, but "commercial lunatics"—whatever that might be—in addition. Why this should be so I utterly fail to see. The $3\frac{1}{2}$ h.p. Indian, in winning the T.T., has demonstrated conclusively that, for the time being at any rate, it is the best twin racing machine of its size in Great Britain.

This fact may be an unwelcome one to the British manufacturer, but surely it cannot fail to have an ultimately salutary effect upon him. He has shown during the past three years that the only policy which he dare adopt in the manufacture of motor cycles is generally a somewhat slavish follow-my-leader procedure, and his innate conservatism has led to the design of motor cycles having reached a stage at which it may be not unfairly described as "stagnant."

In my opinion we have no cause to fear that the Yankee will come along and swamp the motor cycle market, for, as far as I can see, there is only one American machine worth serious consideration and that is the Indian.

I must now hasten to add that I have no interest other than that of a user in any motor cycle, British or foreign. PRIVATE OWNER OF AN INDIAN.

[5759].—As one who has known American business men on both sides of the Atlantic, I have admired the way in which in such a short time Mr. W. H. Wells has absorbed and assimilated their methods. Parenthetically I would ask, however, what Mr. Wells finds particularly to crow and flap about in the result of the Senior Tourist Trophy.

I reside in this little village (Lambourn) in an atmosphere of horse-racing, and weights in this neighbourhood are known to half a pound. In the T.T. no mention whatever is made of this most important particular. As a matter of fact, the second machine in point of time was disqualified for a technical breach of the rules which made the 1m. 3s. by which it was beaten look very small. This machine was conceding 4 c.c. capacity in the engine, and at least three stones weight in the rider to the winning machine, about whose magnificent performance Mr. Wells has let himself go "hot and heavy." I have laid stress on the weight carried in competitions in various letters written to your columns during the last six years in order that our racing results might be of some scientific value.

In the Junior event the time of the fastest little twin was within one and a half miles an hour of the fastest single-cylinder of 160 c.c. larger capacity. No data as to weights of machines and riders are given. Two other most important points have not been officially noted. The first is that



Mrs. Kirkpatrick, of Bedford, and her newly-acquired three-speed $2\frac{1}{2}$ h.p. Handy Hobart, of which she is a delighted owner.

the Junior gold medal winners were all multiple-speeded, while all the single-cylinder gold medal winners in the Senior were single-speeded, and all of the same make. I am glad to notice a complete absence of cock-crowing and wing-flapping on the part of the Triumph Co. I would remind Mr. Wells that there is an old English proverb "that good wine needs no bush."

CHARLES S. PATTERSON, M.B., M.R.C.S.

[5760.]—Oh, sir, pathos itself is plumed when Mr. Wells himself, an American gentleman, I presume, accuses Britishers of wanting to oust another nation's goods! Such a method of America is indeed the only one I know that England could copy with advantage. That I am unbiassed is proved by the fact that I can sign myself a J.E.W.

[5761.]—I have read with some surprise the letter on this subject penned by the Hendee Manufacturing Co., and signed on their behalf by Mr. W. H. Wells, and can only conclude from the tone adopted that their head has been turned by their success. I am sure that Mr. Wells will be the first to admit that patriotism counts for much in these degenerate days, but I am at a loss to know which country can claim Mr. Wells's allegiance. It does not seem so long ago that he was selling Vindec machines, fitted with French engines, and now he is selling American goods. I am surely stating the bare truth when I say that Godfrey's win was acclaimed more on account of his personal qualities as a rider, etc., than on the success of a foreign firm. It is after all quite natural that we should prefer an English victory, but to state that we were filled with disgust at an American victory is wholly untrue. Mr. Wells must surely remember the many congratulations he received in the island, my own amongst the number.

Every credit was given to the Hendee Manufacturing Co., and to Mr. Wells in particular, for the splendid way in which he has managed the firm and brought them to the forefront, but I fail to see why we must necessarily be elated at an English defeat, and also be debarred from legitimate criticism. With regard to his remarks about the singles, I should have preferred him to "make good first."

I have no doubt that the win has been a splendid advertisement, and one which was thoroughly deserved, but at the same time the British public will not be the gainers thereby. Mr. Wells infers that we should not use anything foreign if we are to be consistent, but I think that he has missed the whole point of the argument.

We are sorry, as is only natural, that the British machine did not win. Moreover, we only buy foreign articles for use when we find them superior to British-made goods; things being equal we naturally give the preference to English goods, that is why German magnetos are largely used, and sometimes tyres for racing purposes. Here in England we believe in a fair field and no favour, and I congratulate *The Motor Cycle* on the impartial tone in which it has reported this and other races. I very much doubt whether an English rider in America would meet with such a cordial reception as Mr. de Rosier has met with in this country. It has enabled him to give of his best in England, and I am more than pleased to note what a splendid rider he has proved himself to be and his modesty in the hour of victory.

IVAN B. HART DAVIES.

[5762.]—Mr. Wells's axe-grinding letter is really too hot. I have not the pleasure of knowing any of your editorial staff, but I am sure that, however painful the result of the Senior T.T. may have been, they swallowed it like sportsmen.

The remarks about typewriters, machinery, etc., do not want airing in the motor press.

There are many besides myself who agree that Godfrey, Franklin, and Moorehouse, were unpatriotic in using American machines. They will dispute also what is said about "British machines" and "also rans."

The Motor Cycle dealt with the incidents of the race and the result with an absolutely unbiassed pen. The winners were congratulated and the losers consoled in a way nobody could find fault with.

There is certainly no country where a beating such as we got would have had the same prominence allotted to it in its press.

I wonder whether the American contemporaries say anything about Charlie Collier's hard luck with petrol tank.

Whether they have gathered that . . . but I must not finish this. Charlie Collier lost, in fact he was not in it.

By all means let Mr. Wells "hoe his furrow" and rub our noses in it if he can. I hope you have made the memo. Mr. Editor, that he suggests. W.A.P.

[5763.]—In letter 5751 in your issue for July 20th Mr. W. H. Wells seems to have missed the point of Mr. A. C. Davison's letter in your previous issue dealing with the above subject. Mr. Davison obviously means that in an international race each country's representative machines should be ridden by riders from that country. Can Mr. Wells give us a single instance of an "all-British" machine fitted with a German magneto?

And this brings us to another point in his letter which is very interesting. He refers to "an American (italics please) machine being so successful in the Tourist Trophy Race." Is it not a fact that the Indian motor cycle which was awarded first place in the Tourist Trophy Race is fitted with English chains, German magneto, English mudguards, Continental tyres, frame tubes of English steel, and ridden by an Englishman? Truly, an international combination. As this correspondence has arisen from the fact that a foreign machine has been awarded the Tourist Trophy for the first time, it is as well for our American friends to remember that, although Collier was disqualified, along with the only American representative, he is regarded in England as the virtual winner. Anyone who has studied the reports of the event can easily see that Collier's net running time was by far the best. HAROLD KARSLAKE.

[5764.]—My word! Mr. Wells does the warpaint and brandishes the tomahawk over the head of my harmless little letter in a manner truly terrifying. Thank goodness he includes the editorial staff; I believe they are fine fellows, and my scalp feels safer.

But why drag in the typewriter and other bric-a-brac? The fact that we use certain useful American articles in other directions, or that Mr. Wells and his countrymen use Brooks's saddles and Renold chains on their motor cycles, and wear English clothes, does not disprove the fact that it is more patriotic for a Briton to ride a British machine.

I would readily concede Mr. Wells equal patriotism if he had not so recently changed from championing a German bicycle. His defence of the riders is unfortunate—for them. To begin with, he suggests that I accuse them of "disloyalty." I certainly did nothing so absurd. In all probability every Briton in the race was as loyal a subject as our King could desire. I suspect that Mr. Wells (perhaps pardonably, as English idioms are very trying to the foreigner) imagines "patriotism" and "loyalty" to be synonymous terms. Then he says plainly that they rode the machine which would bring most £ s. d. Quite so! regardless of the credit or discredit of their own country, which was just what I suggested. He would also find it difficult to show logically why the three riders placed first would have been among the "also ran" on other machines. The American machines ridden by Americans were very much among the "also ran," so that it was apparently the riders who made the difference, and why they should be slower on a machine like Mr. Collier's, which was the fastest in the race, is not apparent.

In Mr. Wells's last paragraph about what they are going to do to complete our abasement I seem to recognise the note of that noble bird, the great American cock-a-doodle. By all means let Mr. Wells go on, with the aid of his own tribe only though, and when the rising of the sun does happen to coincide with the crow of his chantecler, then we will bow down and plough with our noses the unpleasantly long furrow he promises so genially to provide. In the meantime, let him try to complete his present task of demonstrating that a Briton riding a British machine for the honour of his own country is not a nobler spectacle than one selling his services to the highest bidder.

A. C. DAVISON.

[5765.]—In reference to Mr. Wells's letter (No. 5751) in last week's issue it may be as well to clear the ground and get to facts as distinguished from international jealousy. There are points more important than those of mere nationality which tend to produce the success or otherwise of any particular make of motor cycle. There are motives other than those of patriotism which influence the motor cyclist.

particularly if he is a professional, in the choice of a mount.

To be a success a machine has (1) to be produced, (2) to be ridden, and last, but greatest of all, it has to be "handled" in the trade sense of the term.

Given a sound machine and a good rider it will be powerless without skilful "handling" in business. I will leave Mr. Wells to draw his own conclusions from this. The Indian is not good merely because it is American. Godfrey, Franklin, and Moorhouse do not ride it merely because it is American. American machinery is often splendid stuff, and is employed where it excels just as are other foreign goods in all kinds of business and as English goods are used in the U.S.A. in spite of tariffs. And have we not heard of American shoddiness and scamped work somewhere or other?

Your editorial was most moderate in its terms. There was no disparagement of Americans or of the Indian. What about Yankee journalism under like conditions? If any international bickering is to ensue it is Mr. Wells who began it. No aspersion was cast on Godfrey, Franklin, and Moorhouse; all that was expressed was the regret now felt that they had not been riding British machines.

Two of them, at any rate, I know personally for as good sportsmen as ever walked, and I, in common with others, think none the less of them because they did well when they were riding American machines.

Mr. Wells's remark about his advertisement in your columns shows a pettiness of feeling which you might reasonably have censored before going to print. It comes a surprise to me to learn that "Britain for the British" is a Socialist cry, but then, Mr. Wells surely knows what he is writing about. Mr. Wells has been long enough in England and knows English sportsmen too well to think they would generally adopt the absurd attitude he attributes to you.

Good gracious! What difference does it make to England that an American machine should win by a small margin such as this?

B. C. DE W. SIFFKEN.

[5766.]—Although I was one of the first motor cyclists in this country I am not a person who is unable to mind his own business, but I cannot let pass the letter from Mr. W. H. Wells in last week's issue. If it were not for your exceeding fairness you would never have published such a letter as that from Mr. Wells, but American ideas of "sport" have always been somewhat strange to us on this side of the pond, so he must bear me no ill will if I take up the cudgels where you cannot well do so yourselves.

His would-be sarcastic and greatly exaggerated letter defeats its own objects, and I am sure many will feel that there is at least one advantage in British machines, and that is that they are sold, *not* by Americans!

Surely Mr. Wells is not blind? Has he not seen how liberally his machines are always treated in your paper? Does he not realise that from the beginning you have given both himself and his machines a most extraordinary degree of prominence?

Again, as regards his advertisements, would he like to stop them, and does he never make use of your columns?

No, Mr. Wells, if the victory had been one of English machines in the "U-nited" states, then we might have had cause for complaint, as anyone will realise who reads their papers, and as far as his "victory" is concerned I admit I am astonished more people do not realise exactly what it consists of.

The vast majority of people like a machine that is comfortable and clean; perhaps he did not happen to notice the condition of the J.A.P. engines after the T.T. there was hardly a speck of oil on the crank cases. In both T.T. and the recent matches the Indian machines have been lucky, and thus have been "victorious," and if Collier had not had the misfortune we all know about, the Matchless machines would have again won the T.T., and with plenty to spare, in spite of the fact that Mr. Wells's entry makes one think of "Indian, Indian everywhere, and just for the a.d.v."

I bear no grudge against Mr. Wells; in fact, I heartily admire him, yes and his splendid machines, for such they certainly are, but, "Mr. Indian," don't, don't forget what the Britishers you jeer at have done for you.

A. M. LOW, A.C.G.I., etc., etc.

[5767.]—The American idea of sportsmanship is proverbial, and what could be more typically American than the letter you publish from the Hendee Manufacturing Co.?

I read *The Motor Cycle* carefully, but failed to see in it any resentment, veiled or otherwise, regarding the Indian victory in the Senior T.T. Race. Indeed, the attitude of the press has been justly generous in its recognition of the winner's success. It remained for Mr. Wells to strike the first discordant note. Of course, it is open for anyone to "read between the lines" of your publication, as did the Hendee Co., but you can hardly be held responsible for distorted constructions placed upon your words. These naturally would vary with the temperament of each reader.

We should all have rejoiced at a British win, but on this side of the Atlantic we do not treat a foreign victor as the Hendee Manufacturing Co. evidently expected to be treated. I fear Mr. Wells's sour letter will prove an advertisement of the wrong sort for his firm.

R. WADE.

[The letters published above are but a selection of a very large number we have received on the same subject.—Ed.]

Route for the Six Days' Trials.

[5768.]—I have been a regular reader of *The Motor Cycle* since September, 1907. I note the remarks *re* the Six Days' Trials in the last issue. On page 707, fourth day, the route is given, but mention should be made that between Newby Head and Hawes there is a moorland gate blocking the road. I hope the A.C.U. will have a man stationed here to keep the gate open, otherwise there will be much delay.

REV. JOHN HODGKIN.

The International Match. Two Sportsmanlike Offers.

[5769.]—As there seems to have been a certain amount of bad luck on both sides in the International Match at Brooklands on the 15th inst., it seems to me that a second match would be very interesting.

I see by your report of the matches that the deciding one would have been very much closer if Collier had not had bad luck, and also the second one if de Rosier's tyres had not given trouble.

So if de Rosier is still in England, and another match could be arranged, I should be very pleased to put up £50 towards the stakes.

W. MACNEILL.

[5770.]—England has been beaten, and we must salute the makers of a faster machine, the rider of which gave a very definite proof on the 15th that he can do as he likes.

It must have been very evident to those present that the difference in speed of the two machines can mostly be accounted for on the score of weight. The lighter engine of the Indian, with its lighter flywheels and crank case, the lighter cylinders, made possible by the aid of steel tension rods to hold the head down to the crank case, does not require the heavy frame that the J.A.P. engine does.

The 2in. tyres are also faster, and it is questionable whether "C.R." would ride them on account of the risk.

However that may be, it is pretty certain that if the J.A.P. people will build a special light engine, and the Matchless people left to finish the rest in accordance with the weight to be carried, the result of a second match might be different.

Many of your readers will say that both riders had the same opportunities, but they do not realise the difficulties of building what is, to all intents and purposes, a new type of machine with a powerful engine. Let it be understood that in no way is any slur intended against the Indians. They have proved themselves what they are, in the last few weeks, but we still have the men, and in England the sportsmen, so that on the face of it the position is this: England with all her large motor cycle manufacturers, very unfairly, leaves it to one firm, and that not a large one.

The results of the T.T. Races and this match have their effect the world over, especially in the case of a sweeping victory. And I suggest that those who take a sportsmanlike interest in seeing England keep her end up should join in contributing to a fund to be formed to build a machine capable of competing with the Indian on even terms. As your contributor recently mentioned, Messrs. H. A. and C. R. Collier have for years past been England's leading racing men, which has meant an outlay which it would be safe to say no other firm would have faced, and this should give all motor cyclists who have the sport at heart an opportunity to show it in a practical way. Should this idea take shape I enclose cheque for £5 5s.

E. BARNEATHER.

INTER-CLUB HILL-CLIMB.

OXFORD M.C.C. v. NORTH-WEST LONDON M.C.C.

THIS annual meeting was brought off successfully on Saturday at Kop Hill, near Princes Risborough, under rather extraordinary circumstances, inasmuch as a pedal cycle hill-climb was being run off at the same time.

Most motor cyclists would have thought Kop Hill unclimbable to the ordinary cyclist, but three hardy competitors, panting and puffing, jerked their machines over the top, most of the others failing early on the last steep portion. Both motorists and cyclists went away seemingly 'with increased respect for the others' powers.

The Oxford M.C.C. had evidently taken the match more seriously than the North-west London men, for their machines, besides including several lightweights, were heavily loaded with 56 lb. weights and other means for taking advantage of the now admittedly weak A.C.U. formula. This, however, nearly led to their undoing, for two of the lightweights failed to reach the top, preventing their club from completing the necessary six to count. In order to qualify, J. Webb uncoupled the sidecar from his Triumph, borrowed a large jet, and made one of the best climbs of the day. This keenness carried his side to victory, as the figures show.

As to the individual ascents, Hal Hill, on his 5 h.p. Bat, made by far the fastest ascent, and must be learning by now every stone on the hill—numerous though

they are. His clubmate, Brunton, on a similar machine, was next fastest, and his appearance round the corner, just as one of the pedal cyclists was indulging in his last expiring wobble, was exhilarating.

Hill (Oxford) was fastest single on his 554 c.c. Bradbury, and Viggers, on the twin Enfield, was faster than most of the singles. Hilhouse, weighing 15 stone odd, scored well on his Triumph in spite of using an ordinary jet, having lost his specially prepared one.

The results, given below, show that Oxford scored a comfortable win, repeating last year's success:

OXFORD M.C.C.

	Time.	Formula.
H. G. Hill (3½ Bradbury) ...	47½s.	672
R. H. Viggers (2½ Enfield) ...	57s.	696
Askew (3½ Triumph) ...	58½s.	743
J. Webb (3½ Triumph) ...	56s.	767
Hardy (3½ T.T. Norton) ...	54s.	831
W. Collier (3½ Ariel) ...	67s.	865
W. A. Matthews (7 Indian) ...	43s.	1,020
S. Collier (2½ Enfield), failed.		
J. Beard (2½ New Hudson), failed.		

Total six best ... 4,574

NORTH-WEST LONDON M.C.C.

S. Hilhouse (3½ Triumph) ...	62s.	703
Hal Hill (5 Bat-Jap) ...	38s.	753
G. R. Owen (3½ Zenith) ...	62s.	831
M. Brunton (5 Bat-Jap) ...	41s.	846
H. J. Pooley (3½ Premier) ...	62s.	883
G. Rowden (3½ Triumph) ...	73½s.	1,033
G. H. Hollis (2½ Douglas) ...	129s.	1,341

Total six best ... 5,099

Fastest time of the day, Hal Hill (Bat-Jap), 38s.

BRADFORD M.C.C. OPEN HILL-CLIMB.

This club is holding its third annual open hill-climb next Saturday, the 29th inst., commencing at 2 p.m. The classes, which are twelve in number, embrace every type of motor cycle.

The hill, which is at Baden Moor, near Skipton, has, within the last week or so, been repaired, and will be swept on the day before the climb.

Class 1 (for lightweights) is open to T.T. models which may be stripped.

Classes 2a (for touring machines up to 560 c.c.), 6a (for single-cylinder racing machines up to 500 c.c.), and 8a (for any machine up to 1,000 c.c.), and classes 2, 6, and 8 respectively, are synonymous except for the fact that the three former are for amateurs only.

The prizes for the three classes are:

Class 2a, a set of Lucas headlight and generator, presented by Messrs. J. Lucas, Birmingham.

Class 6a, a pair of Palmer tyres given by Messrs. the Palmer Tyre, Ltd.

Class 8a, a pair of Continental rubber-studded tyres given by Messrs. the Continental Tyre Co.

The other classes are:

Class 3, for multi-cylinder machines up to 750 c.c.

Class 4, for variably geared single-cylinder machines up to 560 c.c.

Class 5, for variably geared multi-cylinder machines up to 750 c.c.

Class 7, for multi-cylinder racing machines up to 585 c.c.

Class 9, for passenger machines up to 1,000 c.c.

Will the patentee of the Cape antivibrator kindly communicate with the Editor?



The scene of the inter-club hill-climb last Saturday—Kop Hill, near Princes Risboro.



Summer Quarterly Trial

NORTHERN CENTRE EVENT
THIRD OF THE ACU 1911 SERIES

Motor Club presented an animated scene when the rather meagre number of entrants for this event were started, in beautiful weather. The route lay through Hexham, Choller-

SHORTLY after 8 a.m. on Saturday last the headquarters of the Newcastle and District

After Brunton Bank the road to Rothbury was fairly easy, though the surface caused some uneasiness by reason of its loose and stony nature. At Rothbury, most charmingly situated amidst trees and hills, a stop was made for lunch at the Queen's Hotel, where the service might easily have been improved.

Leaving Rothbury, Lakeside—one of the worst hills—proved the undoing of W. Appleby, who had to run for a short distance by the side of his mount. The remainder made satisfactory ascents in spite of the very loose surface. Once up Lakeside, which is about two miles long, a magnificent view could be obtained of the Northumberland hills, and also of the next timed climb, which resulted in E. L. Bates (5½ h.p. Scott) recording only 4s. error, Alan Hill (3½ h.p. Rudge) coming next with 11½s. error, his *confrère*, C. S. Bunney (3½ h.p. Rudge), being third with 12½s. deviation from the standard speed. From Corby Bank, which was soon reached, and, like all the rest, easily surmounted by all, came a grand run into Alnwick, and from now onwards the roads were in splendid condition, the only bit of excitement being at the Watersplash, near Ilderton. Here a large number of competitors, whose discretion tempered their sense of valour, dismounted and pushed over the little footbridge. Those who rode through experienced for the next mile or two no little anxiety from slipping belts, etc. It was a fine sight to see the competitors charge the water, but E. B. Ware's charge was "grand." He afterwards stated he went at the water at fifty miles per hour, and probably he did, for he caused a fine upheaval. After the Watersplash the run home *via* Morpeth was easy, the majority of the competitors riding within a few yards of one another. Tea was served on arrival at the Newcastle headquarters, and thanks are due to the officials of that club for its unstinted kindness and generosity, all the competitors and officials being made hon. members for the occasion.



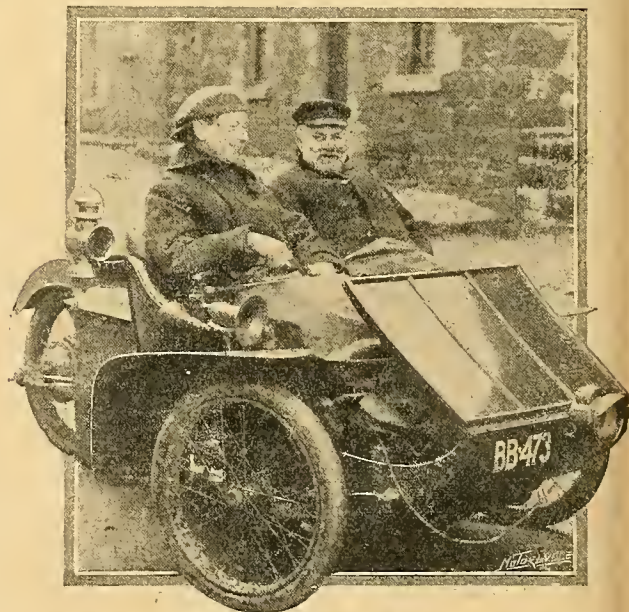
Five competitors in the A.C.U. Quarterly Trials who rode Dene-Precision motor cycles. Left to right: A. Clark, W. Appleby, R. Henderson, J. H. Wood, and Isaac Baty.

ford, Four Lane Ends, Elisham Bridge, to Rothbury, returning by Alnwick and Ilderton, an approximate distance of 150 miles. Out of twenty-six competitors, of which three were passenger machines, there was only one non-starter, viz., Dr. Hugh McManus, who competed in the Yorkshire centre event. He had entered his 3½ h.p. Scott.

Though the entrants were fewer in number than usually, most ran very regularly, and the percentage of non-stop riders was much greater than usual. Only one rider had to retire through tyre trouble. The most serious difficulty experienced was that by A. B. Keene with the cooling and fans of his sociable. He was most unlucky, for he is a well-known Northern motor cyclist, and has driven his sociable successfully for some months. The riders were despatched with promptitude and soon left the tramlines of Newcastle behind, proceeding on undulating roads against a nasty head wind which made the dust very trying. Passing through Hexham we were soon upon the first timed hill, namely, Brunton Bank, close to Chollerford, which is not difficult, and had it not been for a rather awkward right angle turn at the foot, all the riders would have negotiated it with ease.

First Failure at Brunton Bank.

As it was only one man failed, and this through four or five competitors endeavouring to take the corner at the same time. The unfortunate had a slight skid, and his engine refused to recover itself. The timed ascent of this hill proved how regularly most of the riders were running. G. B. Hall (4 h.p. Matchless) was first, only 1½s. error; second, A. J. Stevens (2½ h.p. A.J.S.), 22s. error; third, Frank Smith (5 Clyno and sidecar), 5½s. error.

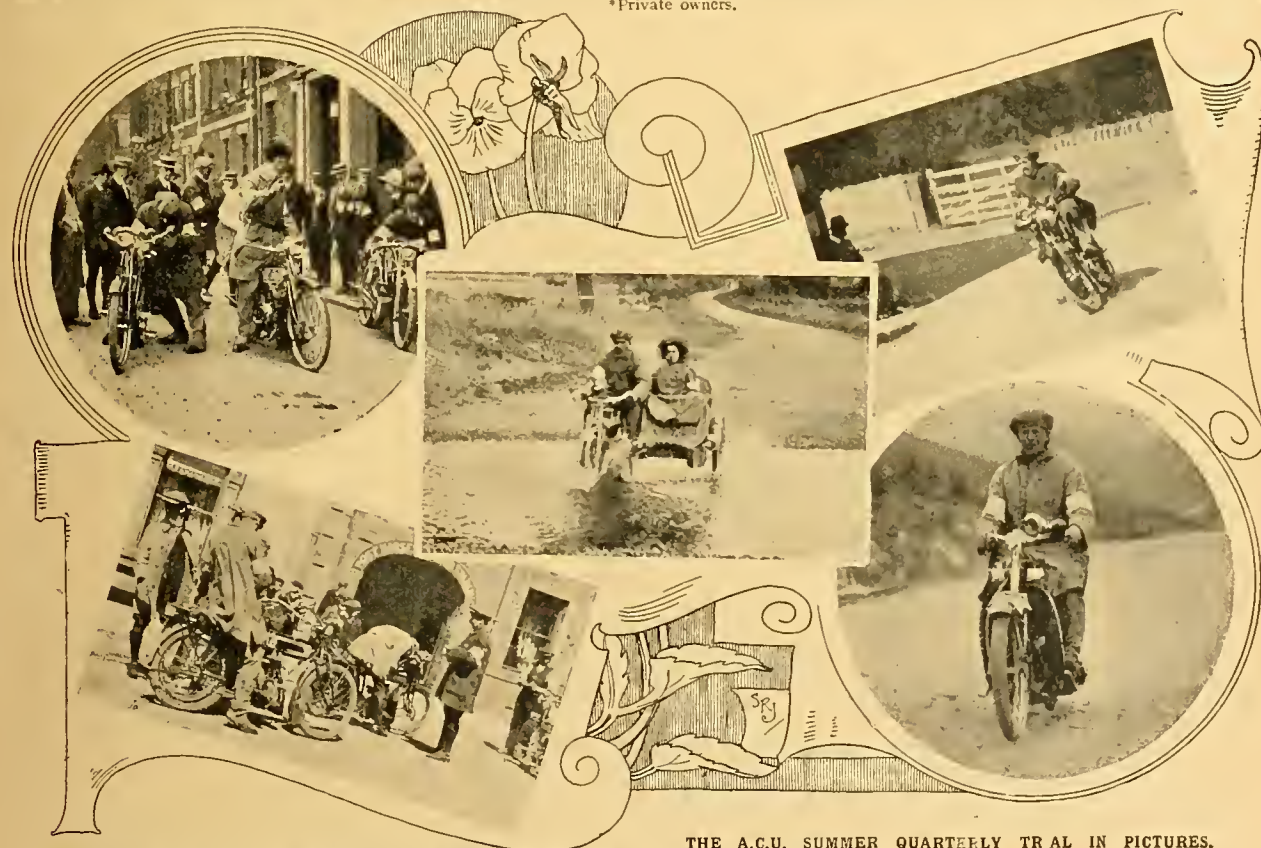


One of the three competitors on passenger machines: A. B. Keene and his A.C. sociable.

OFFICIAL RESULTS OF THE NORTHERN CENTRE QUARTERLY TRIAL.

Rider, H.P., and Machine.	Cyl.	Dimen- sions.	Capa- city.		Remarks.	Brunton Bank Hill-climb.	Corby Bank Hill-climb.
		mm.	e.e.			Posi- tion. secs.	Posi- tion. secs.
Alan Hill (3½ Rudge)	1	85 × 88	499	Non-stop	First-class certificate	14 + 81 ¹ ₂	2 — 11 ¹ ₂
Geo. Bell (3½ New Hudson-Jap) ..	1	85½ × 85	488	Non-stop	First-class certificate	20 + 31	6 — 18 ¹ ₂
H. G. Dixon (3½ New Hudson-Jap) ..	1	85½ × 85	488	Non-stop	First-class certificate	19 + 30 ¹ ₂	4 — 15 ¹ ₂
F. E. Wasling (2½ Enfield)	2	54 × 75	343	Non-stop	First-class certificate	4 — 10	10 — 32 ¹ ₂
C. S. Burney (3½ Rudge)	1	85 × 88	499	Non-stop	First-class certificate	15 + 8	3 — 12
A. J. Stevens (2½ A.J.S.)	1	70 × 76	292	Non-stop	First-class certificate	2 — 2	16 — 44
J. Stevens (2½ A.J.S.)	2	70 × 76	292	Non-stop	First-class certificate	7 — 24	20 — 55
*L. Rosenvinge (3½ Ariel)	1	85 × 85	482	Non-stop	First-class certificate	6 — 22	13 — 40
*W. F. McCullough (3½ Scott)	1	70 × 63½	486	Non-stop	First-class certificate	22 + 45	23 + 6
Frank Smith (5-6 Clyno & sidecar) ..	2	89 × 76	643	Non-stop	First-class certificate	3 — 54	8 — 26
*E. B. Ware (8 Chater-Lea & sidecar) ..	2	85 × 85	964	Non-stop	First-class certificate	8 — 29	22 — 71
*J. A. Henderson (3½ Precision)	1	86 × 88	510	Non-stop	Crank case oily	13 — 39	14 — 42
B. Cooper (3½ Premier)	1	85 × 88	499	Non-stop	Oil exuding from auxiliary ports and tappets ..	16 + 15	7 — 24
*T. W. Hall (3½ Bradbury)	1	89 × 89	554	Non-stop	Oil exuding from tappets	21 + 37	9 — 28
*R. J. Spencer (3½ Bradbury)	1	89 × 89	554	Non-stop	Oil exuding from tappets	5 — 20	11 — 33½
*E. W. Merrall (3½ P. and M.)	1	82 × 88	465	1 stop	Stretched valve; crank case oily; slight play in back wheel.	9 — 31	17 — 45
*E. L. Bates (3½ Scott)	2	70 × 63½	486	1 stop	Puncture; play in back wheel; oil leak- ing from compression tap and oil pump.	18 + 28½	1 — 5
W. Applebee (3½ Dene-Precision) ..	1	86 × 88	510	1 stop	Ran alongside up Lakeside	12 — 34½	12 — 39½
L. A. Clark (3½ Dene-Precision) ..	1	86 × 88	510	1 stop	Puncture	10 — 32½	18 — 48
*J. H. Wood (3½ Dene-Precision) ..	1	86 × 88	510	1 stop	Sooted plug; crank case oily	11 — 33	19 — 49
F. Turvey, jun. (3½ T.T. Triumph) ..	1	85 × 88	499	1 stop	Puncture; oil exuding from tappets and crank case joints.	6 — 22	21 — 56½
*G. B. Hall (4 Matchless)	2	76 × 74	584	2 stops	2 sooted plugs; crank case oily	1 — 1½	15 — 42½
H. Mason (4 Matchless)	2	76 × 74	584	3 stops	Tyre troubles; tyre deflated at finish; magneto chain unprotected.	17 + 26½	5 — 17
A. B. Keen (5 A.C. Sociable)	1	90 × 102	648	4 stops	Broke fan twice, high tension wire, and oil pipe.	24 + 108½	24 + 19½

*Private owners.



THE A.C.U. SUMMER QUARTERLY TRIAL IN PICTURES.

Waiting for the signal to start. H. Mason (4 h.p. Matchless), E. W. Merrall (3½ h.p. P. & M.), and G. Bell (3½ h.p. New Hudson).

Frank Smith (5-6 Clyno and s.c.) negotiating the water-splash near Ilderton.

T. W. Hall (3½ h.p. Bradbury) rounding the right-angle bend of the ascent of Brunton Bank. Mr. F. Straight is timekeeping at the corner.

Checking the competitors at the Queen's Hotel, Rothbury, where lunch was provided.

E. L. Bates (3½ h.p. Scott), hon. sec. of the Newcastle Club, climbing the second test hill—Corby Bank. A magnificent panoramic view was obtainable from this point.

A.C.U. JUDGES' REPORT OF THE SUMMER QUARTERLY TRIAL.

The third Quarterly Trial was held on Saturday, July 22nd, starting from Newcastle and proceeding *via* Hexham, Branton Bank, and Otterburn to Rothbury, where lunch was partaken of, and returning *via* Corby Bank, Eglington, and Morpeth, a total distance of 130 miles being covered. The entries, unfortunately, were far below the average, and consisted of twenty-one heavyweight machines, two lightweights, and three passenger machines. All started except one. The weather was exceedingly fine, and the roads in excellent condition as a whole, though rather rough in places. It will be seen by the tabular report that eleven entrants received first-class certificates and thirteen certificates of performance were granted, several competitors who made non-stop runs being disqualified from receiving first-class certificates in consequence of defects to their machines. On the outward journey it was noticed that certain machines were very noisy, but at the luncheon interval competitors were requested to close their cut-outs, and, in consequence, the noise was diminished. The tappets on one make of machine and tappets and auxiliary exhaust on another were noticed to exude oil, as in former trials. One competitor on a Scott machine was nicely enveloped in a rug, much to his comfort.

The new Rudge gear, in its experimental form, made its first appearance in a Quarterly Trial and though rather rough and large, appeared to answer well, and will doubtless be improved in course of time, whilst another novelty was an internal-expanding brake actuated by a Bowden wire and fitted to the wheel of a sidecar. The brakes on several machines did not work well, failing to come off when pressure was released. Only one competitor failed to finish, the cause being tyre troubles. One competitor on a T.T. Matchless fitted with a new six-speed gear unfortunately thought it desirable to appear in racing costume, but it is as well to point out that this is a touring trial, and everyday costume is preferable. The wheels of the Chater-Lea sidecar were shod with car tyres, which doubtless added to the comfort of the riders and minimised the likelihood of puncture. The course was the easiest of this year's series, and it is a regrettable feature that the trial, being the first held in the North, was not better supported. Great thanks are due to the members of the Newcastle and District M.C. and N.E.A.A., who rendered valuable assistance in marking and marshalling the course.

H. G. COVE and D. K. HALL, Judges.

THE BRADFORD-DUNBAR-BRADFORD 24 HOURS' TRIAL.

Under favourable weather conditions twenty-five out of the twenty-eight entrants in the Bradford M.C.C. reliability trial last week-end faced the starter, and of these fifteen survived the twenty-four hours' ride. The only two solo riders who were competing for the William Briggs Trophy to finish on schedule time were T. G. Bullus (riding a $3\frac{1}{2}$ h.p. P. and M.) and Miss Pickles (riding a $3\frac{1}{2}$ h.p. Scott). Amongst others to finish were A. Kilburn ($3\frac{1}{2}$ h.p. Triumph) and A. Grimshaw ($3\frac{1}{2}$ h.p. Rex). In the teams' class a good performance was put up by the Batley Club's team, captained by C. Sydney, and including S. Todd and S. Horsfall, all

mounted on Triumphs. The Ilkley M.C.C. team members also finished complete; whilst another team arrived one man short, who had retired about twenty miles from home with engine troubles. In the passenger class J. N. Longfield, with a $3\frac{1}{2}$ h.p. Scott and sidecar, put up an excellent performance, being closely followed by P. Shaw with a $3\frac{1}{2}$ h.p. P. and M. and sidecar. Mr. Russell (on a 7 h.p. Chater-Lea and sidecar) also came through successfully, but Mr. Bennett on a similar machine was unfortunate in losing his way. The numerous punctures were a feature of the trial, only one or two being free from trouble in this direction.



Preparing for the start of the Scottish Trials last Monday morning. Several of the competitors rode up to Edinburgh after competing in the Quarterly Trial last Saturday.

ENTRIES FOR THE SIX DAYS' TRIAL.

Considerable interest is being shown in the forthcoming six days' trial in Yorkshire, to be held from August 14th to 19th next, starting from Harrogate as a centre each day. Entries are now being received by the A.C.U., and everything points to the trials being very successful. Entries:

W. Cooper ($3\frac{1}{2}$ Bradbury)	J. Tassel (8 Matchless & sc.)
E. Ware (8 Chater-Lea & sc.)	A. Abbott (8 Matchless & sc.)
A. C. Robbins ($3\frac{1}{2}$ Humber)	H. H. Bowen (4 Bat-Jap)
E. A. Colliver ($3\frac{1}{2}$ Zenith)	W. Pratt ($3\frac{1}{2}$ P. and M.)
C. C. Cooke ($3\frac{1}{2}$ Triumph)	H. V. Colver ($2\frac{3}{4}$ Enfield)
V. Wilberforce ($2\frac{1}{2}$ N.L.G.)	H. Greaves ($2\frac{3}{4}$ Enfield)
B. H. Davies ($3\frac{1}{2}$ Rudge)	P. Weatherill ($3\frac{1}{2}$ Zenith)
W. W. Douglas ($2\frac{3}{4}$ Douglas)	J. Haslam (6 Zenith)
W. W. Douglas ($2\frac{3}{4}$ Douglas)	R. W. Duke ($3\frac{1}{2}$ Z.G.)
R. Owen Wells ($3\frac{1}{2}$ Bradbury)	

Messrs. Colliver, Cooke, and Wilberforce will comprise

the Herts County A.C. team competing for the prize for the best performance by a team of three private owners nominated by an affiliated club. There is also a prize for the best performance by a team of three machines entered or nominated by a trade representative.

Entrance fees.—Trade entries, first machine, £5 5s.; each additional machine, £3 3s.; Private owners, £3 3s.; ditto, members of A.C.U. or its affiliated clubs, £1 1s. Not more than three entries will be accepted from any manufacturer or agent. Entries close on Monday, July 31st, at the above fees. Late entries will be accepted up to and including Saturday, August 5th, at double fees, and must be sent to the secretary, Auto Cycle Union, 89, Pall Mall, London, S.W.

A large number of local motor cyclists and agents have kindly offered to assist the Union along the route by directing or checking the competitors. Still more are required.

THE SCOTTISH SIX DAYS' TRIALS.

MOST of the thirty-seven entrants arrived in Edinburgh on Saturday, and as there was no official parade of the machines until 7 a.m. on Monday, the interval was spent in attempting freak hill-climbs. Competitors mustered at the Murrayfield car terminus, a dozen having been working at their machines most of the

Monday Afternoon's Run.

Hay's Alcyon was the only machine unaccounted for when we left Arrochar after lunch; and, rounding the end of Loch Long by an execrable road, we struck up into the pass of Glencoe to tackle the famous ascent, which terminates in a hairpin bend at "Rest and be Thankful." As this climb covers five miles of road, it is impossible to say who made clean ascents.

From the summit the roads were atrocious for sixty miles. The hard stony patches were pleasant compared to the deep soft rutty patches, which hurled the back wheels in all directions and led to several heavy falls. Rain fell incessantly, and the vile surfaces combined with countless blind and slippery corners and many short steep hills, made the day exceptionally trying. After leaving Glencoe we dropped down to the shore of Loch Fyne, rounded it to Luveraray Castle, then across another pass to Loch Awe, and then round a shoulder of Ben Lui to Killin, at the head of Loch Tay, along which we ran into Kenmore at the foot of the worst side of Amulree Hill, and so into Aberfeldy.

The following are my impressions of the performances on the top pitch of "Rest and be Thankful." It should be noted that many of the riders who reached the concluding hairpin in the saddle had stopped lower down with belt or overheating troubles, while quite half the entrants were caught napping by the deceptive knuckle near the foot, and suffered short stops there. Class 1.—Colver, splendid; Morrison, Fletcher, Phillips, and Gibb, all four Douglasses, made clean ascents, and Holroyd (Motosacoche) came up well, pedalling. Clyno sidecar excellent; Chater sidecar dropped passenger.

Class 2.—Thompson, excellent; Davies, slow, steering one handed, other hand keeping low gear in; MacGregor, failed; Gibb, excellent; Morrison, excellent; Gray, good; Hill used his Rudge gear cleverly; Smith ran alongside corner; R. Downie and Pennington magnificent performances on single gears; F. Downie, walking alongside, belt slipping; Mouat, failed corner; Westwood, ran above corner; Bell, pedalling; Pratt, very good; Bostock, excellent; Elce, failed corner; Burney, good; Houghton, tried to cut inside Dibb on corner and stuck; Silver, excellent; Fontaine, failed on corner. G. L. Fletcher stripped the timing and retired at Killin; Donaldson, delayed Arrochar with broken crank case; Silver had bad fall; Gerard's Enfield, magneto trouble near Stirling; Scott, missing; Hay, missing; Pennington broke valve.

Class 1.—Lost marks: Hay, 60; Gerard, 60.

Class 2.—Lost marks: R. Downie, 18; Mouat, 8; Donaldson, 60; Alexander, 49; Pratt, 33; Bostock, 60; Scott, 60; Pennington, 60; Silver, 17; Fontaine, 60; MacGregor, 60. The missing men all arrived in the small hours.

Start of the Scottish Trials from Edinburgh on Monday last.

night. An Edinburgh rider trained up to London and back on Saturday to fetch parts, but he was there up to time. Allan Hay, who always provides the comic relief of the Scottish Trials, had dropped his spare cover overnight on a trial run, and only appeared at 6.55. Pigott withdrew his Zenith. The thirty-six starters were, therefore, as follows:

PASSENGER AND LIGHTWEIGHT CLASS.

Allan Hay (2 Alcyon)	H. V. Colver and Gerard
J. Morrison, G. L. Fletcher,	(two-speed Enfields)
P. Phillips, and W. B. Gibb	F. Smith (5 Clyno and sc.)
(two-speed Douglass)	E. B. Ware (Chater Lea, sc.)
J. S. Holroyd (Motosacoche)	

TOURIST CLASS.

B. H. Davies, G. T. Gray,	Silver and Fontaine (single-
A. Hill, and Mouat (Rudges	geared Quadrants)
with N.S.U. 2-sp. gear)	Dixon, Bostock, and Bell
W. H. Elce and C. S.	(3 sp. 3½ New Hudsons)
Burney with Rudge gear	Westwood and Pennington
W. Houghton (Rudge)	(3½ T.T. Triumphs)
Thompson (8 Bat)	R. Downie (3½ single-geared
C. McGregor (5 Bat)	Brown)
R. Morrison (5 Bat)	F. Downie (3½ single-geared
Smith (8 Bat)	Ariel)
Alexander and Pratt (3½	Scott (3½ single-geared B.S.A.)
two-speed Humbers)	Donaldson (5 single-geared
Dr. Dibb (5 two-speed Rex)	Norton)

Pennington had trouble with a big-end of his 1910 Triumph on his way to Edinburgh, and fitted an engine borrowed from a 1908 Triumph, which he had formerly owned. The weather at the start was ideal, fine and not too hot; and, indeed, some consolation was needed to atone for the atrocities of the ride into Stirling, which was a nightmare of cobbles, pot holes, bumps, tramlines, dogs, bare-legged children, and ugly villages. Half a mile from the start I espied the ever radiant Hay pedalling his engine on the stand enveloped in clouds of smoke.

Stirling was reached without incident. The sky had grown dark and lowering, but we hoped this was merely due to the smoke cloud of a large industrial city; also as we struck off west towards the bonnie banks and braes of Loch Lomond rain began to fall heavily, and continued throughout the day. Long before the luncheon control at Arrochar was reached, most of the riders had been suffering with slipping belts, and if some astute dealer had turned up with a big stock of leather belts, he would have done a roaring trade.



At the checking station at Stirling on the first day's run. The competitor on the right is Tom Silver and his Quadrant, probably the most experienced member of the trade in this week's trial.

CURRENT

CHAT

SPECIAL FEATURES.

FOREIGN MACHINES AND BRITISH RIDERS.

THE SUMMER QUARTERLY TRIAL IN THE NORTH.

THE SCOTTISH SIX DAYS' TRIAL (Illustrated).

Are Britishers Sportsmen?

A sum of £55 5s. is offered by two readers in our letters pages this week towards stakes for another Collier-de-Rosier match.

A Colonial Issue.

On October 12th a special Colonial issue of *The Motor Cycle* will be published, the contents of which will be of particular interest to our numerous readers in overseas dominions. Further details of this issue will be announced shortly.

Associates' Gala Day.

The inter-club meeting and gala day of the Associated Clubs takes place at Brooklands next Saturday, commencing at 12 noon. For the A.C.U. Short Distance Handicap of five and a half miles there are twenty-four entries. In the Inter-club Team Race the following clubs have entered: North-west London M.C.C., Purley and District M.C.C., Surrey and District M.C.C., Herts County A.C., and Streatham and District M.C.C.

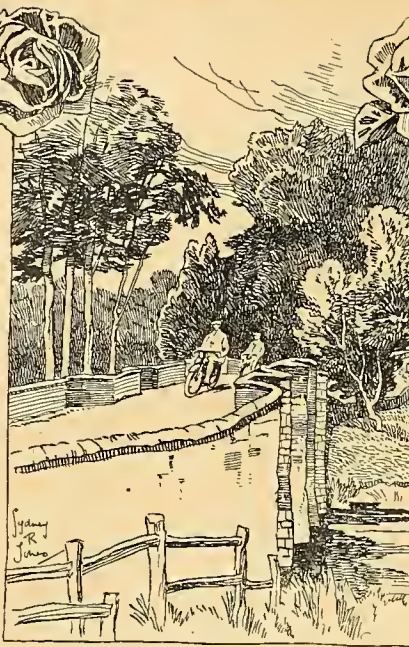
The End-to-end Sidecar Record.

On Monday at 2.55 a.m. Hugh Gibson, of Southport, who is the present holder of the End-to-end sidecar record on a $3\frac{1}{2}$ h.p. Triumph, left John-o'-Groat's in an attempt to beat his own figures of 40h. 47m. Gibson this time rode a Bradbury and sidecar, with two-speed gear, and minus pedals. At the start the weather was dry, and there was a slight side wind. A telegram signed Morison advised us that Gibson left Beaulieu (134 miles from the start) at 8.10 a.m., and a postcard gave the time at Perth (266½ miles) as 1.50 p.m.

Wigan was left at 12.40 a.m. on Tuesday, and Gloucester at 6.57 a.m.

Attempt on the Six Days' Record.

A. W. Brittain, of Cambridge and Buxton, whom we referred to last week as having commenced an attempt on the six days' record, started again on Wednesday last week at midnight. He covered nearly 500 miles on the first day, and on Friday morning he called upon us, looking fairly fit, having added 300 miles to the total. Returning from Cheltenham in the evening he almost staggered into our office his limbs being nearly immovable owing to cramp, due to sitting in one position for so long. Our remarks to him were certainly not of the most encouraging kind, though we were bound to admire his pluck and tenacity. A postcard next morning advising us that he had retired at Leicester, as he simply could not walk



owing to cramp, caused us no surprise, but a footnote saying that he hopes to start again in about a week made us wonder where British pluck finds a limit. If six-day record aspirants had seen Mr. Brittain on Friday as we did, we are convinced that such prolonged physical tests of endurance would cease, yet our description of the spectacle to another motor cyclist, who showed us privately his timetable, proved no deterrent, and he assured us that, in his opinion, success was wholly a matter of careful preparation for such an arduous task.

TIME TO LIGHT LAMPS.

July 27th	...	...	8.54 p.m.
" 29th	...	...	8.51 p.m.
" 31st	...	...	8.48 p.m.
Aug. 2nd	...	...	8.46 p.m.

Six Hours' Lightweight Record

C. Stanley Franklin went for a six hour record attempt at Canning Town track on Saturday, 22nd inst. His machine was a Hazel, made by the Cripps Cycle and Motor Co. The engine was a $2\frac{1}{2}$ h.p. J.A.P., 70×76 mm., Amac carburetter, Dunlop $\frac{1}{2}$ in. belt, Hutchinson 26in. by 2in. beaded edge tyres. The machine was also fitted with a Cowey speedometer. The following are the times and distances accomplished:

Hours.	Mls.	Yds.	
1	34	587	
2	69	808	
3	101	1,740	
4	136	1,595	
5	169	392	
6	203	222	
Miles.	H.	M.	S.
50	1	26	29½
100	2	54	7
150	4	26	14½
200	5	54	15½

At 100 miles Franklin stopped to take in petrol, his tank only holding a gallon. After riding four hours he stopped for refreshment. Mr. J. H. Burley, official timekeeper R.A.C. and A.C.U., held the watch.

THE WATER-SPLASH IN LAST SATURDAY'S QUARTERLY TRIAL.



The brothers Stevens, riding $2\frac{1}{2}$ h.p. A.J.S. machines, braving the water near Alderton. They ran most consistently.

The Quarterly Trial.

The committee of the Newcastle and District M.C. kindly arranged for all competitors and officials in the Quarterly Trials to be made honorary members of their club during their stay in Newcastle. The Newcastle Club has one of the most comfortable club quarters in the provinces, and its hospitality was much appreciated.

Another Six Days' Record Attempt.

J. Guzzwell, of Grimsby, whom we mentioned last week as about to commence an attack on the Six Days' Road Record, advised us on Monday that he expected to start to-day (Thursday). Guzzwell first waited to see how Brittain fared, and a further delay was due to non-delivery of his tyres.

Military Motor Cyclists.

In addition to furnishing a contingent of motor cyclists to do duty with the Directing and Umpire Staffs, the A.A. and M.U. has been requested to furnish despatch riders for service with the 1st and 2nd Divisional Telegraph Companies, Royal Engineers, during the period of Inter-Divisional, Command and Army Manœuvres from 11th to 21st September. There will also, probably, be vacancies at the headquarters of the Aldershot Command during the same period. The rates and allowances are similar to those previously announced for the Directing and Umpire Staffs. Full particulars can be sent upon application to the official Manager, Caxton House, S.W.

A Road Race Run on Formula.

Continental motor cycle organisations seem to be awakening to the importance of competitions, as the Liège Motor Club will hold a challenge cup race on August 6th. The event is confined to members of the Antwerp and Liège clubs, and is for touring machines. The route is Aywalle to Bastogne and back, about 125 kilometres. The results will be decided on a

$P \times V$
formula —, P being weight of rider and machine, V speed in metres, and C cubical capacity. The above strikes us as rather a good way of deciding a speed event, light and heavyweight riders and machines appearing to have an equal chance.

Italian Road Race.

The Turin Sporting Society is holding a motor cycle race on August 13th on the road from Suse to Cenis. In addition to Italian riders, members of the Lyons Motor Club and other French riders, also Swiss competitors, are expected to take part. Owing to the popularity of the Turin Exhibition, this Italian event will doubtless be the most important motor cycle contest that has ever been held in Italy. English firms who are exhibiting at the Turin Exhibition and intend to take part should communicate with the president of the Turin Sporting Club, Via Cuneo N 3. Turin, Italy.

FUTURE EVENTS

- July 24-29—Scottish Six Days' Reliability Trial.
 „ 29—Bradford M.C. Third Annual Open Hill-climb.
 „ 29—R.A.C. Associates' Gala Day at Brooklands. Cars and motor cycles.
 „ 29—Exeter and District M.C. Open Hill-climb.
 „ 29—North Middlesex M.C.C. Open Hill-climb.
 Aug. 7-8—Dublin and District M.C.C. Open Two Days' Reliability Trial to Glengarriff and Killarney.
 „ 14-19—A.C.U. ANNUAL SIX DAYS' RELIABILITY TRIAL. HARROGATE AS A CENTRE.
 Sept. 2—Coventry and Warwickshire M.C. Annual Open Hill-climb.

Rear Red Reflectors.

The Automobile Association and Motor Union has decided to distribute 10,000 reflex rear lights to cyclists for fitting to their bicycles. "Ixion," it will be remembered, suggested some months ago that cycle manufacturers should fit them gratis for the cyclists' own benefit.

Collier-de Rosier Match.*

The official measurements of de Rosier's Indian (No. 21) used in the international races against C. R. Collier's Matchless-Jap are as given below. These measurements were taken by Mr. T. W. Loughborough, A.M.I.A.E., official measurer to the Auto Cycle Union: De Rosier's engine—Bore 82.55 mm., stroke 91.87 mm., c.c. 985.6. C. R. Collier's Matchless was entered as 90 x 77.5 mm.

Saturday's Quarterly Trial.

Although the entry for the A.C.U. Quarterly Trial in the Northern Centre was not so representative as it usually is, the results show a striking advance in the percentage of non-stop certificates gained. Fifteen of the twenty-five starters completed the course of 130 miles without experiencing trouble in any way, twelve of that number being awarded first-class certificates.

The next and final event of the 1911 series will be held in the Midland Centre next October. It has been suggested that the competitors follow a westerly course, and include the Cotswold Hills.

Motor Cycle Camping.

An August Bank Holiday camp is being arranged by the Amateur Camping Club at Ashdown Forest Sussex. The Nottingham District Association has also arranged a meeting at Willoughby, Ollerston. Large attendances are anticipated. Non-members interested in the fascinating pastime should communicate with the hon. sec., whose address is 4, New Union Street, Moorgate Street, E.C.

The Auto Cycle Union and the Army Manœuvres.

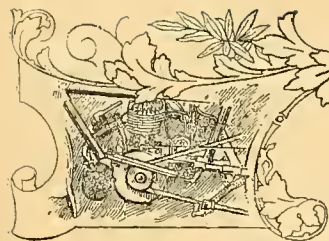
A number of motor cyclists will be required to do duty with the directing and umpire staffs during the forthcoming army manœuvres on the 16th and 22nd September. The rates of allowance will be as follows: (a.) Third class railway fare for riders and rail conveyance for their motor cycles between their homes and the manœuvre area. (b.) Cost of messing whilst in camp, or payment of bills for food and lodging at hotels. (c.) Special allowance of 6s. 6d. per diem, not including days on which train journeys only are performed, to cover cost of petrol and upkeep of motor cycle, including insurance of machine against accidents. Motor cyclists wishing to place themselves at the disposal of the War Office should make application to the Auto Cycle Union, R.A.C. Buildings, Pall Mall, S.W.

Erratum.

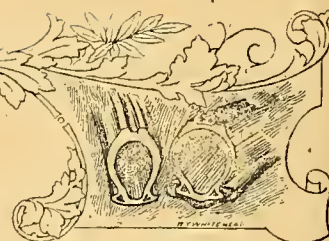
E. V. Stevens is the T.T. competitor still in the Ramsey Hospital. He rode a Dot in practice. Last week we confused his initials with A. J. Stevens, who successfully rode one of the three-speed chain-driven A.J.S. machines in the Junior Race.



Leaving the
Hull control in
the Hull and
East Riding
A.C.C.
Twelve Hours'
Reliability
Trial on
Thursday last.



BROOKLANDS JULY MEETING.



As usual, most brilliant weather favoured the Brooklands mid-week meeting. The sun was blazing hot, but some relief was granted by a stiff breeze, which, blowing down the finishing straight, made itself rather unpleasantly felt by riders upon emerging from behind the members' bridge, where the wind smites them broadside on, and causes them to be swept up the banking. The two motor cycle events on the programme were well patronised, bringing forward respectively nineteen and seventeen starters. Additional interest was lent to both events by the fact that in them Jake de Rosier and C. R. Collier were afforded an opportunity of fighting their championship battles over again, and as they started practically level in both cases, these riders were followed with great interest.

The following started in the Third Short Motor Cycle Handicap, over a distance of $5\frac{3}{4}$ miles, the winner receiving £10, second £5, and third £3, or cups at option:

	m. s.
J. de Rosier (994 c.c. Indian) ...	Scr.
C. R. Collier (984 c.c. Matchless) ...	2
H. A. Collier (580 c.c. Matchless) ...	44
S. T. Tessier (580 c.c. Bat) ...	1 6
Gordon Bell (580 c.c. Bat) ...	1 6
G. E. Stanley (499 c.c. Singer) ...	1 8
F. A. MacNab (492 c.c. Trump) ...	1 14
R. N. Stewart (492 c.c. Trump) ...	1 14
H. Martin (345 c.c. Martin) ...	1 20
A. Baker White (488 c.c. Trump) ...	1 24
J. R. Haswell (499 c.c. Triumph) ...	1 32
A. S. McIntyre (499 c.c. Triumph) ...	1 40
J. G. Birch (499 c.c. Triumph) ...	1 46
V. Wadham (488 c.c. Zenith) ...	1 46
H. Shanks (340 c.c. Kingfisher) ...	1 52
J. Gibson (295 c.c. Martin-Jap) ...	1 52
A. G. Jeffcott (295 c.c. Singer) ...	2 36
G. Lee Temple (295 c.c. Singer) ...	2 36
G. B. S. McBain (340 c.c. Douglas) ...	3 8

De Rosier had picked up over forty yards on Collier by the time these two reached the railway, and from this point onward they had a fine struggle, in which Collier managed to take a leaf out of Jake's own book, and for once in a way let the champion do a little of his wind cutting. The T.T. Bats showed themselves possessed of a fine turn of speed, especially Gordon Bell's, for, in spite of his belt breaking when he was half way down the finishing straight, he managed to win by a good forty yards, largely owing to the strong following wind he had. Tessier ran second, and C. R. Collier, who had managed to nip out from behind Jake and overhaul him at the fork, had a good scrap with Haswell for third place, which he got by about a length, with de Rosier running fifth, about the same distance behind Haswell. Speed, $64\frac{1}{2}$ m.p.h.

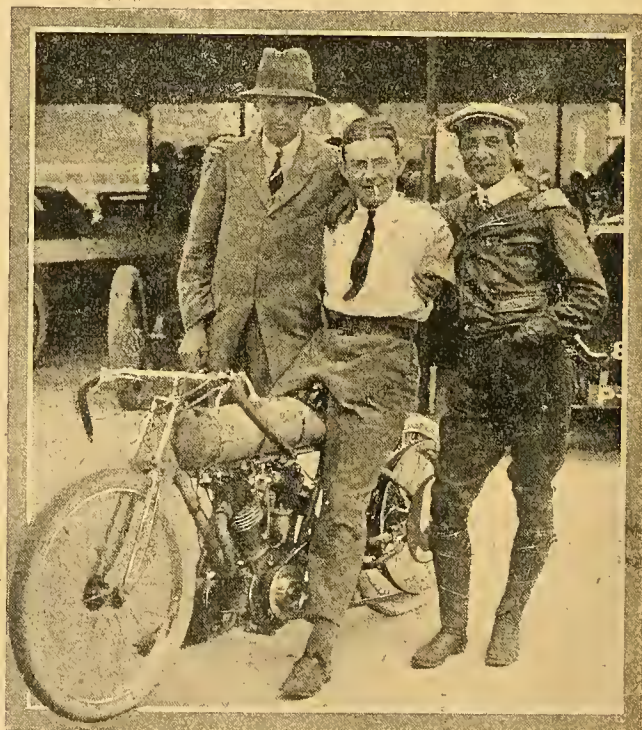
The Second Event.

The Third Long Motor Cycle Race (a handicap); distance, $8\frac{1}{2}$ miles; winner £10, second £5, third

£3, or cup at option. The entrants were the same as in the previous race except that McBain and Birch did not ride. Gordon Bell was penalised thirty-six seconds for winning the previous race, and he, therefore, had to give away three seconds to H. A. Collier. The result of the race was much the same as before, except that the back-markers were rather handicapped out of it. As might have been expected, Tessier (1m. 39s.) on his original handicap came home an easy first by 100 yards, with Haswell (2m. 18s.) second by the same distance from Gordon Bell (1m. 3s.). Martin arrived a good fourth—a very creditable performance considering his "tea-cup" motor.

The Jake de Rosier-Collier scrap was just a reversal of what had happened a few minutes before. Hanging behind Collier, Jake kept clear of the Matchless back wheel, and after a couple of laps swung out at the fork and got home twenty yards ahead of the Englishman.

It would be interesting to know what explanation there is for the fact that, unlike all the Brooklands machines—both cars and motor cycles—and contrary to the expressed regulations of the track, Jake de Rosier is allowed to ride a machine with open exhausts.



A HAPPY TRIO.

The winners of last week's Brooklands motor cycle handicaps. S. T. Tessier and Gordon Bell, who rode 5 h.p. Bat-Japs. A. J. Luce, the owner of the machine ridden by Bell, is at the extreme left.

CLUB NEWS.



Twenty-first anniversary picnic and ladies' day of the Gloucester City Cycling Club, in which the newly-formed motor cycle section took part.

Norfolk M.C.C.

The result of the 200 miles reliability trial held recently by the above club was: 1. C. Duberley ($3\frac{1}{2}$ h.p. Ariel); 2. B. Horner ($3\frac{1}{2}$ h.p. Ariel) and A. Milligan (7 h.p. Indian); 3. R. O. Clarke ($2\frac{1}{2}$ h.p. F.N. and sidecar). Mrs. F. Flanders, who finished eighth on her $2\frac{1}{2}$ h.p. Douglas, was the only lady competitor. The start was from Gorleston-on-Sea station at 7 a.m., the first stop being at Cromer for breakfast. From here they proceeded to Ely for luncheon, and on through Bury St. Edmunds and Beccles, finishing again at Gorleston.

Leeds M.C.C.

The result of the sixth Leeds to Edinburgh and back competition held on July 15th and 16th was: 1. Jas. R. Kelly ($3\frac{1}{2}$ Rex) and H. Wilkinson ($3\frac{1}{2}$ Scott), tie for Langton Cup, both losing 25 points; 2. P. H. Cockroft ($3\frac{1}{2}$ Triumph), and G. Fenton ($3\frac{1}{2}$ Zenith-Gradua), gold medals, both lost 30 points; 4. C. P. Finn ($2\frac{3}{4}$ Enfield), bronze medal, lost 33 points; 5. J. Campbell Gray ($3\frac{1}{2}$ Rover), bronze medal, lost 37 points; 6. J. W. Delmore ($3\frac{1}{2}$ Rover), bronze medal, lost 39 points; 7. F. W. Roberts ($3\frac{1}{2}$ Singer), bronze medal, lost 47 points. Eighteen others lost over 50 points.

Sidecar Class.—1. S. H. Baker (5 Rex), gold medal, lost 56 points; 2. J. H. Gash (5 B.G.), gold medal, lost 63 points.

Car Class.—J. C. Stewart (Humber) and R. Smith (Ford), both tie for Winn trophy, losing 32 points.

Finsbury Park C.C. (Motor Cycle Section).

It is gratifying to hear that this popular cycling club has now inaugurated a motor cycle section, which has been joined already by several members, and bids fair to become a most successful undertaking. Runs have been arranged for all Saturday afternoons, as well as several week-end and holiday tours. Any motor cyclists in the neighbourhood who may be interested should communicate with R. Gordon Barrett, 54, Florence Road, Stroud Green, N.

Westmorland M.C.C.

In conjunction with the Cumberland M.C.C., the club held a very successful speed trial on the 15th July, and through the kindness of the Right Hon. the Earl of Lonsdale was enabled to make use of half a mile in Lowther Park. A flying start was allowed, and timing was by the telephone. Results:

SINGLE CLASS.

		Fig. of merit.
1.	H. B. Little ($3\frac{1}{2}$ h.p. Rudge) ...	45.00
2.	I. M. Somervell ($3\frac{1}{2}$ h.p. Triumph) ...	46.22
3.	Hal Harrison ($3\frac{1}{2}$ h.p. Rudge) ...	46.24

TWIN CLASS.

1.	E. F. Orton ($2\frac{3}{4}$ h.p. Douglas) ...	56.00
2.	I. W. Nelson ($3\frac{1}{2}$ h.p. Scott) ...	56.6
3.	R. Shaw ($3\frac{1}{2}$ h.p. Scott) ...	61.00

Fastest time of the day by W. Westwood ($3\frac{1}{2}$ h.p. Triumph), 30gs.

BRADFORD M.C.C. RELIABILITY TRIAL TO DUNBAR AND BACK LAST WEEK-END.



The Hkley team: C. Thackeray ($3\frac{1}{2}$ h.p. J.A.P.), A. Drummond (5 h.p. Rex), and A. Denby ($3\frac{1}{2}$ h.p. Rudge).



The Leeds M.C.C. team: W. Tetley, G. E. Crossley, and G. E. Sharp, all on $3\frac{1}{2}$ h.p. Rovers.

Club News.—

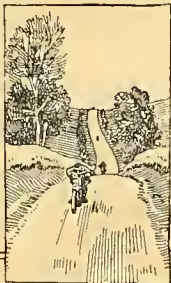
Aspatia College M.C.C.

For the hill-climb on the 8th inst., up Isel Hill, near Cocker-mouth, the club was entertained to tea at Isel Hall by Sir Wilfred Lawson, who was not present owing to his Parliamentary duties, and later to supper by Mr. and Mrs. Hill at Ellenbank. The results were as follows:

Rider and machine.	Time.	Fig. of merit.
*1. K. M. C. Neill ($3\frac{1}{2}$ Zenith) ...	65 $\frac{1}{2}$ s. ...	86.4
2. R. S. Biscoe ($3\frac{1}{2}$ Bradbury) ...	66s. ...	105.0
3. H. C. Webb (5 Indian) ...	70s. ...	110.
4. J. R. Robinson ($3\frac{1}{2}$ Humber) ...	90s. ...	111.

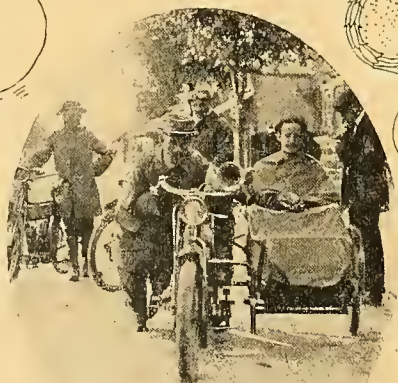
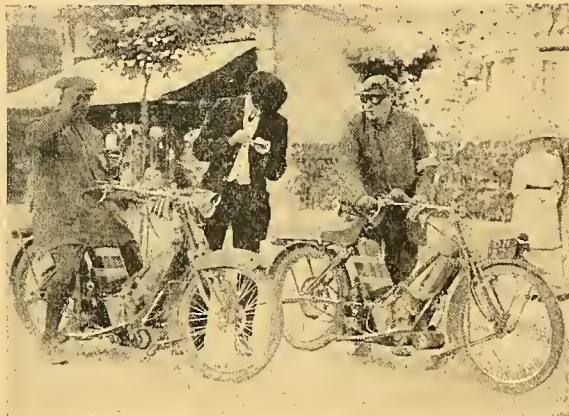
Fastest time, K. M. C. Neill ($3\frac{1}{2}$ Zenith), 63 $\frac{1}{2}$ s.

Two tyre covers were presented as prizes by the Kempshall Tyre Co.

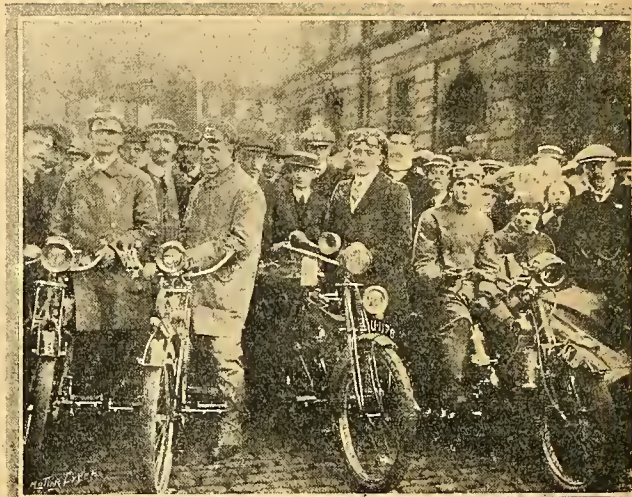


PONTEFRACT M.C.C. 12 HOURS RELIABILITY TRIAL.

The first competitors to check at Harrogate, where tea was taken. On the right is Colonel J. R. Shaw (Ex-mayor of Pontefract and president of the club) and E. Lee, who both rode Scotts.



The winner on the only passenger machine entered—H. Craven and his 8 h.p. three-speed Chater Lea-Jap and sidecar—who is seen starting from the Harrogate control on the return journey.



Competitors in the Bradford M.C.C. Reliability Trial to Dunbar and back. J. R. Kelly ($2\frac{1}{2}$ h.p. Enfield), Norman Longfield ($3\frac{1}{2}$ h.p. Scott and s.c.), and two Rover riders.

Ceylon M.C.C.

In Coronation week some twenty motor cyclists in Colombo met and formed the Ceylon Motor Cycle Club, and since then the membership has increased to forty-nine. The subscription is 10s. a year with an entrance fee of 5s.; the first fifty members being exempt from the latter. The hon. sec. is A. T. G. Gardner, Shamrock, Horton Place, Colombo.

York County M.C.C.

The awards in the two days' run from Leeds to Edinburgh and back, held on July 15th and 16th, were: 1, H. Wilkinson ($3\frac{1}{2}$ h.p. Scott), cup; 2, G. Fenton ($3\frac{1}{2}$ h.p. Zenith Gradua), gold medal, and P. H. Cockcroft ($3\frac{1}{2}$ h.p. Triumph), gold medal; 4, G. Spence ($3\frac{1}{2}$ h.p. Premier), gold medal; 5, R. Ellis ($3\frac{1}{2}$ h.p. B.S.A.), silver medal; 6, R. Glenn ($3\frac{1}{2}$ h.p. Triumph), silver medal; 7, W. E. Asquith ($3\frac{1}{2}$ h.p. Triumph), silver medal; 8, Harry Sykes ($3\frac{1}{2}$ h.p. Rover), silver medal; 9, Langton ($3\frac{1}{2}$ h.p. Triumph), silver medal. The twelve hours' reliability run will be held on July 30th over a 200 miles course, from Leeds to Keswick and back.

Willesden Green C. and M.C.C.

The result of the trial to Coventry and back resulted in a win for A. W. Loughlin ($3\frac{1}{2}$ h.p. Peugeot); second J. C. Ball ($3\frac{1}{2}$ h.p. N.S.U.), and third C. N. Safford ($3\frac{1}{2}$ h.p. Humber). W. Stennett ($3\frac{1}{2}$ h.p. Triumph) and H. Wilson (Bat and sidecar) were gold medal winners, not losing more than ten per cent. of points. Great praise is due to the committee for the way the course was marshalled and marked; not one competitor left the course. The next trial will be over a secret course on August 13th.

Taunton and District M.C.C.

On the 13th inst. the club had a very successful members hill-climb on Buncombe Hill, for which thirty-five entries were received. The results were as follows:

LIGHTWEIGHT.

	M. S.
1. H. F. Potter ($2\frac{1}{2}$ Enfield) ...	X
2. R. C. Westlake ($2\frac{1}{2}$ Enfield) ...	0 33 $\frac{1}{2}$ slow
3. F. G. Arnold ($2\frac{1}{2}$ Motosacoche) ...	0 36 $\frac{1}{2}$ slow

Six competed.

HEAVYWEIGHT.

	M. S.
*1. C. R. Roper ($3\frac{1}{2}$ Triumph) ...	X
2. A. E. Hemfry ($3\frac{1}{2}$ Triumph) ...	0 12 slow
3. W. E. Phillips ($3\frac{1}{2}$ Triumph) ...	0 14 $\frac{1}{2}$ slow

Eight competed.

FLEXIBILITY.

1. W. G. Potter ($3\frac{1}{2}$ P. and M.) ...	5 36 $\frac{1}{2}$ variation
2. S. Nutt (5 Rex) ...	4 48 $\frac{1}{2}$ variation
3. C. R. Roper ($3\frac{1}{2}$ Triumph) ...	4 9 $\frac{1}{2}$ variation

Twelve competed.

* Fastest time of the day.

Club News.—

Cape Peninsula M.C.C.

There were nine competitors in the Coronation Day consumption contest round the mountain, a distance of a little over thirty miles. Results:

Rider and machine.	Combined weight, of Pounds.	Consumption, of Ounces.	Figure Merit
1. H. Kunne (3½ Triumph) ...	402½	35	11.5
2. A. Douglas (3½ Triumph) ...	334½	38	8.99
3. T. R. Butler (3½ Zenith-Gradua) ...	358½	43	8.33
4. W. H. Eastoe (3½ Bradbury) ...	442	56	7.89
5. R. H. M. Hill (3½ Ariel) ...	341½	48	7.54
6. J. Thornton (3½ Bradbury) ...	364	50	7.28

The winner's time was 1h. 38m.

Edinburgh and District M.C.

A novel and successful motor cycle trial was recently carried out in the form of a non-stop reliability trial and petrol consumption contest over a selected course which the

REDDITCH M.C.C. HILL-CLIMB, which is to be re-run owing to a timekeeper's watch varying.



Weighing competitors' machines at the foot of Willersey Hill.

competitors had to traverse ten times. Any stop whatever, except compulsorily caused by traffic, was sufficient to disqualify. Amongst the competing machines were a number of well-known makes with engines of varying sizes and capacities, each having different allowances for petrol consumption, and a standard time was fixed for the completion of each circuit of the course with a maximum and minimum variation of three seconds only. It can be readily understood that with such stringent regulations many competitors failed to survive, and in the end only two finished, both of them riders of Ariel 3½ h.p. machines. The winner, A. F. Downie, was closest to schedule on time, showing a petrol consumption equal to 130 miles per gallon.

On July 15th a closed speed contest was held on Dolphinton Moor, when some very fast speeds were attained. Class winners:

Class I. (one mile).—A. B. Lindsay (3½ h.p. T.T. Triumph).

Class II. (one mile).—R. S. Smith (8 h.p. Bat).

Class III. (one mile).—R. S. Smith (8 h.p. Bat).

Class IV. (one-third mile flexibility).

Class V.—A. H. Alexander beat R. S. Smith.

Position on formula.

Fig. of merit.

1. A. H. Alexander (7 h.p. Indian) ...	8.60
2. D. Dobson (5 h.p. Indian) ...	5.62
3. A. F. Downie (3½ h.p. Ariel) ...	5.42

Bolton and District M.C.C.

For the annual hill-climb next Saturday competitors meet at headquarters at two o'clock prompt. Four classes will be represented, the fourth being for non-members.

Aunman Valley and District M.C.

At the hill-climbing contest held on July 13th in ideal weather on the Black Mountains, there was a good attendance, and some excellent sport.

The hill is a difficult one with some exceptionally bad corners, and is the same as was used by the Welsh Automobile Club on July 1st. Results:

OPEN CLASS.

Time.

Luther Davies, Garnant (3½ h.p. James),	2m. 58½s.
Handel Davies (3½ h.p. Rex) ...	3m. 32½s.
Dd. J. Llewelyn (3½ h.p. Triumph) ...	3m. 50s.
J. A. Morgan (3½ h.p. Rex) ...	3m. 58½s.
Lewis M. Davies (3½ h.p. Rex),	4m. 32s.

Cumberland County M.C.C. (Western Section).

The twice postponed reliability trial of the above club for prizes presented by Messrs. Quirk, of Keswick, and Messrs. Stout, of Egremont, was run off on July 16th, and resulted as follows:

1. H. Cook (3½ h.p. Bradbury).
2. H. Johnston (3½ h.p. Rover).
3. J. Davidson (3½ h.p. Triumph).

There were nine starters.

It is proposed to hold a reliability run to Harrogate and back on August 6th and 7th to decide the holder of the challenge cup presented by the proprietors of the Pheasant Hotel, Bassenthwaite. Members wishing to take part should send in their names as soon as possible to H. Braithwaite, joint hon. sec., West Croft, Egremont, Cumberland.



L. L. Sealey (3½ b.p. B.S.A.) at the bad corner. This rider is supposed to have made fastest time.

Redditch and District M.C.C.

The run to Willersey proved a very successful day's outing. A hill-climbing competition was held, and very fast riding and fine corner work was witnessed. A timekeeper was stationed at each end of the course, but owing to the stop watch varying from some unaccountable cause, the committee made no awards, but decided to run the event again early in August.

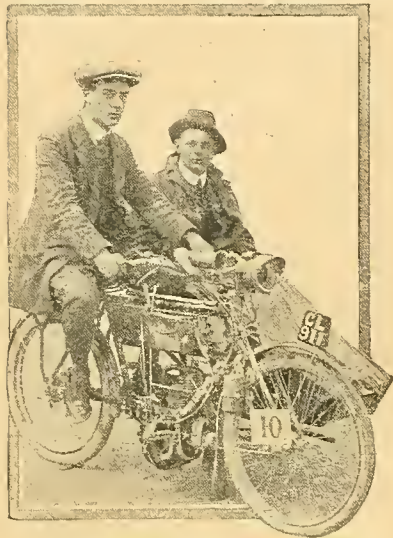
A move was made to Bidford-on-Avon for lunch, nearly thirty members taking part.

Tyre Successes.

At Much Wenlock riders of Dunlop tyres won four classes.

Prepared Patches for Air Tubes.

The Severn Rubber Co., 94, Newhall Street, Birmingham, are makers of some excellent patches for motor cycle tyres. These patches are specially backed and prepared to render them adhesive; they

**A WONDERFUL PERFORMANCE.**

R. O. Clark, who successfully drove a 2½ h.p. two-speed F.N. with sidecar and 12-stone passenger in the Norfolk M.C.C. 200 Miles Reliability Trial, at the schedule speed of 20 m.p.h.

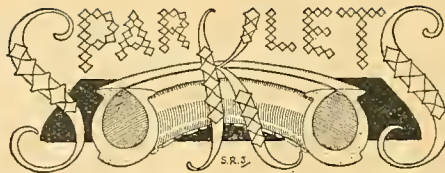
also have bevelled edges, which make them lie closely to the surface of the tube.

Enterprise.

British manufacturers are often accused of lack of enterprise in connection with the printing of catalogues, etc., the accusation being that they do not send out printed matter in other languages than their own. Rudge-Whitworth, Ltd., Coventry, is one exception to the rule, and doubtless there are many others. The above firm is exhibiting motor cycles at the Turin Exhibition, and in connection with the exhibits has prepared a booklet for distribution to visitors printed in English, French, German, and Italian.

A Special Shaped Toolbag.

We have received from Messrs. H. Taylor and Co., 21a, Store Street, Tottenham Court Road, W., a toolbag of considerable length, so designed that it can be fitted underneath the carrier in front of the ordinary hanging toolbag. This space in most machines is absolutely wasted, and the bag in question is designed to allow of the transport of considerably longer tools than can be carried in the ordinary pannier or hanging bag. Undoubtedly, it is a great advantage, not only because longer tyre levers can be carried, but also because there are many machines on the market whose kit must contain a hammer for the easy adjustment of their pulleys. When not used for other tools it forms a very convenient receptacle for spare inner tubes.

**A Rubber Preservative.**

W. Green, 92, Crescent Road, Plumstead, Kent, has submitted to us a sample of a preparation for preserving and softening indianrubber. It is claimed that if the outsides of tyre covers and inner tubes are occasionally treated with the liquid they will never become hard or lose their elasticity. Samples of partly-perished sheet rubber, both before and after treatment, have been submitted to us, which substantiate the claims made for this preparation.

Catalogues Received.

The latest catalogue of New Hudson motor cycles is a greatly enlarged edition containing, in addition to illustrations of the machines, valuable hints and part sectional drawings of the three-speed gear, which is one of the leading features of these machines. Copies may be obtained from the New Hudson Cycle Co., Ltd., Summerhill Street, Birmingham.

The Lady Motor Cyclist and her Apparel.

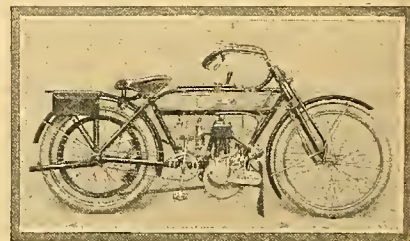
Realising the fact that motor cycling among ladies is gaining ground, the Service Co., Ltd., 292-293, High Holborn, W.C., has placed upon the market a long lady's macintosh with wind cuffs and belt, which is a really serviceable looking garment; also several types of chamois leather waistcoats and tan leather waistcoats, which may be had with or without sleeves. Naturally, these articles of clothing are equally suitable for ladies who ride as passengers in sidecars.

Lubrication.

The list of notable successes achieved by riders using Huile de Luxe lubricating oil is too lengthy for us to publish *in extenso*, but we may say that a very large number of the most prominent men on road and track use this lubricant. Very few, if any, competitions are held in which the peculiar and not unpleasant odour this oil imparts to the exhaust gases is not noticed by spectators and competitors alike. It was first introduced in the T.T. Race two years ago, and has been in remarkable demand ever since.

A New Model.

A comparatively new model is the Ruby, sold by the Royal Ruby Cycle Co., Great Ancoats Street, Manchester. It is a



The 3½ h.p. Ruby Cob touring model fitted with L.M.C. engine.

low built 3½ h.p. machine, the top tube being but 27in. from the ground.

Racing Motor Cyclists' Apparel.

The tight fitting leather suit which Jake de Rosier wore in his match with C. R. Collier was designed and made by Messrs. Dunhills, of "Motorities" fame. It is very light, and made in such a way that it can be worn close fitting, or let out to take padding. It should be a popular and suitable dress for all racing motor cyclists.

CONSUMPTION CONTEST AT THE CAPE.

Assembling in the Greenmarket Square for the first consumption trial of the Cape Peninsula Motor Cycle Club. (See Club News pages.)

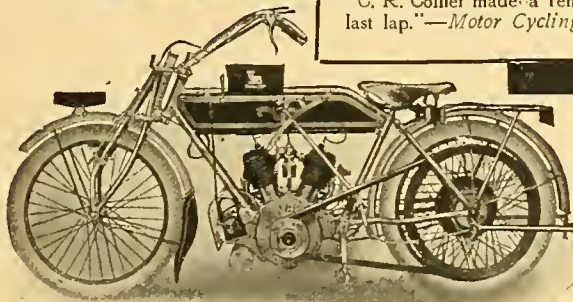
"H. A. Collier's Matchless was absolutely spotless after the race. There was not a sign of oil on the engine, and only the finest sprinkling of dust on the frame. The piston was devoid of carbon deposit."—*Motor Cycling.*

"The engine of his Matchless Twin was as clean at the end of the race as at the start. The new six-speed gear appeared to be in perfect order."—*Motor Cycling.*

"C. R. Collier hove in sight, his Matchless twin running magnificently."—*Motor Cycling.*

"C. R. Collier made a remarkable last lap."—*Motor Cycling.*

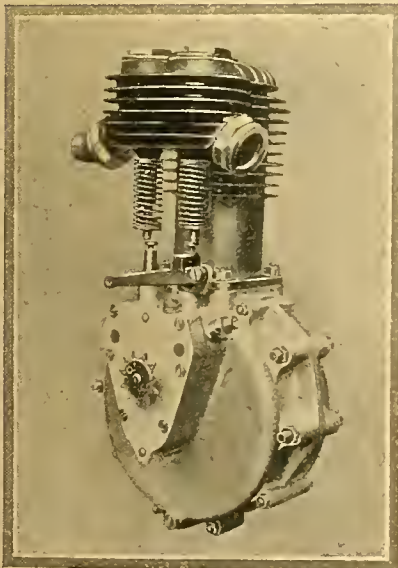
Catalogue from
**H. COLLIER
& SONS, LTD.,**
Matchless Motor
Cycle Works,
PLUMSTEAD,
LONDON, S.E.



**FINISHED
SECOND IN
BOTH SENIOR
AND JUNIOR
T.T. RACES.**

Cork and District M.C.C.,
June 22nd,
Flying Half-mile,
MATCHLESS - 1st.

S. & H.



Blumfield, Ltd.,
70, LOWER ESSEX ST.,
BIRMINGHAM.

SAMPLE ENGINES AT SPECIAL
PRICES TO THE TRADE ONLY.

FOR DESIGN, FOR SLOW PULLING,
MATERIAL, ACCELERATION,
WORKMANSHIP, COOL RUNNING,
WEARING QUALITIES, HIGH SPEED,

THE
"BLUMFIELD"
3 $\frac{1}{2}$ LONG SINGLE
STROKE
IS
SIMPLY **"IT"**

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

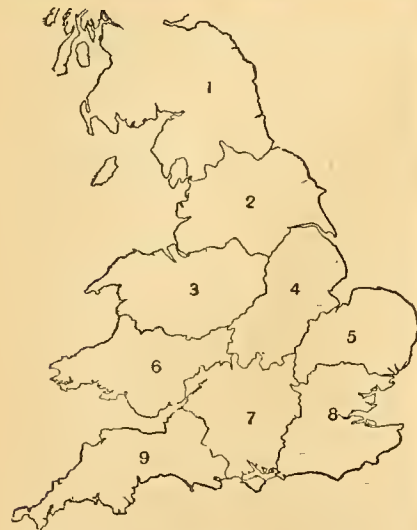
All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

WAUCHOPE'S



**UNEQUALLED
FOR
VARIETY:
UNBEATABLE
FOR
VALUE:**

Cordially invite inspection of their great stock of Motor Cycle Bargains and consideration of their sale methods which are praised by all for fairness and saving buyers £ s. d.

**Ask for To-day's
List of Bargains,
which include:**

4179.	5	h.p. 1911 Twin	REX DE LUXE	50 Gns
4180.	2 1/2	h.p. BRADBURY		£8 10
4181.	3 1/2	h.p. 1908 BROWN		£22 10
4182.	1 1/2	h.p. MOTOSACOCHE		£11 10
4183.	1 1/2	h.p. 1910 MOTOSACOCHE		£21 0
4188.	2 1/2	h.p. 1909 DOUGLAS		£23 10
4190.	3	h.p. 1906 TRIUMPH		18 Gns
4193.	5	h.p. 1909 Tourist	REX	£25 0
4194.	8	h.p. 1911 Two-speed	MATCHLESS and sidecar	70 Gns
4195.	3 1/2	h.p. 1908 Two-speed	P. and M. sidecar	£30 0
4196.	6	h.p. 1908 Two-speed	N.S.U. and sidecar	£32 10
4197.	3 1/2	h.p. 1908 Two-speed	P. and M.	£30 0
4198.	3 1/2	h.p. 1909 MINERVA		£25 0
4199.	2 1/2	h.p. EXCELSIOR		£12 10
4200.	7	h.p. 1910 Two-speed	MATCHLESS and Lowen sidecar	65 Gns
4151.	3	h.p. QUADRANT	Tricar	10 Gns.
4153.	5	h.p. 1911 INDIAN, free engine	model	£50 0
4154.	5	h.p. 1910 Two-speed	Twin ROG	40 Gns.
4157.	2 1/2	h.p. 1910 Standard	DOUGLAS	£28 0
4158.	1 1/2	h.p. 1910 SINGER	MOTO-VELO	£22 10
4160.	2	h.p. 1908 MOTO-REVE		£15 0
4161.	2 1/2	h.p. 1910 ROYAL	ENFIELD	£23 10
4163.	5	h.p. 1908 V.S.		£25 0
4093.	7	h.p. 1910 Two-speed	V.S.	45 Gns
1040.	7	h.p. 1910 Two-speed	INDIAN	£47 10
4123.	2 1/2	h.p. 1910 DOUGLAS		£30 0
4133.	2 1/2	h.p. ARIEL		£8 10
4135.	5	h.p. 1907 Twin	REX DE LUXE and sidecar	£22 10
	3	h.p. 1907 N.S.U.		£15 0
	1 1/2	h.p. 1910 Lady's	MOTOSACOCHE	30 Gns
3934.	2 1/2	h.p. 1910 ROYAL	ENFIELD	£27 10
3894.	1 1/2	h.p. 1910 MOTOSACOCHE		£22 10
3509.	3 1/2	h.p. 1909 MINERVA		£22 10
4051.	2 1/2	h.p. 1910 ROYAL	ENFIELD	£25 0
3933.	6 1/2	h.p. 1910 Two-speed	ROC & sidecar	£47 10
3387.	6 1/2	h.p. 1909 EAGLE	Rnnabout	£35 0
4100.	6 1/2	h.p. 1909 CHATER-LEA	Carette	28 Gns
4046.	1 1/2	h.p. MOTOSACOCHE		£12 10
3507.	3 1/2	h.p. 1908 Two-speed	N.S.U.	20 Gns
4046.	2 1/2	h.p. 1910 Two-speed	F.N.	£27 10
3099.	4	h.p. Twin N.S.U.		£18 10
2965.	2	h.p. 1909 MOTO-REVE		20 Gns
3323.	2 1/2	h.p. 1910 Twin	N.S.U.	£22 10
4092.	2 1/2	h.p. MINERVA		£17 10
3980.	3 1/2	h.p. 1908 Two-speed	N.S.U.	£22 10

Change your present machine for one of the latest most satisfactory 1911 models. Send details of it, and receive our liberal offer for same in part payment of a new up-to-date machine of any leading make. The fairest exchange system extant. Study our second-hand models, repaired, renovated, and fully guaranteed, and you will find them really matchless for value and reliability. The stock numbers as above will be found attached to the different machines in our showrooms.

WAUCHOPE'S

9, Shoe Lane, Fleet St., LONDON, E.C.

Telegrams: "Opificier, London."

*Phone: 5777 Holborn.

IMPORTANT NOTICE.

Owing to the August Bank Holiday, the issue of "The Motor Cycle" for August 10th. will be closed for press earlier than usual. All copy and instructions for paragraph advertisements in this issue must therefore be in our hands at Coventry not later than first post on Thursday, August 3rd.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Hiffe and Sons Limited.

SPECIAL NOTE

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

EXCELSIOR, 3 1/2 h.p., De Dion engine, in good order £11, or near offer.—Hyslop, Rigg, Carlisle.

3 1/2 h.p. Singer, magneto, B. and B. carburettor, and 34 Whittle belt; £18.—Park, Milnthorpe, Westmorland.

2 h.p. 1911 Single Moto-Reve, good condition; owner going abroad, nearly new.—Whitaker, Linthwaite Bowness.

1910 Free Engine Triumph, perfect condition; any trial and examination: £42.—1, Market Place Egremont, Cumberland.

PHILON-MOORE (September, 1910), with Fulford spring wheel sidecar; cost £72, accept £47.—K. Riverside, Ambleside.

TRIUMPHS, Humbers, B.S.A., Royal Enfield motor cycles, lightweight, 2 speeds, free engines; write wire, or 'phone for immediate deliveries.—Turvey and Co., The Motor House, Sunderland. Tel.: No. 626.

3 1/2 h.p. Triumph, Roe 2-speed gear and free engine £32 1911, practically new, with Millford cast steering sidecar; owner just bought, but is now going in for a car; what offers?—D., c/o Turvey and Co., Mole Garage, Sunderland.

3 1/2 h.p. 1910 Triumph, only ridden 950 miles, practically no worse than new; for quick sale accept £35.—Turvey and Co., Motor Garage, Sunderland.

1911 Standard Triumph, free engine Rover and Douglas lightweight, in stock, all absolutely new first cheque secured.—Ston's Garage, Egremont, Cumberland.

TRIUMPH, 1910, £33. Palmer cords, horn, tool spare parts, brand new spare tyre, never used, new spare studded cover, never used, Brooks belt carrier splendid condition, good as new.—Thompson, 53, Windor Ar., Blyth, Northumberland.

SECTION II.

York and Lancashire.

TRIUMPH, 1909, not run 1,000 miles, as new.—King, Wigginton, York.

ROVER, 2 1/2 h.p., magneto, new, tyres; £15.—Aldred, 241, Middleton Rd., Oldham.

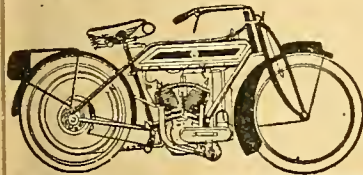
IMMEDIATE DELIVERY.

EXCHANGES CONSIDERED.

NEW 1911 MACHINES IN STOCK.	
3 1/2 h.p. Tourist Rex	40 Gns
7 h.p. Sidette	80 Gns
3 1/2 h.p. Bradbury	£48 0
3 1/2 h.p. Two-speed Bradbury	£55 0
3 1/2 h.p. Rudge-Whitworth	£46 0

NEW 1910 MACHINES IN STOCK.	
3 1/2 h.p. Magneto Rex, grey finish	35 Gns
3 1/2 h.p. Magneto Rex, Cantilever seat	38 Gns
5 h.p. Twin, grand sidecar mount	42 Gns
3 1/2 h.p. Plate Clutch, free engine, pedalling gear	45 Gns
4 h.p. Magneto N.S.U.	£36 0

CONSIDER THIS.
d New 1910 3 1/2 h.p. Two-speed Twin Rex de Luxe, 1911 cylinders, forks, M.O.V., magneto, and other 1911 fittings, fully guaranteed, 26x2 1/2 in. non-skids. £54 10



PASSENGER COMBINATIONS.	
1910 Twin Rex de Luxe, with coach-built sidecar, used for demonstration only, two speeds, very fine order and condition	£54 10
1910 Twin Rex de Luxe, magneto ignition, Roe clutch, handle starting, and new rigid sidecar	£27 10
1910 N.S.U., free engine, N.S.U. sidecar, very smart turnout	£33 10
1910 Two-speed Rexette, carries three	£25 0
1910 New 1910 1/2 Twin Rex de Luxe, 1911 fittings, and new 1911 de Luxe sidecar	£59 15
1910 Two-speed Rex Litette, w.c., very smart and powerful	£29 10

SECOND-HAND MACHINES IN STOCK.	
1910 Rex, special M.O.V. engine, very fast...	£29 10
3 1/2 h.p. Magneto Rex, 8 1/2 x 8 1/2	£32 10
5 h.p. Magneto Rex	£35 10
5 h.p. Rex de Luxe, fine special machine	£42 10
3 1/2 h.p. Rex, very fast, special machine	£27 10
5 h.p. Rex de Luxe	£38 10
3 1/2 h.p. Rex Lightweight, magneto	£16 10
5 h.p. Twin Rex, spring forks	£16 10
3 1/2 h.p. Magneto Rex, spring forks	£19 10
1910 Twin Rex de Luxe, Roe clutch, spring forks	£24 10
1910 late type Two-speed Humber	£32 10
1910 Durant, 3 1/2 h.p., nice order	£11 10
1910 Ober, 2 h.p., splendid condition	£11 0
1910 J.A.P., light and handy	£10 0
1910 J.A.P., twin, magneto, free engine	£26 10
1910 Werner, light and low	£19 10
1910 Singer, 26in. wheels, magneto, h.b. control	£16 0
1910 Magneto Lightweight	£16 10
1910 F.N. Lightweight, "GOOD"	£9 10
1910 Magneto Quadrant, spring forks	£24 0
1910 Magneto Minerva, special finish	£16 16
1910 Bradbury, free engine	£10 0

SPECIAL OFFER.—Two Brand New 3 1/2 h.p. Rexas, 841 bore, 89 stroke, spring forks, very low frame, ball bearings to engine-shaft, Bosch magneto ignition, Brown and Barlow handle-bar control carburettor, foot and hand brakes, 3in. Lyso belt, 26x2 1/2 Continental tyres, footrests, number-plates, toolbag, tools, spares, stand, and carrier. Bargain price. £3 Gns.
NEW SIDECARS from £3 10s. upwards.
Discount to Trade.

The Halifax Motor Exchange
LARGEST REX DEALERS.
16, Westgate, HALIFAX.
'Phone, 766. Telegrams, "Perfection."
Business Hours, 9 a.m. to 6 p.m.
Sole Agent—Allen, 6 Westbourne St. Petersham, N.S.W.

MOTOR BICYCLES FOR SALE.

1911 Bradburys Humbers (all models), Enfields, Ridges, New Hudsons, from stock: one 1911 Humber lightweight, as new, £50: one 1910 T.T. Rex, as new, £35: one N.S.U., 3 1/2 h.p., magneto, grand order, £20: one 2 1/2 h.p. Bradbury, magneto, carburettor, tyres, etc., new, £17: one 3 1/2 h.p. Rex, h.b.c., perfect, £11: a bargain: one Triumph, 1908, tyres as new, guaranteed, £29: one Phelon and Moore, 2 1/2 h.p., magneto, tip-top order, £15/10. a gift.—Hebden's Motor Mart, St. James's St., Burnley.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

1911 Bradbury in stock for immediate delivery.—W. Barnes, agent, Ashbourne.

RUDGE, 1911, 4 weeks old, condition as new, had little use: £40.—Trott, Meale, Shrewsbury.

BRAND new free-engine Rudge, in crate, test; cash offers.—8,012, The Motor Cycle Offices, Coventry.

TRIUMPH, standard 1910, as new, guaranteed perfect; owner bought clutch model; £38.—Moss, Wem.

PHELON and Moore, brand new, 1911 models, for immediate delivery.—Moss, Wem.

2 1/2 h.p. Brough, new Dunlops, and accumulator: £5 for quick sale.—Watson, Brookhill Hall, Alfreton.

3 1/2 h.p. Quadrant, very powerful, h.b.c., 2 accumulators, £2 good order; £16: offers.—Allen, Upton, Macclesfield.

1911 Triumph and Royal Enfield free engine motor cycles delivered from stock.—Oakley's, Station Rd., Huddersford.

SINGER 2 h.p. Moto-Velo, quite new: cost £35, best offer; bought A.C.—The Lodge, Weston, Hawkestone, Sulop.

BRAND new Bradbury, in crate, mirror lamp, 3 note horn, spare valve; offers.—D. Fox, Liebfeld Barracks, Staffs.

ZENITH-GRADUAS, 3 1/2 h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Sturford St., Walsall.

BRADBURY'S—All models in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Sturford St., Walsall.

3 1/2 h.p. Minerva, good going order, inclined engine; £6: must sell; going away; what offers?—Wheeldon, Colshaw Hall, Knutsford.

3 1/2 h.p. 1911 F.E. Rover and cash in exchange for 3 1/2 h.p. 1911 Indian, 2-speed preferred.—Norman, Tunstall, Stoke-on-Trent.

3 1/2 h.p. Qmdrant, h.b. control, spring forks, perfect 3 1/2 running order and condition; £11.—Capwell, Doveboles, Buxton, Derbyshire.

DOUGLAS, 1911, Model D, new end of May, not ridden 30 miles, perfect: £36. — Woolley, Field House, Sandbach, Cheshire.

LATE 1910 V.S. Motor Cycle, 3 1/2 h.p., 2 speeds; cost £59, and not scratched: sacrifice, £32.—Mineral Water Wks., Leawood, Matlock.

1911 3 1/2 h.p. Premier, absolutely brand new, unscratched throughout, not run 30 miles; sacrifice, £36.—R. Elze, Leawood, Matlock.

CLEMENT-GARRARD, 2 h.p., spring forks, accumulator, trembler coil, grand beginner's mount, new Amie carburettor; £7.—C. Jarman, Oakdene, Wrexham.

ARIEL, 1911, new May, run 600 miles, decompressor, variable gear, and free engine, absolutely perfect, and like new; £42, or offers.—59, Douglas Rd., Hands-worth.

1911 3 1/2 h.p. Rudge-Whitworth, free engine, run 1,023 miles, as new, Jones speedometer, absolutely perfect, all spares; £49. — Malcolm Nicholson, Highfield Hall, Leek.

THE Cheapest Bargain Ever Offered.—Late-t pattern Tourist Rex, 3 1/2 h.p., used 3 times only, new 3 weeks ago; cost £45 nett cash, accept £35.—Shindon, Chesterfield.

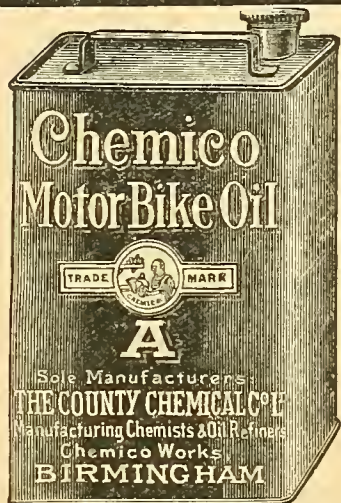
5 b.p. Peugeot, Bosch, B. and B., everything up-to-date, and nearly new sidecar, lamp, horn, spares; 50 mile trial; £39; photo, penny stamp.—Spaven, South Normanton, Alfreton.

PREMIER, 1910, 3 1/2 h.p., condition absolutely perfect, Lucas headlight and horn, new Dunlop belt, Dunlop studded tyres, all accessories; any trial; reasonable offer.—Archer, 21, Wolra St., Derby.

L.M.C. T.T., three months old, done 800, unmounted, 2 valves, horn, Cowey speedometer, written guarantee, racing and tuning bars, enamelling, plating perfect; nearest £40.—C. Rice-Oxley, Shrewsbury.

831x87mm. Rudge (Roper, Wolverhampton), B. and B., h.b.c. carburettor, 19in. frame, new lin dermatine belt, and heavy studded cover, very powerful perfect condition; £12/10.—J. Lidderdale, Berkswich Stafford.

TRIUMPH, 1909, Mabon free engine, clutch, near new tyres, excellent condition, price £31; sidecar for ditto, £2/10; also 4-cyl. F.N., overhauled, new magneto, £18.—Apply, Crescent Motor Co., Liscard Village, Cheshire.



CHEMICO MOTOR

BIKE

OIL

LUBRICATION is a matter of utmost importance to the motor cyclist, and an item which is apt to be too lightly considered. You cannot give too much attention to this, or exercise too much care in the selection of a suitable oil.

CHEMICO MOTOR BIKE OIL

has had our careful attention, coupled with our wide knowledge of oil, exercised in its production, which with every confidence we recommend, CHEMICO MOTOR BIKE OIL is exceptionally high in flashpoint, will not carbonise the valves, or soot the plug, but will circulate everywhere necessary and keep the engine perfectly cool.
WE URGE every motor cyclist to test CHEMICO MOTOR BIKE OIL, and give attention to the running of the engine during test

Note how sweetly it runs and how clean the valves keep.

PRICES.
Quart Tins .. 1/6 each.
Half-Gallon Tins 2/6 ..
Gallon Tins .. 4/6 ..

The County Chemical Co. Ltd.,
Bradford St., Birmingham.
London. Manchester. Glasgow. Dublin. Cardiff. E.D.A.

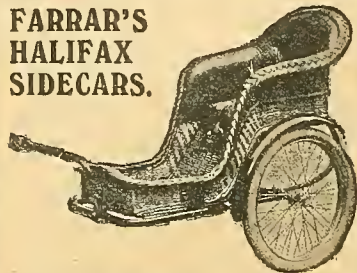
CAR PATTERN MUDGUARDS

can be fitted without
extra charge.

This is our Model de Luxe.

Complete £5 : 5 : 0 Complete

FARRAR'S HALIFAX SIDECARS.



Absolutely the finest value on the market.

LESS POWER.

It is admitted by experts that, owing to the unique design, far less power is required to propel Farrar's Sidecars than any other style on the market.

NOTE OUR front arm which grips the sidecar CENTRE. Nothing lopsided about this attachment.

All our Sidecars are now fitted with Farrar's quick detachable joints and cranked back axles, refinements found on very few other makes.

MODEL "DE LUXE"	£5 5
MODEL "C," with cane body	£6 0
MODEL "D," with coach-built body	£7 0
MODEL "E," with reversible child's seat ..	£6 10

ALL COMPLETE WITH MUDGUARD & TYRES.

Discount to the Trade.

Delivery from stock to suit TRIUMPHS, REXES, P. & M.'s, N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE.

SPRUNG LIKE A CAR.

Sole Agent for Australia and New Zealand:

Mr. T. HARRIS, Hunter Street, SYDNEY, N.S.W.

ENGINES.

ENGINES.

6-7 h.p. Twin Antoine, fine puller	£6 10
5-6 h.p. SAKOLEA, brand new, 1910 model, fitted magneto, silencers, driving pulley, etc.	£14 14
1 1/2 h.p. DE DION, air-cooled	£1 15
Phelon and Moore Engine and Frame	£5 10
4 1/2 h.p. HUMBER, water-cooled	£6 10
2 1/2 h.p. MINERVA, good puller	£3 10
2 h.p. SIMMS Engine (vertical) and Frame ..	£2 10

Other engines accepted in part payment.

NEW CARBURETTERS.

1911 B. and B., complete	25/-
1910 Amac, variable jets	22/-
5/- allowed for old carburetter.	
1910 Amac, second-hand	15/-
1910 Amac, twin outlet	15/-

FARRAR'S Motor Exchange

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes from G.P.O.)

Telephone 919.

MOTOR BICYCLES FOR SALE.

MOTOSACOCHE, actual gold medal winner, June, 1910, London to Edinburgh trial, two sets of tyres and tubes, Whittle and spare round belt, lamp, horn, watch, spares, etc.; 22 guineas—Micklewright, The Narrows, Ludlow.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

1911 Bradbury, touring model, not unpacked; what offers?—Below.

1910 Premier, twin, 3 1/2 h.p., free engine, just thoroughly overhauled by makers, perfect; £32/10. cost £60.—Forinton, furnisher, Boston.

3 h.p. Griffin, one new tyre, in good order; £5/10.—Plastow, Grimsby.

RUDGE, free engine, as new; £44.—R. Thurnill, 3, Barrack Road, Northampton.

3 h.p. Minerva, Ariel frame, good condition.—Apply, 25, King Richard St., Coventry.

WOODGATE for Triumphs; deliveries from stock of all models; no waiting.

WOODGATE for Singers, clutch, standard and Moto Velo; immediate delivery.

WOODGATE for Ariels with decompressor; easiest starters on the market.

WOODGATE for Royal Enfield and Douglas lightweights; a fine range on view.

WOODGATE for a Splendid Selection of second-hand and trial models, ranging from £5 to £45; sidecars from £5/5; exchanges and payments arranged.—The Motor Cycle Depot, 543, Coventry Rd., Birmingham. Tel.: 372 Victoria.

BIRMINGHAM Motor Cyclists.—Inspect my half-column advert for bargains.—P. J. Evans, Sparkhill.

F.N. 2 1/2 h.p. 1911 Lightweight, shaft drive, 2-speed, free engine; list price £47/5, sell £35—358, Stratford Rd., Birmingham.

DOUGLAS Lightweight, 1910 model, as new, complete; £28.—Evans, 358, Stratford Rd., Birmingham.

MATCHLESS, 1911 3 1/2 h.p. 2-speed; cost £60, accept £45.—358, Stratford Rd., Birmingham.

DOUGLAS, 1910, 2 1/2 h.p., perfect condition, new covers, spares; £26.—Gnyver, Alcester.

J.A.P. 4 h.p., 1911, in fine order, all accessories, nothing to buy; seen: £29.—Fancourt, Stamford.

MUST Sell.—New 3 1/2 h.p. Alldays, Roe 2-speed.—Particulars, Tay, King's Norton, Birmingham.

2 1/2 h.p. Minerva, m.o.v., just re-bored, new piston, fast; £29, offer—62, Parade, Leamington.

5-6 h.p. Twin N.S.U., magneto, excellent order throughout; £23/10.—Rudkin, Swinegate, Grantham.

3 1/2 h.p. Rudge, free engine, as new, lamp and horn; first cheque £48.—72, Queen's Rd., Nuneaton.

3 1/2 h.p. Magneto Rex, 1909, good tyres and belt, and condition good; £20.—J. Fancourt, Stamford.

HUMBER, 3 1/2 h.p., 1910 1/2, 2-speed, free engine; £38.—10, Lincoln St., Balsall Heath, Birmingham.

1911 3 1/2 h.p. Premier, only ridden 100 miles; nearest £37/10 secures.—Hazzell Smith, Leamington Spa.

REX, 5 h.p., twin, Bosch magneto, overhauled, splendid condition; cheap.—72, Earsdon Lane, Coventry.

SINGER Lightweight, Bosch magneto, excellent condition; £23.—Perkins, house furnisher, Coventry.

TRIUMPH, 1908, new cylinder and piston, spring forks, everything up-to-date, excellent condition.—Below.

BRADBURY, 1910, 1911 tank, inverted levers, engine overhauled, new belt, tyres good, splendid machine.—Below.

PREMIER, twin, 1910, footrests, original tyres excellent, machine little used, splendid condition.—Below.

GENUINE Bargains for immediate cash sales.—Hayward and Ball, Stratford-on-Avon, agents for Bradbury, Indians, and Rex.

3 1/2 h.p. 1910 T.T. Triumph, first-class condition, very fast; £40.—Apply, Pilkington and Co., Earsdon, Coventry.

2 h.p. Minerva, low, smart, perfect, long bars; £5/10, offer; must sell; bargain.—Toms, 138, Catherine St., Leicester.

2 1/2 h.p. Motor Cycle, in good condition, new £3 tyre this year; must sell; £8/10.—30, Albert St., Brigg, Lines.

ZENITH-GRADUAS, 3 1/2 h.p., in stock for immediate delivery.—Sole district agents, Paskell's, Ltd., 62, High St., Leicester.

DOUGLAS, Model D, in stock for immediate delivery.—Sole district agents, Paskell's, Ltd., 62, High St., Leicester.

2 1/2 h.p. Hobart, splendid condition throughout; £8/10 or near offer.—J. Beck, 6, Manners St., Grantham.

TRIUMPH, 1909, in fine order; £30; including lamp and generator and all spares.—J. Fancourt, Stamford.

FARRAR'S Motor Exchange

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes from G.P.O.)

Telephone 919.

SINGLE-CYLINDER REXES.

3 1/2 h.p., 1910, with 1911 spring forks	£35 0
3 1/2 h.p., 1910, black finish	£32 0
3 1/2 h.p., 1910, grey finish	£32 0
3 1/2 h.p., 1909, Tourist, very good	£28 0
3 h.p., 1908, Featherweight magneto	£18 0
3 1/2 h.p., 1906, Tourist, M.O.V., spring forks ..	£14 0

TWIN-CYLINDER REXES.

7 h.p. de Luxe, two speeds, M.O.V.	£48 0
5-6 h.p., 1908, two-speed, and sidecar	£32 0
5-6 h.p., special model, 1909, magneto	£27 10
5-6 h.p., de Luxe, clutch model	£24 0
5-6 h.p., two speeds and free engine, Bosch ..	£28 0
5-6 h.p., de Luxe, 1908, two-speed model ..	£28 0
5-6 h.p., de Luxe, 1908, two speeds, special, good	£29 10
5-6 h.p., 1908, two-speed de Luxe, 1909 engine	£32 0
5-6 h.p., 1907, Tourist, Bosch magneto	£21 0
5-6 h.p., 1907, Lloyd's variable gear, Bosch ..	£23 0

N.S.U.'s

N.S.U.'s

N.S.U.'s

5 h.p. Twin, Bosch magneto	£19 0
5 1/2 h.p. Magneto, 2 speeds	£25 0
1908 Lightweight, Bosch magneto	£17 0

OTHER MAKES.

OTHER MAKES.

6-7 h.p. Twin Antoine, Bosch, B. & B.	£27 0
1911 New Hudson, three speeds	£47 0
3 h.p. Triumph, M.O.V., very good	£18 0
3 1/2 h.p. Fatmir, M.O.V., grand gear	£12 0

SIDECAR COMBINATIONS.

5-6 h.p. Clutch Model Rex and new sidecar ..	£29 0
5-6 h.p. 2-speed 1908 Rex and Sidecar	£32 0
One ditto	£33 0
7-9 h.p. two-speed Rex and Sidecar	£53 0

All fitted with Magneto and Spring Forks.

TYRES. TYRES. TYRES.

Continental, rubber non-skids, 26 x 2 1/2	30/-
Hutchinson, ribbed tread, 26 x 2 1/2	18/6
Continental, beaded, 26 x 2	18/6
Tubes, all sizes, guaranteed	9/6

£3 DOWN SECURES ANY OF THESE. BALANCE 5/- WEEKLY.

2 1/2 h.p. Minerva, good	£7 0
2 h.p. Minerva, M.O.V., spray carburetter ..	£7 0

£4 DOWN SECURES ANY OF THESE. BALANCE 6/- WEEKLY.

3 1/2 h.p. Mineova, M.O.V., 26in. wheels	£14 0
3 1/2 h.p. Brown Bicar, 26in. wheels	£12 0
3 1/2 h.p. Fatmir, M.O.V.	£12 0
3 1/2 h.p. 1906 Rex, M.O.V., spring forks	£14 0

CARS AND TRICARS.

5 1/2 h.p. Humberette car, 2 seater	£18 0
5 1/2 h.p. Rexette, two speeds, a beauty	£24 0
One ditto, re-varnished	£20 0
6 h.p. Rover Tricar, good gear	£17 0

MISCELLANEOUS BARGAINS.

Forecar Attachment, good	35/-
Brooks Brood saddle	9/6
F.R.S. 58/- Lamp set	30/-
Cowey Speedometer, only done 582 miles ..	£3 10
Second-hand sidecar, rigid	£3 10
Mills-Fulford Castor Wheel Sidecar	£6 10
Vertical Frame, with 26in. back wheel, etc.	£1 10
Prested accumulators, new, 15 amp.	9/6
Tricar Frame, suit 6 h.p. engine	35/-
Lycett's Tubular Carriers, new	4/1
New Lycett's Saddle, coil springs, L/109 ..	15/-
New Frame for vertical engine	30/-
New Prested Midget Trembler Coils	15/-

WANTED. WANTED.

Triumphs, Rexes, Mineovas, N.S.U.'s, Douglas's Moto-Reves, and other magneto machines.

Cash waiting.

MOTOR BICYCLES FOR SALE.

TON Cycle Co.

ORIA, S.W.—See bargains below; all best makes in stock.

TON.—Bradbury in stock, free engine, £54/10; 2-speed, £55.

TON.—Clyno; sole S.W. agents; trial by appointment; early delivery.

TON.—Matchless; sole S.W. agency; early deliveries.

TON.—1911 Kerry-Abingdon, 3½ h.p.; £45.

TON.—1911 Moto-Reve, 2½ h.p.; £45.

TON.—New Enfield; £36.

TON.—Bradbury, 3 weeks old, 1910 standard model, all accessories, as new; £35.

TON.—F.N., 4-cyl., 4½ h.p., good order; £25.

TON.—Humber, 3½ h.p., 1910 standard, accessories; £25.

TON.—Exchanges and instalments, reasonable terms.

TON.—1910 Moto-Reve, 2½ h.p., with accessories, £25.

TON.—7½ h.p. Brown, twin, Bosch magneto, B. and B. carburettor, just overhauled; £32.

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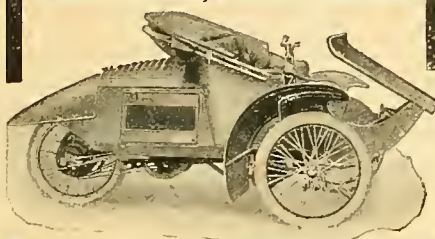
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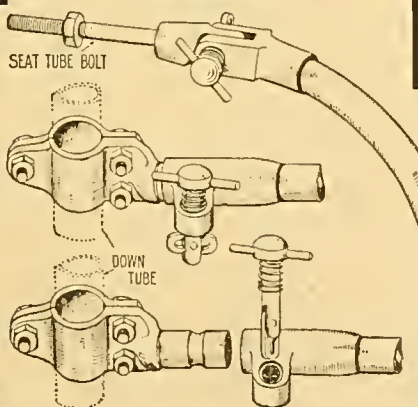
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A.J.S., 2-speed, and Singer Lightweight, 1911 models, shop-soiled only, what offers? F.E. Triumphs and Ridges, immediate delivery.—Morris, 159, Finchley Rd., N.W.

MOTOSACOCHE, 1½ h.p., perfect condition, all accessories, few spares, free engine, very low built, accumulator; £10/10; no offers.—37, High St., Sheerness.

5 h.p. Rex de Luxe, 1909, 2-speed, free engine, adjustable pulley, tyres excellent, Whittle belt, accessories and spares; £30.—Annison, High St., Tonbridge.

A. H. GOLD, New Barret. — Immediate deliveries Brown, Rex, Bradbrys; cash, exchange, or gradual payments.—Motor Cycle Works, Underhill, New Barret.

31 h.p. Rex, adjustable pulley, Hellenes special ignition, long handle-bars, low riding position, accessories, good order; £7/10.—12, Market Sq., Horsham, Sussex.

7-9 h.p. Twin Peugeot, magneto, 2-speed, spring forks, splendid condition, £25; also Montgomery sidecar, new condition, £16/10.—Taylor, 112, New King's Rd., Fulham.

31 h.p. Clarendon Motor Cycle, ball bearing engine, Continental tyres, head lamp, about 1908 model, in new condition; £16/10.—Warren, 20, Clyde Rd., Tottenham.

5-6 h.p. Peugeot (Chater No. 6) new tyres, Bosch, Amac, footboards, Jones speedometer, lamp, horn, pump, watch, mirror, tools; £25.—228, Harrow Rd., Phone 265 Padd.

If You Want Bargains in second-hand motor cycles, you can get them at Wauchope's.—Wauchope's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

ARIEL, 2½ h.p., magneto, B. and B., h.b.c., spring forks, tyres good fast, and reliable, spare valves, belt, tyre; £16, no offers.—Butcher, 2, Fern Cottages, Whyteleafe.

BROWN, 2½ h.p., Palmer cord, Loagnemare carburettor, sound throughout; any trial; first applicant £8 or exchange.—Traveller, 97, Dartmouth Rd., Forest Hill.

31 h.p. 1910 Triumph, 2 speeds and free engine, run £2 1500, 1911 Millford sidecar, absolutely perfect; any trial; £47, offers.—L. Hudson, 12, Terminus Rd., Eastbourne.

31 h.p. N.S.U., in good running order, Peter-Union 32 tyres, 24 in. wheels, new Dermatine belt, accumulator; £9/9.—P. Durling, 69, Skinner St., Gillingham, Kent.

TRIUMPH, 3½ h.p., new 1908, with 1911 sidecar, marvellous engine, thoroughly reliable, exceptional condition, etceteras; £29.—271, Lauderdale Mansions, Maida Vale.

5 h.p. V.S. Twin, magneto, Brown and Barlow, h.b.c., spring forks, engine and tyres in good order; £23, or offer for quick sale.—White, 8, Orchard Rd., Farnborough, Kent.

FORMERLY the property of Mr. S. Witham.—8½ h.p. T.T. Jap-Bat, overhead valves, beautiful condition; bargain at £40 cash.—Seen at Nye's, 69, Leather Lane, Holborn, E.C.

TRIUMPH, 1907, magneto, Mabon clutch, 1911 B. and B., new tyres, new belt, perfect order, condition throughout; lowest £25.—119, Cambridge Gardens, N. Kensington, W.

F.N. Motor Cycle, 4-cyl., Amac carburettor, h.b. control, with central intake in first-class running order; best offer accepted.—Mylam, 364, High Rd., Streatham, S.W.

TRIUMPH, 3½ h.p., late 1907, had new from works, April, 1908, handle-bar control, accessories, including speedometer, lamps, etc.; £27.—Smith, 28, Dornton Rd., Balham.

31 h.p. 86x95 Motor Cycle and sidecar, Chater-Lea 32 tings, Atalier engine, Whittle, spares, good tyres; trial given; low, good climber.—Garbutt, 95, Barkworth Rd., Rotherhithe.

DOUGLAS, 1911, standard, new, unscratched, out twice, spare cover, Rich tube, 3 valves, horn, tools; £37; bought sidecar machine.—Barnard, 77, High St., St. John's Wood.

BAT, 9 h.p., 2 speeds, and 2-wheeled Bat sidecar, Lucas horn and lamps, numerous spares, including spare driving wheel, thorough order; £70.—After 7 p.m., 9 Stag Lane, Edgware.

31 h.p. N.S.U., Roe ball bearings 2-speed gear, Bosch 32 magneto, B.B., h.b.c., rigid sidecar, reliable, and ready for tour; or exchange Triumph—Castlenau, Villa Park Rd., Farnham.

1909 F.N. Lightweight, 1½ h.p., magneto, spring forks, Palmer studded tyres, like new; £17/10; exchange treadle S.C. lathe and cash.—Aero, 2, Dunn St., Shackwell Lane, Dalston.

31 h.p. Minerva, free engine, new tyres, 1911 B. and B., do 40 in. p.h., any trial; good reason selling, guaranteed perfect; £15, or offer.—S. Wilson, Ruskin Manor, Denmark Hill.

MOTOR BICYCLES FOR SALE.

31h.p. Humber, chain drive, steel studded back tyre, accumulator, powerful machine, ready to ride away; £28/10, or exchange for forecar.—J.B., 57, Allen Rd., Stoke Newington.

MOTOSACOCHE, 14h.p., accumulator ignition, perfect condition, just been overhauled; any trial given; wanted, 31h.p. magneto machine.—The Beeches, Florence Rd., Sandstead, Surrey.

ENFIELD, 41 guineas, 1911, 23h.p., chain drive, delivered last May, not done 300 miles; £34; owner buying runabout; trial Saturdays or Sundays.—78, Shakespeare Rd., Acton.

31h.p. Fafni-Chater-Lea, excellent condition, new 32 tyre, spares, recently overhauled, low, very powerful; bargain, £12/10.—C. Groult, c/o Butler and Co., Edinburgh Rd., Walthamstow.

TRIUMPH, 1909, new tyres, nice condition, been carefully used, accessories, £33; Mabon clutch, nearly new, 35/- offers; wanted, Cowey, inch Whittle.—G. Lewington, Enfield Wash.

VINDEC Special, 31h.p., 1908, Bosch, Truffaut, Palmer cord and Mosley, Lucas headlight; stand-carrier, accessories, good condition; £17, or offer.—Ross, 3, Dipple Rd., Dagenham, Essex.

J.A.P., 24h.p., Chater-Lea, B. and B., h.b.c., spring forks, Whittle, adjustable pulley, stand, carrier, etc., perfect condition and running order; 15 guineas.—2, Cavendish Gardens, Clapham.

TRIUMPH, 31h.p., 1908, Whittle, lamp, generator, accessories, £25; Mabon clutch, inch Stanley belt, N.A.B. pillar, offers; wanted, Cowey, inch Whittle, lamp.—G. Lewington, Enfield Wash, N.W.

23h.p. Royal Enfield, Palmer tyres, new condition, £24 new belt and accumulator, suit tall rider; also motor trailer, Mills-Fulford, good condition; £3.—Rogers, 42, Church Rd., Hendon, N.W.

KERRY, July, 1910, just fitted with free engine and 2-speed gear, splendid condition, takes sidecar well, all accessories; sacrifice, £40, or near offer.—Cooper, Denmark House, Maple Rd., Surbiton, Surrey.

MINERVA, 41h.p., twin, new condition, had very little wear, just enamelled and plated, spring forks, Brooks saddle, adjustable pulley, Whittle belt, etc.; £20, lowest.—24, Southgate Rd., N.

REX, 31h.p., fast and reliable, low riding position, tyres good, new Elswick belt, lamp, horn, spares; seen any time after 6.30 by appointment; £28/10 cash.—D., 69, Connaught St., Hyde Park, W.

WIN-PRECISION Motor Cycles; immediate delivery 1911 model, gradual payments, £2 monthly, cash £45/10; particulars on application.—De Nevers Automobile Agency, Empire House, Piccadilly, W.

P. and M., late 1909, in excellent condition, lamp, generator, horn, watch, tyre, valves, tools, spare tube and case, sidecar; £40, or offer.—Fletcher only, Motor, 22, Little Russell St., Bloomsbury, W.C.

CLYNO, 5-6h.p., 2-speed, chain drive, foot starter, new machine May last, only run 1,000 miles, climb anything, fine for sidecar work, Palmer cords, 23, every comfort; £50.—Chirney, Station Rd., Harpenden.

31h.p. Singer, 1911, delivered July, lamp, horn, and 32 registered numbers added; owner going abroad; cost £50/15, sell £45; perfect machine.—Box No. L3,926, The Motor Cycle Offices, 20, Tudor St., E.C.

8h.p. 1911 Matchless J.A.P., twin engine, V.S. 2-speed gear, lamp, horn, tools, with wicker sidecar, spares, twin belt drive, etc.; 70 guineas; splendid condition.—At Wanchopps, 9, Shoe Lane, Fleet St., London, E.C.

14h.p. Minerva, accumulator ignition, good running order, spare belt, pump, horn; owner purchased Zenith-Gradua; no reasonable offer refused; no agents.—Applications, A.V.S., The Ship Hotel, Weybridge.

31h.p. Swift-Ariel Motor Bicycle, 1911 model, new, 32 shop-sold only, free engine, variable gear, patent decompressor, and spring seat-pillar; special cash price £45.—Write, Swift Cycle Co., 15, Holborn Viaduct, London.

31h.p. Rex and Sidecar, spring forks, 1911 Brown 32 and Barlow, handle-bar control, low, spares, £14; also Lycett's La Grande saddle, cost 22/-; perfectly new, 12/-—82, Sherringham Av., Romford Rd., Manor Park.

31h.p. Kerry-Abingdon, September, 1910, Palmer 32 cord back, lamp, generator, horn, spares, condition perfect, excellent on hills; nearest £35; with new sidecar £40.—T. H. Willer, Bridge St., Leatherhead, Surrey.

FOR Sale, 1911 Rex motor cycle with new sidecar, tyres nearly new, free engine, 51h.p. twin cylinder, magneto, clutch, etc., good going order.—T351, Rev. J. Swinerton, Vicarage, Tollebarrow Major, Witham, Essex.

31h.p. M.M.C., Chater-Lea, magneto, tyres new, 25in. 32 Hutchinson and Michelin, B. and B., lamp and generator, carrier, all spares, top hole condition; £20. Phone Bank 5342.—Hartley, 5, Harley Rd., Swiss Cottage, N.W.

BARGAINS—Kerry 31h.p., low, fast, £28/10; 24h.p. F.N., low, really good order, £28/10; Clement-Gardard, 14h.p., good order, £5; 31h.p. Rex, magneto, cream, fast, £18/10. Exchanges entertained.—12, King St., Twickenham.

TRIUMPH, 1910, free engine, 40 guineas; Palmer 32 studded, Michelin butt-ended tubes, almost new, 25/-; lamp, spare belt in case, mirror, 2 horns, everything brilliant condition, hardly used.—1, Fulham Rd., London.

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In Grey-green or Fawn Double-texture Cloth. Guaranteed absolutely waterproof. Double-breasted, deep storm collar, inside and outside wind cuffs and fitted with a warm Detachable Fleece Lining. As the name suggests, this Jacket can be used in all seasons. If weather is too hot, the lining can easily be taken out, being held only by patent fasteners. Beside being light and warm it is healthy. Jacket, the moisture being absorbed by the woolen lining.

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MOTOR BICYCLES FOR SALE.

1909 Hurst, 31h.p., Rex patent engine, very built, new rubber studded back tyre, C.A.V. accumulator, Marconi coil, 1911 B. and B. footboard headlight, etc., splendid condition; £12.—16, Steel Park Crescent, S.W.

31h.p. Mitchell-Abingdon, vertical, Longoemare, Trin adjustable pulley, Clinchers, long and low, away, £7/10; 31h.p. engine, vertical, complete; room wanted; after 8 p.m. and Sundays.—R., 36, St. Mark Park Rd., S.E.

5h.p. Twin Rex, free engine, Bosch magneto, sp. forks, B. and B. carburettor, h.b. control, fast, in sound going order, also coach-built sidecar; cash, £25 for immediate sale; no offers; any trial The Broadway, St. Margaret's-on-Thames.

TRIUMPH, 31h.p., 1910, guaranteed perfect, appearance as new, Kenosha back tyre, nearly new belt, etc., £37; also Minerva, 31h.p., splendid condition, all spares, lamp, horn, etc., £19.—H. Brown Girdlers Rd., Brook Green, London, W.

WIN Precision Motor Cycles—Immediate delivery 1911 model, Druid forks, Bosch magneto, and B. carburettor, Dunlop tyres, £45/10; cash, gradual payments, £2 monthly; trial by appointment any reasonable distance.—Jennings, 268, Horsesey (near Public Baths), Holloway, London.

MOTO-REVE, 23h.p., twin, 1910, magneto, in perfect condition, just been overhauled by the mfr; £19/19; also lady's Moto-Reve, 1910, 23h.p., 1911 engine, hardly been ridden, Whittle belt, all spares, as new, £20/10.—Apply in first instance by letter, 45, Achilles Rd., West Hampstead, London, N.W.

HAZEL Lightweight Motors.—We are now in a position to give early delivery of our 21h.p. and the lowest, shortest, and lightest machine of its kind on the market, fitted with Jap engine; price 35 guineas; second-hand machines in part payment; many second-hand machines in stock at reasonable prices. Cripps Cycle and Motor Co., 24-28, Woodford Forest Gate, London, E.

SPECIAL Dot, 1910, 7-9h.p. J.A.P., drip lamp, magneto, free and 2-speed gear, Druid B. and B. adjustable pulley, extremely low, pretty machine, complete with coach-built sidecar, specially for ladies, comfortable, new Rom, Palmer, p. 3 for better than new, carefully used, fine week-end lamps, all spares; travelling, no time; accept £24.—G., 208, Gt. Portland St., W.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

DOUGLAS, 1911, model E., hand starting, 2-s. £48; in stock.—Moffat, Yeovil.

1911-12 Enfield, 21h.p., 2-speed, in stock, grey guineas.—Varcoe, Motors, St. Austell.

5h.p. Bexette, twin, 2-speed, magneto, B.B. carburettor, splendid condition, heavy Dunlop 32, £25.—Below.

5h.p. Twin Rex Motor Cycle, magneto, free engine, good order; £16.—Below.

31h.p. Humber, very low, magneto, B.B. carburettor, £15.—Batten Bros., Cullumpton.

MOTOSACOCHE, 14h.p., accumulator, first-class condition throughout; £9, or nearest offers.—W. Uffculme, Devon.

FRANK REYNOLDS, Broadway, Dorset, Tel. 8, Upwey. Telegrams: Reynolds, Upwey. B.S.A. motor cycles for hire.

HUMBER Lightweight, one month old; sell out or exchange for more power and sidecar; No. L3,909, The Motor Cycle Offices, 20, Tudor St., E.C.

DAN GUY, Weymouth.—Free clutch Triumph, 51h.p., free clutch Singer, £55; 1909 Douglas, £24; 1910 Triumph, £28; 1909 Phelon and Moore, 2-speed, £35; in stock, all guaranteed.

DAN GUY, Weymouth.—1910 Enfield, enamel, engine the best of condition, little running; £24.

5h.p. Twin Rex de Luxe, 1909, like new, engine overhauled by makers, Roc clutch, 1911 Amae Lyso and Watawata, new Michelins and tube, F.R.S. and generator, footboards, stand, carrier, exhaust pipe, whistle, tools, and Montgomery practically new; £35, or sell separate.—Pope, 27, grave Crescent, Bath.

SECTION X.

Scotland.

FAIRY Lightweight, 21h.p., twin, accumulator, done 500; £12.—Reilly, 92, Hilltown, Dumfries.

21h.p. J.A.P. Motor Cycle, in excellent running order; accept £12.—Wm. Alexander, 1, Turf.

31h.p. Minerva, in excellent running condition, 2nd control, good tyres, very powerful; £11.—1, 46, High St., Paisley.

MILITARY Officer, selling free engine Triumph bought February 1910, new studded tyres, splendid order; £35.—7,992, The Motor Cycle Coventry.

DUNDEE—Sole agents for Douglas, New H. etc., second-hand machines always in stock; thing for the motor cyclist: repairs.—Dundee Motor Cycle Co., Nettergate, Dundee.

MOTOR BICYCLES FOR SALE.

MINERVA. 24h.p., new Palmer cords, new B. carburettor, h.h.c., new tank, stand, carrier, toolbag; owner's illness; Post Office order £8.—Scotson, veterinary surgeon, Hutton, Aber-
LAND'S Largest Motor Cycling Firm.—Don't wait for months on your new mount. We can give you delivery of Indian, Premier, Douglas, Zenith, Rex, N.S.U., and Lincoln Etc. Besides these, we have M. Roe, and Norton, and can supply any make—Alexander's Motor Exchange, Lothian Rd., Edinb.

TRICARS FOR SALE.

IPSE.—34h.p. Kerry wicker forecar, splendid order; £11/11.

IPSE.—44h.p. Humber, w.c., 2 speeds; £10.—Ichipse, 255, Earlsfield Rd., Wandsworth, S.W.

Tricar, w.c., free engine, 2 speeds; £8.—18, Volsley Rd., Blackpool.

D Light Tricar, 6h.p. J.A.P., Chater-Lea; £18.—urling, Bonghton, Faversham, Kent.

EY Sociable, bucket seats, 6-8h.p. twin, w.c., 3 speeds reverse; £29/15.—1, Ebner St., Wandsworth.

2-speed F.N. Lightweight, in perfect order and condition; £25, or offer.—3a, Bridge St., Edinb.

Quadrant Tricar, open frame, bucket seats, wheel steering, 2 speeds; sacrifice; £12.—37, Searle, Westerton, Cambridge.

Speed Sociable, 1910, in good condition, 2 lamps and generator, luggage carrier, spare new £56.—H., 24, Fulham Rd.

Rexette complete with lamps, B. and B. wheel-controlled carburettor, new Dunlop on back; £10.—Lann, Bridge St., Evesham.

SOME 7-9h.p. Peugeot-Chater-Lea Tricar, just been rebored and new Bosch fitted, tyres good; or offers.—44, Selby Rd., Anerley.

White and Poppe Forecar, Palmer tyres, Fuller coil, Whittle belt, with spare wheel to convert Knowles, 1, Pembury Rd., Tottenham.

LBURY Tricar, 44h.p., water-cooled, free engine, 2 speeds, new Dunlop grooved rear, spares, good order; £50.—Limebeer, Headcorn, Kent.

EY Tricar, 6h.p., water-cooled, 3 speeds and reverse, wheel steering, Dunlop car tyres, coach-perfect condition; any trial.—Chappell, The Elms, Bromwich.

Light, 3 speeds 5-6h.p. twin engine, magneto and gears new, chain drive, all perfect order; any distance; photo; price £28.—34, Meanley Rd., Purk, Essex.

Sociable, a.c. engine, 2 speeds, chain drive, celluloid screen, hood, 26 wheels, 21 cord back, new car; inspection invited; £45, bargain.—237, Hertford, Edmonton.

Riley Tricar, splendid condition, twin, free engine, 3 speeds, reverse, splendid tyres, brand tool-studded Kemp-hall back; £50.—Tate, Salisbury, South Shields.

Humber Tricar, water-cooled, 2 speeds, foot clutch, overhauled and re-painted French grey, re on back wheel; only wants seeing and tying; Layland, Dicconson Terrace, Wigau.

Runnabout, 8h.p. J.A.P. engine, Bosch magneto, twin bucket seats, inclined steering wheel, 2 clutch, Chater-Lea chassis; bargain, £48, or offer, y, 200, Church Rd., Willesden, N.W.

TER-LEA Tricar, 34h.p. Minerva, 2 speeds, chains, clutch, new tyres, tubes, etc.; £20, or offer, or exchange pian forte.—Redman, 24, B. York Terrace, Regent's Park, London.

1911 7b.p. Sidette, perfect condition, Rom tyre on back, Lucas lamp and generator, full kit of tools, original machine as shown at Olympia; owner buying.—Edwards, Sandford Rd., Syston, near Leicester.

Litette 6h.p., 2 speeds, magneto, water-cooled coach-built, Landle starting, Whittle, everything, lamp, spares; any trial; £30, or exchange good cycle.—33, Headingley Rd., Handsworth, Birmingham.

TENHAM.—Tricars; 34h.p. Triumph, water cooled single-cyl. engine, £15; 34h.p. White and Poppe-cyl., water cooled, 2-speed gear, £14.—Stamford Motor Co., 128, High Rd., Tottenham. Phone

CH-BUILT Tricar, 6h.p. De Dion engine, 2 speeds and reverse, chain drive, wheel steering, 700x, in good running order; £25, will take good cycle part exchange.—Wilson, 16, Trinity St., Crouch.

Jap-Chater-Lea Tricar, w.c., free engine, 2 speeds, chain drive, cane forecar, car tyre back, 24in. front, 20s. B. and B., h.b.c., lamps, spares; £25 cash, re; photo; trial run by appointment.—5, Wood St., Ard-on-Avon.

EY Tricar, 9h.p., twin, water-cooled, wheel steering, 1911 B. and B. new non-skid back tyre, grooved fronts, 3 speeds and reverse, fast and e; any trial; £45.—Apply, Morris, 2, Plashet West Ham, E.

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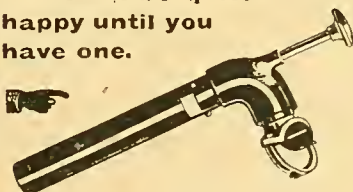
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TRICARS FOR SALE.

6h.p. Tricar, Antoine twin engine, magneto and accumulator ignition, 2 speeds, handle-bar control, Palmer cord tyres, painted grey; what offers? or exchange for a Triumph 1910 motor cycle—1, c/o Messrs. Thrivey and Co., Garage, Snodderland.

1911 N.S.U. Tricar, 6h.p. twin, 2 speeds and free engine, brand new Continentals in front, Peter Union back, just been retreaded, cadyprene headlamps, splendid condition throughout; any trial; £50.—Appy, A. Cullum, Victoria Rd., Diss, Norfolk.

5h.p. Riley Tricar, 1909 model, water-cooled engine, 2 speeds, wheel steering, with car control, has large well-built box to go in place of front seat if required; seen any Wednesday or Saturday morning; £30.—MacKay, 36, Waverley Rd., Plumstead, S.E.

34h.p. Rex Forecar, convertible to motor cycle 15 minutes, splendid powerful engine, fast, coach-built body, new belt, Longueueure trembler coil, wing mudguards, perfect condition throughout, accessories, trial; bargain, £12/10.—45 Charles St., Stepney.

NAVAL Officer ordered abroad, obliged sell 7-9h.p. Lagonda tricar, absolutely ready for road, perfect condition, new tyre back wheel, £5 worth spare parts and tools, wheel drive, 3 speeds, water-cooled, 2 accumulators, 3 lamps, etc.; unusual bargain, £30.—East Grinstead Motor Garage, Ltd., Sussex.

5-6h.p. Twin Brown Tricar, accumulator and magneto ignitions, Palmer tyres on front wheels (almost new), new Dunlop on back wheel, hand brake on front and Bowden on back, almost equal to new; too powerful for reason for selling and ill-health; bargain, £50.—P. O. Pass, Antrobus St., Congleton, Cheshire.

34h.p. Tricar, White and Poppe 1910 engine, in splendid condition, tyres as new, Dunlop fitted to driving wheel, Longueueure carburettor, Whittle, new lamp, horn, spares, all in first-class condition; sacrifice £16/10; buying car.—Box 8,016, The Motor Cycle Offices, Coventry.

SIDECARS AND FORECARS.

SIDECAR, left, rigid, little use; £3/10.—5, Marlborough Rd., Highbury, N.

MILLFORD Castor Wheel Sidecar, new Dunlop 21 tyre.—Dr. Lathbury, Ashton Av., Dunstable.

8 GUINEA Model Sidecar, brand new, Chater-Lea fittings; £5/5.—Matthews, pawnbroker, W. Croydon.

SIDECARS, brand new, beautifully upholstered, fit any make; £3/10.—Rey, 5, Heath St., Hampstead.

SIDECAR, Montgomery Model de Luxe; cost £14/10 new, what offers?—Henry Garrod, solicitor, Ledbury.

SIDECAR, good condition, fit any motor; seen any time; lowest, £3/17/6.—91, St. James Rd., Holloway.

F.N. Repairs Department, Highbury Barn, N.—Special sidecars for F.N.'s, 24in. n.s. tyre, first-class design; from £8.

1911 Montgomery Sidecar, leaf spring wheel, fit Scott, couplings for any make, new; £9.—1, Powis Grove, Brighton.

STRONG neat wicker bodies, splendidly upholstered; bargain, 19/-, carriage paid, cash with order.—Beard, 49, Church St., Bridgwater.

1911 Millford Sidecar, suit Rex, Humber, or Chater, as new; £5.—H. W. Dixon, "Beaumont," Eastwood Rd., South Woodford, N.E.

FORECAR, good condition, new Michelin tyres, fit any machine, cheap; also Dunlop cover, 26x24, 10/-.—102, Station Rd., Addlestone.

MONTGOMERY de Luxe, rigid or flexible, coach-built, apron, 26in. Palmer; £8, bargain.—J. Norris, Little Pagehurst, Staplehurst.

WILTON Cycle Co.—Sidecars, £5/5, £6/6, £8/10; Chater-Lea spring wheel models, £8/8 and £10/10; delivery from stock.—110, Wilton Rd., Victoria, S.W.

NYE'S Offer two new £10 sidecars, complete with tyres, aprons, extended chassis, to fit any machine, at £6/18 each to clear.—Seen at 69, Leather Lane, Holborn, E.C.

GARRARD-MAXFIELD Sprung Wheel Sidecars save tyres, take 4h.p. less to pull; wind screen and apron combined, suit any sidecar, 25/-, on approval.—Aston Rd., Birmingham.

SIDECARS, best on the market, lowest riding position, strongest lugs; complete, mudguard, tube, tyre, upholstered in green pegamoid; £5.—Hitchin's, Easton Rd., Morecambe.

MIDDLETON'S, wholesale, retail, export, sidecar manufacturers; 12 models, 2-seaters, commercial, narrow doorways, etc.—Watson St., Newington Green, London, N. Phone, 2126.

SIDECARS.—A postcard will bring you illustrated list of the best, cheapest, and most up-to-date sidecars on the market; trade supplied.—Jack Cairns, sidecar and fittings manufacturer, London Rd., Preston.

SIDECARS: largest stock; best value in England; all built of Chater-Lea fittings; prices, £6/10, £5/10, £4/15; second-hands from £3/15, fitted free while you wait.—C. A. Edgar, 125, Holloway Rd., N.

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1911 Millford Rigid Sidecar, latest cane side entrance body; cost 13 guineas; used once; sell best offer. —22, Victoria Terrace, Leamington.

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TOTTENHAM—Sidecars: 1911, nicely upholstered at any machine, £3/10/6; quick detachable. £3/17/6; Millford Herald, £6/6; Mills-Finford quick detachable cane body, £11, in stock.—Stamford Hill Motor Co., 128, High Rd., Tottenham. Phone, 1982.

SIDECAR COMBINATIONS.

1910 Triumph, Millford sidecar, Lucas lamp; £42.—Whitehall, Green St., Upton Park.

1910-11 Rex de Luxe, 5-h.p., Montgomery sidecar; £45.—"Tidbury," Dunheved Rd., Croydon.

5-h.p. 1909 F.N., Bosch magneto, Rom tyres, Liberty car; £28.—Waterton, 88, Shepherd's Bush Rd., W.

31-h.p. Humber and sidecar, 2-speed, very little used; £22 owner gone abroad.—P. Pinckney, Eastmount, Salisbury.

5-h.p. Twin Sarolea, Chater, and sidecar, Boc gear, Palmer cords, h.b. control; £40.—9, Queen's Rd., Wimbledon.

31-h.p. Quadrant, Nala 2-speed, h.b.c., new tyres, sidecar, good condition; £20.—104, Thornlaw Rd., West Norwood.

BARGAIN, £40.—6-h.p. motor cycle and sidecar, 2-speed, chain and belt, perfect condition.—1, Well Hall Parade, Eltham.

1910 Phelon-Moore, excellent running order, with brand new sidecar; £48, complete.—Matthews, pawnbroker, W. Croydon.

TWIN Rex and Montgomery sidecar, Cantilever, spring forks, comfortable as car, good condition; £19.—165, King's Rd., Reading.

HUMBER, 2-speed, latest model, new Whitson, Millford castor attached, all accessories; rare bargain. £50.—Bunting, Wealdstone.

5-h.p. N.S.U., 1909, speeds, Millford sidecar, everything complete, excellent running order; £30.—Parrott, 55, Nigel Rd., Forest Gate.

TRIUMPH (late 1908), and sidecar, fast machine, Whittle belt, Rom, Palmer, good condition; £27.—119, Newington Butts, S.E.

5-h.p. Rex de Luxe, 1910, Roc 2-speeds, magneto, sidecar, as new; £49; appointment.—Rex, 68, Vanderbilt Rd., Wandsworth.

51-h.p. Twin N.S.U., 2 speeds, free engine, Bosch magneto, good hill-climber, with new sidecar; £56, bargain.—74, Kellett, Brixton.

T.A.C., 7-h.p., 1911, with specially-built sidecar, side entrance only done 600 miles; forced sale; accept £60.—Chadwick, Rannoch, Broughty Ferry.

6-h.p. N.S.U. and coach-built sidecar, 2-speed gear, twin-cyl. engine, nice condition; £32/10.—At Wauchope's, 9, Shoe Lane, Fleet St., London, E.C.

41-h.p. Twin Minerva, sidecar, 1910, fast, magnet, speedometer, spare covers, adjustable pulley, Whittle, accessories; £30.—Cook, 757, Lea Bridge Rd.

1911 P. and M. and Montgomery castor wheel sidecar, perfect condition, with accessories and spares; cash offers wanted.—103, Westbourne Av., Hull.

TRIUMPH, 1907, purchased 1908, with sidecar, new belt and tyres; £27/10; 51-h.p., magneto; pass expert examination.—Fordham, 28, Dalston Lane, Dalston.

MINERVA, 41-h.p., Bosch, 1911 Amac, Mabon clutch, variable pulley, sidecar nearly new, perfect order; £26, close offer.—Grimes, 18, South Bruton Mews, Bond St.

4-h.p. 1911 F.N. 2-speed Motor Cycle, with sidecar, absolutely perfect condition; cost about £65, accept 40 guineas.—Captain Bearne, St. Ives, Maidstone Rd., Chatham.

BAT, 9-h.p., with upholstered cane sidecar, clutch, new steel-studded voiturette Michelin, Whittle almost new condition; £45.—19, Malden Crescent, Chalk Farm, N.W.

5-h.p. Magneto Roc, free engine, h.b.c., Lucas, new Whittle, and sidecar; 25 guineas, or exchange lower power and cash; appointment.—16, Chesham Rd., Bury, Lancashire.

5-h.p. Brough, Peugeot, Chater-Lea 6, smart, Bosch, 1911 Barlow, adjustable pulley, £32; £16/16 Montgomery, coach-built, rigid or flexible, £6/10.—84, Redenhurst Rd., Clapham.

PREMIER, 31-h.p., free engine, and Millford radia castor sidecar, new June, perfect, unspratched bought lady's motor cycle; cost £67, sell £55.—Bartlett 51, Barton St., Gloucester.

REX, 51-h.p., Bosch magneto, low, racy sidecar, excellent hill-climber, large Brierley head lamp; seen any time, perfect order; £25, close offer.—Olive, 18, South Bruton Mews, Bond St.

6-h.p. Twin Antoine, magneto, Druid spring forks, adjustable pulley all accessories, and rigid Liberty sidecar, with apron, fine condition; £21.—Stewart, Market Sq., Horsham, Sussex.

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SIDECAR COMBINATIONS.

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HUMBER, 31-h.p., 1910, 2-speed, Mills-Finford spring wheel sidecar, Cowey speedometer, V belt, 2 lamps, horn, tool box, condition new; any £45.—W.P., 21, Manor Gardens, Holloway, N.

5-h.p. 1910 Rex de Luxe, 2-speed, free engine, neto, Whittle, Chater-Lea sidecar, all new in perfect condition, ready for road, all accessories £45.—Masters, 7, Shakespeare Rd., Herne Hill.

4-h.p. F.N. and sidecar, splendid pulley, low engine overhauled, gear new, speedometer, strong rigid sidecar; bargain, £22/10, lowest, change cheap machine part.—12, King St., Twickenham.

CLYNO, 5-h.p., 2-speed, chain drive, foot start machine last May, only run 1,000 miles, in condition, climb anything, Montgomery sidecar, to body; lowest £25.—Chirney, Station Rd., Harpenden.

POWERFUL 4-h.p. Motor Cycle, grand climber, new, large sidecar, Whittle belt, adjustable h.b.c., excellent tyres, Bates studded, Palmer cord trial; first £16 secures.—Hope Villa, Pretoria Rd., Ford.

1909 5-h.p. Rex de Luxe, free and 2-speed, M. castor £12 sidecar, lamp, horn, watch, spare tube, valve, etc., just bushed and overhauled, in condition; £40, or near offer.—G., 89, New Rd., Wiche.

31-h.p. Triumph, free engine, 1910, bought from 1911 improvements added, sidecar brought May Chater fittings; £47/10.—Sunnymede, The Avenue, well Hill, N.

31-h.p. Quadrant, B. and B. control, new Lycet 2 and Palmer cord tyres, sidecar and mazi a splendid order, and ready for immediate use; trial given; £25.—Forest, 22, Somers Rd., Waltham Tel.: 275 Walthamstow.

1911 Dot-Jap, 8-h.p., and sidecar, Lake and 2-speed free engine, handle starting, B. and all accessories and spares, new April; cost £80; wants seeing; sell, £65; no offers; good reason; Berkley Av., Levenshulme, Manchester.

LIGHTWEIGHT Rex and special juvenile sidecar, Bosch magneto, Amac carburettor, extra valve adjustable pulley, will demonstrate with passenger Peppers Hill, New Cross, to intending purchaser; a bargain.—Photographer, 167, Old Kent Rd., S.E.

5-h.p. Vindec, 2 speeds, free engine, tyres nearly V. Whittle belt, Amac carburettor, magneto ign. Cowey speedometer, new adjustable pulley, F.R.S. and castor wheel sidecar, finished grey enamel; given; price £37/10.—Roffe, 81, Crown Lane, Ber Kent.

MATCHLESS-J.A.P., 1911, 8-h.p., standard fixed engine, lamp, horn, Cowey speedometer and spares, and sidecar, absolutely new condition, unspratched, two months old, ridden 1,000 miles; £75, will accept £60, or near offer; any trial; buying car.—W. Foreman, "Bird-in-Hand," Bro Kent.

QUADCARS.

PHOENIX Quadcar, 7-h.p. Fafnir, just overhauled, King, motor agent, Great Missenden.

PHOENIX Quadcar, 7-h.p., in good running condition, offers wanted.—Benny's Garage, Camborne.

TWO Small Chassis, with wheels and steering suitable for runabout; £10 each.—Porter, b Tottenham.

PHOENIX Quadcar, excellent condition, Bosch ignition; accept £25 for quick sale.—Osborn, Leigh, Surrey.

SUNBEAM Monocar, 2 speeds, De Dion engine, cooled, £18; 31-h.p. Rex, £10; excellent condition.—Davies, Motor Stores, Morriston, Glam.

PHOENIX Quadcar, 7-h.p., Fafnir, water-cooled, neto, splendid condition; 30 guineas, exchange with or Bradbury.—Gealy, Tumble, Llanelly, Wal.

6-h.p. Monocar, fitted with J.A.P. engine, Bosch neto, 3-speed gear box, live axle; £65, or consider exchange twin motor cycle and sidecar.—Westbourne Grove, W.

PHOENIX Quadcar, 7-h.p. twin-cylinder water-cooled engine, 2-speed and reverse, in good condition, offers wanted for cash or exchange.—Seen at H Bros., Ltd., 1, King St., Maidstone.

MOTOR TRICYCLES AND RUNABOUTS.

24-h.p. De Dion Tricycle, free engine, handle start footboards, good condition; bargain, £15 61, Oxford St., Wellingborough.

31-h.p. Brown Special Tricycle, could be used extra passenger or luggage, special good car tyre on back wheel, magneto, 2-speed gear; £70; in good order; £20.—Timberlake's Garage, W.

TRAILERS.

TRAILER, Millford, little used; cost 12 gu offers.—Williams, Woodley, Romsey, Hampsh

THE MOTOR CYCLE

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ADDRESS: 20, TUDOR STREET, LONDON, E.C.

Silence.

THE oft-quoted adage that silence is golden has its application to-day in respect of motor cycles, more pertinently, perhaps, than in the particular circumstances in which the aphorism was first conceived in the brain of its maker. The virtues of silence in motor cycles is not a new subject, and has been animadverted upon in the pages of *The Motor Cycle* almost to a point of wearisome reiteration, but no unbiassed person can deny that most motor cycles are unpleasantly noisy, and forfeit a large measure of popularity, which would otherwise have a most encouraging effect upon the progress of the industry. The same degree of improvement in the attainment of silent running in modern motor cars is by no means apparent in the case of the motor cycle, and in this respect more than any other vehicle used for purposes of pleasure, it has to suffer for the shortcomings of its designers. For a vehicle that occupies so small a space on the roads and pursues its speedy way without raising the ire of passers by against blinding clouds of gritty dust and the emission of noisome fumes of vaporised oil, the motor cycle still, both on the country roads and the busy streets, lacks the unqualified approval of the public, purely by reason of the sharp, irritating noise of its exhaust. Every explosion fastens itself on the unwilling ears of the neighbourhood; some machines are worse than others, whether they are fitted with silencers or not, but a deplorable feature of the evil, we are sorry to observe, is that the fault lies in the indifference of the riders.

An absolutely inaudible exhaust may still be an unrealised ideal, but that there are means of reducing noise to a minimum which will hardly offend the tenderest sensibilities of the public there is no doubt.

We have heard single-cylindered motor cycles cooing like the dove, and whether this desirable consummation was due to some specially fitted silencer or to some inherent excellence of the engine, we should prefer not to commit ourselves. The impression, however, was rather that the prevalence of this offensive noise may be attributed in some measure to the point of view from which the rider regards the susceptibilities of the public. This is not the place to embark upon any technical dissertation on the subject of efficient silencers—all that we desire to do is to instil into the hearts of our readers who ride, a compassionate consideration for the weakening nerves of this peace-loving generation. The spirit of democracy is abroad in the land, and with it goes hand in hand a total indifference to the personal comfort and well being of anyone but the individual for himself. This unfortunate phase is exemplified in that most despicable type of road cad who charges through towns and villages with an open exhaust at any hour of the night or day, and excites a prejudice which takes years to dissipate.

The craze for the utmost limit of power an engine can only give by having its exhaust unchecked by a silencer is not wholly excusable, though the temptation is admittedly a strong one, and in the enjoyment of speed all other considerations are forgotten. Motor cyclists are daily increasing in numbers all over the country, the restraints imposed by distance are rapidly disappearing, and few, indeed, are the places in which the "teuf-teuf" of the exhaust has never been heard. We would, therefore, exhort all whom it may concern to make their enjoyment commensurate with a chivalrous regard for the comforts of the communities in which they find themselves.

EQUIPPING THE SIDE CAR

Sidney R. Jones



THERE is hardly any doubt that the sidecar is theoretically a bad means, quite possibly the worst, for carrying a passenger with a motor cycle, but for all that it has so many practical advantages that it has fairly gripped the popular esteem, and, judging by the number of passenger

has to be aligned, it is quite common to find that this procedure has been carried out inaccurately, although it is quite a simple matter, and when once accomplished requires no further attention.

How to Set the Wheels in Alignment.

The easiest way to do it is to get a couple of lengths of string and stretch them tightly between pegs about 9in. high driven in the ground, and so placed that one string just touches two points on the wall of the back motor cycle tyre, whilst the other applies in a similar manner to the tyre of the sidecar. The latter must then be adjusted so that the two pieces of string are perfectly parallel. Long straight boards supported by bricks can be used instead of string, and are rather better if anything for the purpose. With a castor wheel sidecar alignment is, of course, unnecessary. Theoretically, there is only one position in which the sidecar can be properly attached to the

on the driving tyre and not on that of the sidecar wheel. In turning a corner with the axles placed non-symmetrically, it is obvious that either the back wheel or sidecar wheel must slip to a certain extent. An idle wheel rolling over the ground is far less susceptible to skid in any form

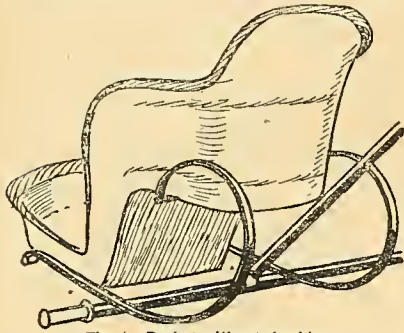


Fig. 1.—Basket without shackles.

motor cycles which are met on the road, it may be said that at present there is a boom in this type of vehicle. Very few motor cyclists, however, according to the writer's opinion, get anything like the best out of their sidecars, and in the following article it is proposed to show how this desirable end can be achieved.

First of all with regard to alignment. Failure to get this correctly set out is a very common cause of tyre wear. Some sidecars are sent out from the manufacturer with the clips fixed in the vertical plane so that no alignment is necessary; but, on the other hand, a good proportion of sidecars are not so sent out, and have to be set in alignment by the purchaser. The fixed clip idea is very excellent as far as it goes, the only

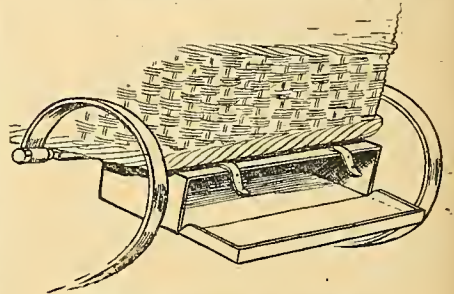


Fig. 4.—Flat luggage case under chair.

than a wheel through which the propulsive effort is being transmitted, and hence it is the sidecar wheel which holds the ground and the back motor cycle wheel which slips, and it is in the avoidance of this trouble that the castor wheel sidecar has its principal advantage. On the other hand, it does not, like the rigid sidecar, act as a preventive of skidding.

Position of the Basket.

One of our staff has made a point of trying every sidecar that he can get permission to climb into, and the result of this experience is the statement that ninety-nine out of every hundred sidecar seats are not half as comfortable as they might be. The fact is that the man who buys the sidecar and fixes it up very rarely has to ride in it, and the friend who does so is generally so unmechanically minded as to be ignorant of how matters might be improved. Nearly all sidecar chairs are perched up much too high, and as a

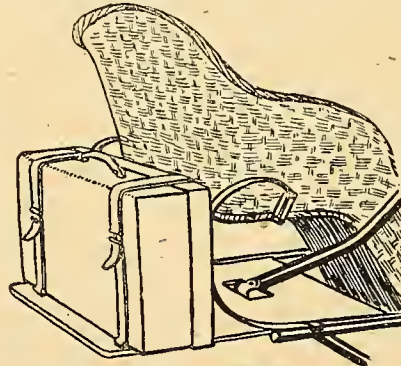


Fig. 3.—Suit case carried on luggage board.

motor cycle, and that is the one in which the centre line of the sidecar wheel axle is a direct production of that of the back wheel of the motor cycle. If so arranged, the rigid wheel sidecar satisfies the requirements for correct steering, as in any position the centre lines of all three wheel axles, if produced, meet in the point about which the turn is being made. Very few rigid sidecars, however, are made in this manner, as, for one thing, such an arrangement leads to the passenger having to sit considerably behind the driver. The general rule is to find the sidecar axle some six or eight inches in front of the back wheel axle, and, as a consequence, the steering is no longer truly correct. The difference, however, is comparatively slight, although by no means negligible. By advancing the sidecar axle the passenger occupies a better position from the conversational point of view, but the advantage so gained is probably more than outweighed by the additional wear of the tyres. Unfortunately, this additional wear takes place

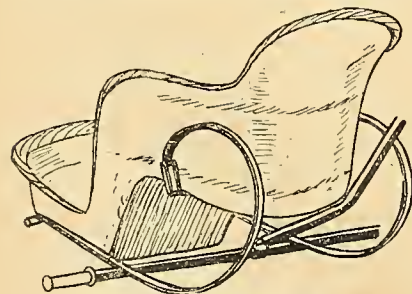


Fig. 2.—Basket with shackles and bent diagonal bar.

trouble being that when, as not infrequently happens, the motor bicycle is changed and the sidecar retained for use with the new mount, the alignment is to a certain extent thrown out owing to the probable slight differences in the frame construction of the new machine. On the other hand, with the sidecar which

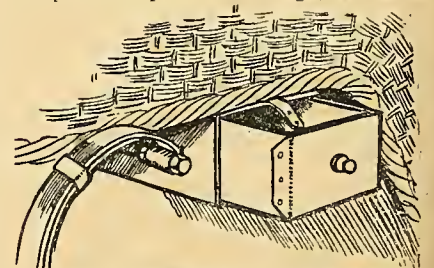


Fig. 5.—A second space for a luggage case.

result the basket and the passenger offer a great deal of head resistance—a factor that does far more in slowing the combination than anything else—and not only are they nearly always too high, but the backs are generally much too straight. What the sidecar passenger

Equipping the Sidecar.

wants, and what the motor cyclist ought to realise as the best arrangement for his machine, is a low reclining position, for not only does this result in the reduction of head resistance as much as possible, but the fact that the centre of gravity of the combination is low results in a machine that can be whisked round corners with perfect safety, and this altogether apart from the comfort of the passenger. It is not at all a difficult matter to alter the angle of the sidecar

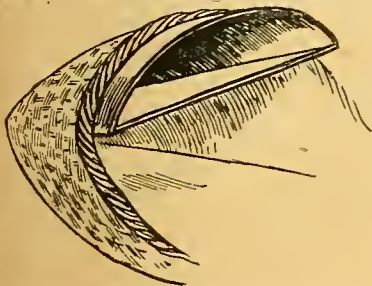


Fig 6.—A space for tools in the foot of the sidecar.

seat from the usual sort of "church-pew" effect into something approximating to a hammock. The easiest method is to introduce shackles between the main C springs and the cross bar which supports the seat.

These shackles should be as long as possible provided they do not allow a passenger to bump on the diagonal cross bar. This last member is very frequently placed in such a way as to give the chair very little latitude of up and down motion.

The Diagonal Member

extending from the saddle-pillar of the machine to the sidecar axle has really very little work to do, as its whole function is to keep the motor cycle upright. Hence there is no reason why it should not be considerably bent so as to allow the sidecar basket to be placed in an extremely low position. As a matter of fact the diagonal cross piece is somewhat of a nuisance, but until something new in the design of motor cycle frames comes out we shall have to put up with it. In one or two racy looking sidecars which we have inspected recently, the basket is placed completely in front of this diagonal tube and, consequently, the lowest possible position can be adopted, but with this arrangement it is needless to say that leg room has to be considerably restricted, and it is, therefore, not one which can be recommended for any purpose in which the passenger's comfort figures to an appreciable extent. With regard to the bending of the diagonal tube this can easily be done in a few minutes by any cycle mechanic who has a brazing hearth, but it results unfortunately in a small amount of enamel being burnt off. The ugly spot can, however, easily be touched up with a little hand applied enamel or if a day or two is not of much consequence the tube can be properly stoved. Figs. 1 and 2 show more or less diagrammatically how, by the mere application of shackle links and the bending of the tube, the position of the sidecar basket can be greatly improved in every respect.

Luggage Carrying.

The only possible advantage of a sidecar basket that is perched up in the air is that it clears the sidecar chassis by a sufficient margin to allow enough clearance for the introduction of a suit case or other similar article. This, however, is a poor return for the endurance of discomfort. In shackled sidecars, in which there is insufficient room at this point to allow for a reasonably sized package to be carried, the luggage board, to be of any use at all, should be extended rearwards, so that there is enough ledge space behind the basket to allow for a suit case to be carried tipped up on end, and not lying flat on its side. The method of carrying the case is shown in fig. 3, and is one which has been found very satisfactory. The case is strapped down to the luggage board, as shown, with two long straps; and, by means of two smaller straps, these large ones are secured to the back curve of the Cee springs. The result is that the whole affair rides extremely easily and securely. With very little trouble the luggage board can be made, when not in use, to slide right underneath the seat, and thus when a suit case is not being carried, it is practically out of sight.

To those who make their combination more or less a fixture, we would recommend the use of toolbags fixed to the sidecar chair, instead of in the ordinary way to make part of the motor cycle. The advantage of this method of carrying the tools is that the weight is entirely sprung, and hence they can be packed quite loosely without any fear of their knocking each others' corners off and setting up a rattle. At the same time, far more commodious cases for tools and spare parts can be fitted up in various places on the sidecar than could be carried on the machine itself, and there is the further advantage that they leave the carrier free to support a considerably larger amount of luggage when touring. In figs. 4 and 5 are shown ways in which certain spaces can be utilised.

There is nearly always room, even if quite long shackles be used, to fit a flat case between the bottom of the sidecar seat and the luggage board, the case being placed so as not to foul the bent diagonal cross members. On the writer's sidecar this case measures 15in. long, 3in. deep, and 5in. wide, and is thus amply large enough to carry a spare tube, a pound tin of carbide, and a

spare quart of oil, to say nothing of various other small odds and ends.

Under the basket seat, and in front of the diagonal stay, there is a second space that can be made use of, as shown in fig. 5. In this position the best form of case that can be used is one that has a long drawer in it, the body of the affair being bolted—using large metal washers—to the seat. This case measures 4in. deep, 1ft. long, and 7in. broad, and holds the complete tool-kit and a tremendous quantity of spare parts, etc. It is necessary to use some sort of drawer in this case, as otherwise the contents of the box are not easy to get at. The above cases are made out of brown fibre, such as is used for cheap suit cases. It is quite light, very stiff, and waterproof. Nearly all saddlers stock the material, and no difficulty ought to be met with in getting a case of any size and shape made up.

In our opinion by far the best form of sidecar is that with the torpedo-shaped footpiece, as it is not only graceful in outline, but gives a most desirable amount of leg room for the passenger. At the same time, the scuttle-shaped front presents another space, which can be used to advantage without affecting the comfort of the passenger. Fig 6 shows an arrangement which the writer has fitted up in his own sidecar, and which proves extremely useful for the bestowal of various odds and ends, especially such things as may be required for use during a non-stop journey. The position of the pocket allows the passenger to get anything that is wanted without the necessity of stop-

EQUIPPED FOR A TOUR.

Showing the luggage carrying capacity of a motor bicycle and sidecar, including carrier, valise, suit case on sidecar platform, and spare tyre. The sidecar is a special Montgomery with high-backed chair.

Equipping the Sidecar.—

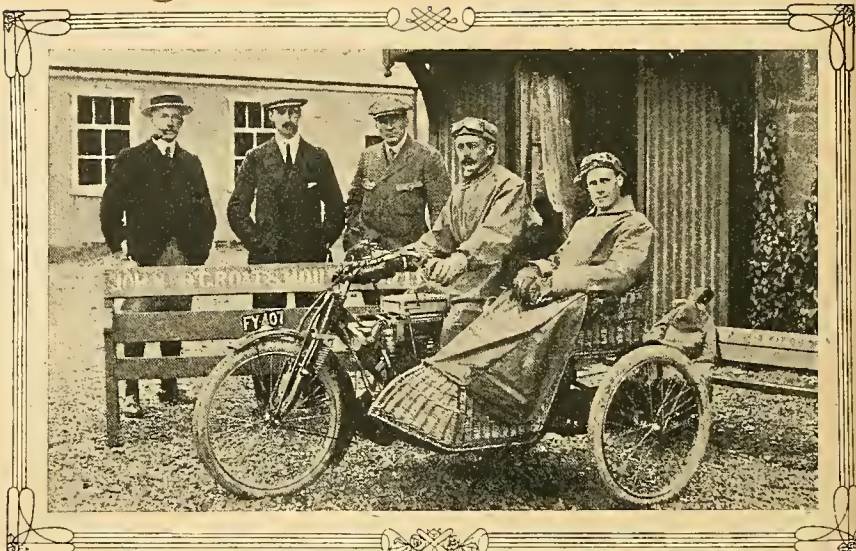
ping the machine. Since the pocket inclines downwards, there is no necessity for any lid. Like the other cases, this affair is also made of brown fibre, and just fits snugly into the upper groove of the torpedo forefoot.

In fig. 7 is shown still a further waste space, which can be utilised without detracting in any way from the passenger's comfort. For this purpose all that is required is a sheet of fibre or fabric-covered millboard placed athwart the chair, so as to make a vertical pocket about 5in. wide behind the passenger's legs. The writer has no personal experience of this last type of arrangement, but saw it on Mr. Frasseti's Indian sidecar, where it was used for the accommodation of overalls, various tools, Thermos flask, etc.



Fig. 7.—A vertical pocket for overalls, etc.

After making a number of experiments, the writer has hit upon a lighting installation, which has proved as nearly as possible ideal. On the near side of the sidecar is a Solar head lamp, and a second one of the same kind is carried on the usual place on the steering-head. Both these are served by a "Tricar size" Allen Liversidge generator, which is clipped to the vertical tube which supports the sidecar chassis from the motor bicycle down



THE NEW END-TO-END SIDECAR RECORD.

The start from John-o'-Groat's at 2.55 a.m. on Monday, July 24th.

tube. The sidecar lamp is focussed so as to spread a broad beam of more or less diffused light practically all over the road, whilst the head lamp is arranged to give a long, penetrating beam. The tube used throughout is flexible metallic, which is bound at intervals to the frame, along which it is conducted, with insulating tape. A short length of rubber tube leads from the generator to one end of a Y-piece, made of brass tubing, from the other ends of which proceed tubes to the sidecar lamp and head lamp respectively. The A.L. generator supplies two full-sized burners easily, and the fact that by merely turning a tap the supply of gas generated automatically regulates itself to anything between maximum light and no light at all is very convenient. From the writer's observation, it appears as though only a few of the motor cyclists who run side-

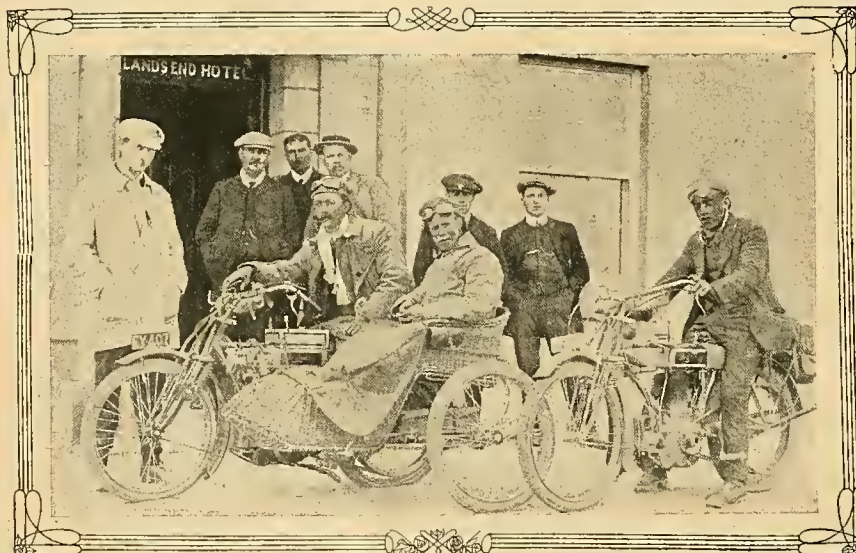
cars think it necessary to put a lamp on the near side of the latter. This is, however, a very important point, and should not be neglected, as drivers of oncoming vehicles frequently fail to realise that the motor cycle has any attachment to it, and do their best to force what they believe to be a solo machine either into the hedge or the gutter. Apart from the fact that the sidecar lamp is valuable as an illumination, showing up particularly clearly the left side of the road, it is well worth its cost as a safeguard against damage.

THE NEW END-TO-END SIDECAR RECORD.

HUGH GIBSON'S attempt to improve upon his own figures of 40h. 47m. for the journey from John-o'-Groat's to Land's End with a motor bicycle and sidecar proved successful, the time being reduced by exactly two hours. His original record was created on June 6th and 7th last year, Gibson on that occasion using a standard single-gear Triumph, 85 by 88 mm., with Mills-Fulford sidecar. Although several attempts have been made to improve upon the figures none have proved successful until this one. The new record was accomplished on an 89x89 mm. Bradbury with N.S.U. two-speed gear. In both records Gibson was accompanied by Geo. Wray in the sidecar.

Postcards duly signed by Hugh Gibson and witnessed by local checkers were posted to *The Motor Cycle* at the following towns en route, giving the times of departure:

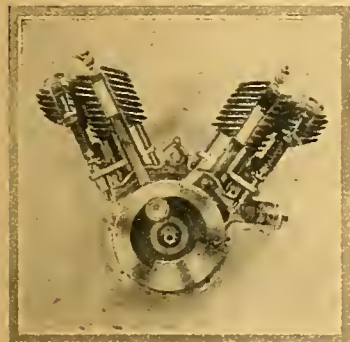
	Mon. July 24.
Left John-o'-Groat's ...	2.55 a.m.
„ Beaulieu (134m.) ...	8.10 a.m.
„ Perth (266½m.) ...	1.50 p.m.
	Tuesday, July 25.
„ Wigan (520m.) ...	12.40 a.m.
„ Gloucester (654m.) ...	6.57 a.m.
„ Okehampton (787½m.) ...	1.27 p.m.
„ Penzance (876m.) ...	5.19 p.m.
Arrived Land's End (886m.) ...	5.42 p.m.
Dunlop tyres, Lyso belt, Bosch ignition, Lucas lamps, and Shell spirit were used.	



Arrival of Hugh Gibson and George Wray at Land's End 38 hours 47 minutes later, beating previous record by exactly two hours. The machine is a two-speed Bradbury.

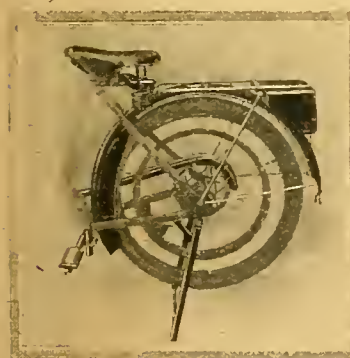
A Run on a Two-speed Enfield.

THROUGH the courtesy of the Enfield Cycle Co., Ltd., we recently had an opportunity of a week-end ride on one of the 2 $\frac{3}{4}$ h.p. chain-driven two-speed Enfield lightweights, and are pleased to give our readers the benefit of our experiences with it. We also append three illustrations of the details of this most interesting machine.



A part sectional view of the engine.

To commence with, it is particularly easy to control, owing to its efficient type of change speed gear and free engine. A handle is provided for starting, but we found it just as easy to put the lever in the low gear position, lift the valve, and push the machine along at a walking pace, when the twin-cylinder engine immediately fired and the machine could be mounted without the slightest exertion in the form of running to start.

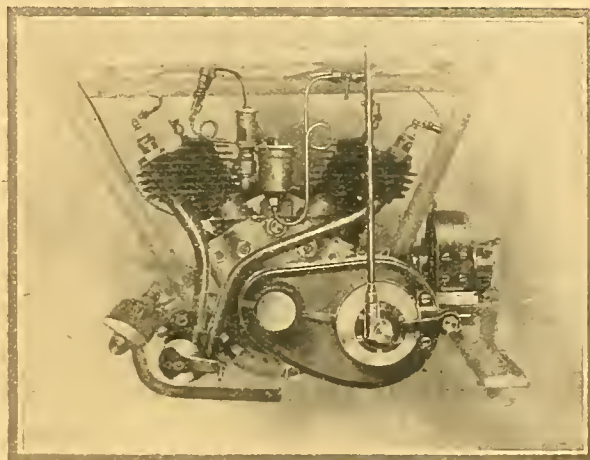


The rear carrier stand and extended wings to the mudguard. Observe the method of securing the toolbag.

Once under way, the change speed lever is pushed over into the high gear position, pressure being kept on it until the high gear is well home. All semblance of jerkiness is removed on account of the friction clutch on engine-shaft, and while running at ordinary speeds the transmission is as smooth as if the machine were fitted with a belt. At very low speeds some slight difference may be detected, but it is so easy to change on to the low gear that no one would employ the high gear for slow running in traffic. The special form of magneto transmission fitted to the Enfield machine enables the spark to be retarded and advanced within its fullest range, whilst retaining the maximum heat of the spark. This is an advantage which can only be appreciated when controlling the machine in traffic or getting the last ounce out of it on a steep hill.

Some Useful Fitments.

Among the refinements fitted to the Enfield chain-driven mount may be mentioned a petrol gauge marked in quarter gallons, an oil gauge with red-coloured background, which shows the level of the oil much better than the ordinary type. As no pedalling gear is required on this machine, double footrests are fitted, so that the rider can change his



Arrangement of twin engine, change speed gear, magneto, and carburetter on the 2 $\frac{1}{4}$ h.p. Enfield.

position from time to time—a desirable feature when undertaking long rides.

During the time the machine was in our possession we did not have the slightest trouble with it, and we were considerably surprised at the speed that could be attained with an engine of comparatively small dimensions. As regards its hill-climbing qualities, these are well known, the combination of the chain drive and two speeds permitting any hill to be climbed which is met with in the ordinary course of touring.

Our trial, although not a lengthy one, was sufficient to cause us to part with the machine with considerable pangs of regret.

FURTHER SPEED TRIALS ON THE CLIPSTONE TRACK

The second series of open speed trials will be held by the Nottingham and District M.C.C. at Clipstone on August 19th, when there will be five open events. A special gold medal is offered for the fastest flying mile over this course irrespective of class of machine.



MANCHESTER RIDERS OF SINGLE-CYLINDER TWO-STROKE MACHINES.

A reader recently asked for experiences with the two-stroke Levis motor cycle, which has led F. Mahler, of Manchester, to send us the above photograph of four Levis riders in his district.

TWO HOURS' SINGLE-CYLINDER RECORD BEATEN.

ON Tuesday last week, Lieutenant R. N. Stewart, Queen's Own Cameron Highlanders, and Mr. F. A. McNab started at 4.16 p.m. from the railway straight at Brooklands in an attempt on the hour and two hours' records.

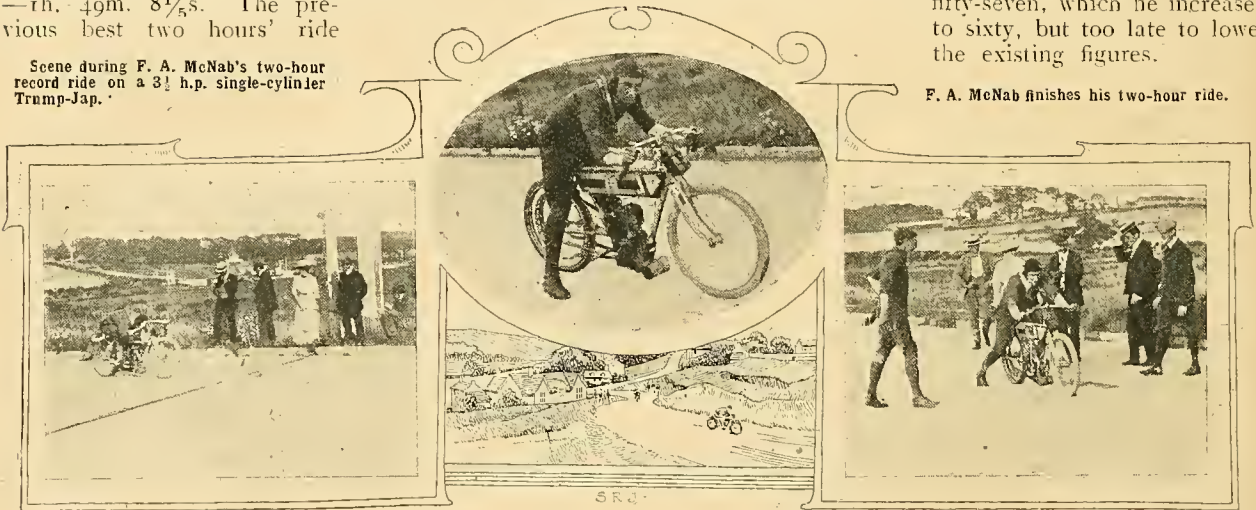
Stewart was going well and averaging well over 60 m.p.h., riding very close in to the edge of the track, but on the fourth lap he had to stop through the air lever becoming jammed. McNab was going at a slower pace, and was covering the laps at 2m. 50s. Almost at the end of his hour, Stewart, averaging about 59 m.p.h., stopped through the oil leaking into the petrol tank. McNab stopped about the same period to change his belt, which had become rather oily. The stop, however, was of brief duration, and the second hour saw McNab the holder of the two hours' record, having covered in that period 110 miles 297 yards. The 100 miles time is also record—1h. 49m. 8 $\frac{1}{5}$ s. The previous best two hours' ride

was by G. Lee Evans on an Indian, 82.5 x 93 mm., 499 c.c., on November 13th, 1909, in which he covered 108 miles 1,367 yards. McNab's mount was a Trump, fitted with the new J.A.P. engine, 90 x 77.5 mm. The machine was shod with Continental tyres, Dunlop belt, and Hellesen dry battery. He used Vacuum oil of a new brand known as "8.H.," specially made for racing machines. At the end of the hour, McNab's laps were as low as 3m., but he increased the pace to 2m. 55s. towards the end of the two hours; he would have made better time had it not been for a stretched valve. At the end of the fifth lap, McNab complained of being obstructed at different times in his attempt by carts leaving the aeroplane shed without warning, and by both pedal and motor cyclists.

At seven o'clock, Lieutenant Stewart, after fitting McNab's tank to his machine, made a further attempt on the hour record. He started at a speed of about fifty-seven, which he increased to sixty, but too late to lower the existing figures.

Scene during F. A. McNab's two-hour record ride on a 3 $\frac{1}{2}$ h.p. single-cylinder Trump-Jap.

F. A. McNab finishes his two-hour ride.



Lieut. R. N. Stewart starting on his one-hour record attempt.

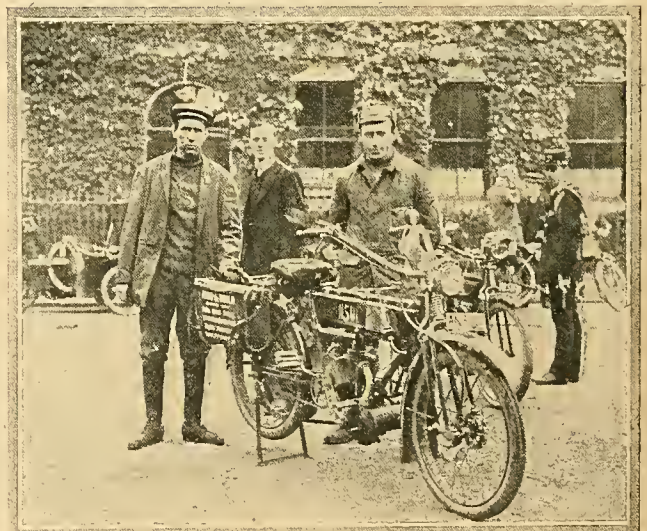
ROUND THE WORLD ON MOTOR CYCLES.

TWO interesting and interested persons were at the start of the last Quarterly Trials, on the 22nd ult., in William Streiff and James Esler, both Americans, at present engaged touring round the world on motor cycles. The former, it will be remembered, rode a 3 $\frac{1}{2}$ h.p. N.S.U. from San Francisco to New York, 3,836 miles, in twenty-eight days and three hours, under most inclement weather conditions.

Streiff is at present riding a 3 $\frac{1}{2}$ h.p. N.S.U. fitted with Peter Union tyres, Shamrock-Gloria belt, Bosch magneto, and is using Wakefield oil and Shell spirit. James Esler, his companion, is riding one of the now famous Indian machines.

Both these riders started from London on Thursday, July 20th, and intend to touch Newcastle, Edinburgh, Glasgow, crossing over to Ireland, then back to London, afterwards on to the Continent, touching France, Belgium, Holland, North Germany, Switzerland, Italy, thence *via* Russia back to America—an approximate distance of 5,000 miles.

Mr. Streiff thinks the roads in England are fine, but does not approve of police traps, and would like to be without the sharp turns in the roads.



Wm. Streiff and James Esler, both Americans, standing beside the former's globe-girdling N.S.U.



QUESTIONS & REPLIES

A selection of questions of general-interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Silencer Explosions.

Q My machine is a 1909 $3\frac{1}{2}$ h.p. magneto. Sometimes on switching off the current a loud explosion takes place in the silencer.

The same thing happens when switching on again. When the current is off and the throttle closed smaller reports are heard in the silencer. Can you explain the reason of this? The throttle lever does not close off the gas entirely.—J.N.M.

The explosion in question is caused by an unfired charge being pumped by the cylinder into the silencer, and, in the first case, fired by the hot silencer, in the other by the flash of the charge fired immediately afterwards, when the current is switched on again. Its volume is entirely limited by the extent of the throttle opening.

Overheating of Crank Chamber.

Q For the last week or two I have had the crank case of my $3\frac{1}{2}$ Fafnir overheat badly. I can quite understand it getting a little warm, but now it gets too hot for the hand by a long way, and retains its heat long after the cylinder is cold. The compression is quite good, and everything else is apparently in good order.—C.J.P.

We should advise you to remove the cylinder and to examine carefully the joint of each piston ring. In the event of one of these being broken, or in the event of the rings themselves leaking through their bearings surface, the crank chamber would get hot in exactly the manner described, and it would eventually upset all the bearings and the cylinder.

Incorrect Magneto Timing.

Q I have great difficulty in getting my $3\frac{1}{2}$ h.p. four-cylinder F.N. 1907 model machine to start. It begins to fire in one or two cylinders after I have travelled about 200 yards downhill. The machine runs well when warmed, but when spark occurs 6 mm. before top of stroke, it has no power on hills. This timing is correct. However, when machine is warm, it will start much easier, so it would seem as if carburetter is at fault. The points of the sparking plugs are set at .5 mm. I have throttle two-thirds open, and extra air shut.—H.G.

We think that if you were to time the spark so that with the lever almost retarded it occurred on the dead centre, you would get better all-round results. Any machine would start a good deal easier

when it is warm, but it is conceivable that an additional device for shutting off some of the main air running past the jet might be of service in this direction. .5 mm. is probably a trifle large, and we should advise you to experiment with a slightly decreased gap. The adjustment of the inlet valves is all-important.

No Power.

Q I have a single-cylinder machine with a.o.v., accumulator ignition, and Longuemare carburetter. It is rather hard to start, and when started goes for about one mile on the level without any extra air, gradually slowing down and finally stopping. If I give a little extra air the machine, instead of increasing speed, stops altogether. It is also accompanied by sudden cracks, but no misfires, and engine becomes rather hot. Compression is very good, the spark is perfect, and the valves are all right. What is the matter?—R.S.W.

We should advise you to remove the jet and examine it for any slight stoppages which may occur in one of the numerous slots of the Longuemare carburetter. At the same time, care must be taken to

CLIMBING ARTHUR STREET,
EDINBURGH, WITH ITS
NOTORIOUS GRADIENT
OF 1 IN 31.



THE
DOUGLAS AND RUDGE
SCOTTISH
TRIALS TEAMS.

notice that the throttle is actually fastened to the lever which operates it, and that it opens and closes with the hand lever. A modern piston-controlled carburetter would be an improvement.

Knocking at Intervals.

?

On a recent Sunday I came from Streatham to Dover in two and three-quarter hours. The last mile or two of the journey I could hardly proceed at all because, although I retarded the spark, it would knock badly. This, I concluded, was due to overheating. But now comes the peculiar part: I stayed at Dover four hours, and, of course, the engine got quite cold, but when I left there the knocking began again and continued till I got to Sandwich, where I had to stop for the toll man to let me through the gate (waited about ten minutes, as he was in bed). Then when I left Sandwich to my very great surprise there was no knocking, and there has been none since—why was this? I am an experienced rider and gave the machine plenty of air all the time.—H.N.

The only thing we should be inclined to put the knocking down to would be a detached point belonging to the sparking plug, pre-supposing that you were using one with a multitude of points, which had become incandescent, and was firing the charge in advance of the electric ignition. It is just possible that this lodges in some places where it would be exhausted with the mixture, and consequently the knocking ceases. We should imagine this was considerably more probable than the carbon deposit theory, and, of course, it can be easily verified by a glance at the plug. In the event of it not being the plug point, it would not be a bad plan carefully to examine the cylinder casting and see that

there is no minute projection in any part of the valve pocket or the top of the cylinder which might, under certain circumstances, become incandescent for some time, as this has been known to cause similar trouble in other machines.

Missing at Speed.

?

I should be very much obliged if you would kindly advise me as to my trouble. When on the road doing about 30-35 m.p.h. my machine runs splendidly, but on opening out it puts on another 3 or 4 m.p.h., and then starts missing badly, as much as four and five explosion strokes at a time. On coming to a hill it slows down a bit, but the firing is as good as ever, and it climbs well. This fault is not in the plug, as it is the same with a new one. The valves, I know, do not stick.—M.W.L.

We are of the opinion that your trouble is due either to a very weak exhaust valve spring, which allows the valve to float when the engine is turning round fast, and working in a normal manner when the speed falls. There is also a possibility that the petrol pipe is slightly too small in bore to allow a sufficiency of petrol on full throttle. From your remarks we should gather that you could do with a slightly larger jet. You do not mention ignition; probably the contact points are in need of attention.

READER'S REPLIES.

Regular Running at Slow Speed.

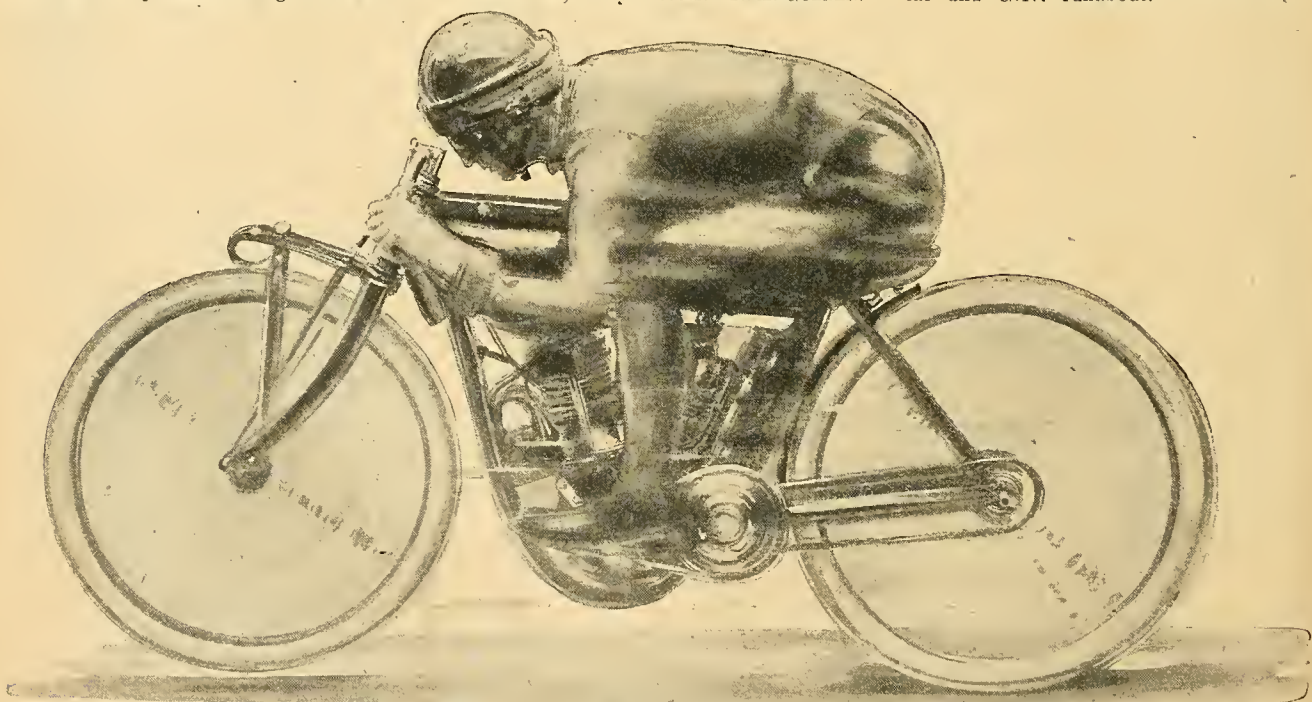
May I suggest that "A.A.U." tries a small extra air hole in the front cylinder inlet pipe of his Douglas, as it appears the momentum of the air causes the back cylinder to get more air than the front. This is, of course, presuming that valves and ignition are O.K. Wishing *The Motor Cycle*, from which I have gleaned much information, every success.—R. E. GOLDEN.

Referring to the difficulty experienced by your correspondent "A.A.U." re misfiring of the back cylinder of his Douglas, the symptoms point to the back cylinder getting a weaker mixture than the front one. The reason is probably an air leak in the induction system, either due to the rear end of induction pipe being not screwed tightly down to the cylinder, or to the so-called "compression" tap over the inlet valve being partly open or leaky. If "A.A.U." will search for leaks on these lines, I think he will be able to secure even firing at anything down to five m.p.h., assuming that, as he says, the spark and valves are all right.—S. J. TAYLOR.

"A.A.U." should first make quite sure that his valve spring tensions are equal, as described on page 49 of the "Douglas Motor Book." Then, when the machine is running, act as follows: (1.) Retard the magneto lever a little. (2.) Fully close the extra air short lever. (3.) Bring back the long throttle lever as long as firing continues regular. (4.) Put the foot on the brake. Under this treatment the Douglas will travel as slowly as four to five miles an hour on top gear, or three to four miles an hour on low gear, provided the inlet springs are of equal tension and the carburetter has not been tampered with. I have just given the Douglas E model a thousand miles of Dartmoor testing, and I have nothing but praise to offer. The engine responds to the slightest touch of the lever, and travels anything from three to thirty-five miles an hour, taking every hill under right treatment. My five years' experience with the heavyweight pales before the pleasure given by the little Douglas.—CO 475.

EXPERIENCES WANTED.

"A.K." (Oxford). 1911 5 h.p. Indian.
"R.B." (Blackpool). Turner petrol car and G.N. runabout.



LIKE A FLASH! AN IMPRESSION OF JAKE DE ROJIER AT SPEED.

THE SCOTTISH SIX DAYS' TRIALS.



OUR last issue dealt with the incidents of the first day's run from Edinburgh to Aberfeldy—173 miles approximately—which included the ascent of Rest and be Thankful—but we repeat the list of competitors who lost marks on that day so that the trial may be more easily followed.

Class 1.—Marks lost: Hay, 60; Gerard, 60.

Class 2.—Marks lost: R Downie, 18; Mouat, 8; Donaldson, 60; Alexander, 49; Pratt, 33; Bostock, 60; Scott, 60; Pennington, 60; Silver, 17; Fontaine, 60; MacGregor, 60.

Second Day.—106 Miles, including Cairn-o'-Mount.

The first excitement on Tuesday morning consisted in the belated arrival of Allan Hay, Donaldson, and Gerard, who turned up just before breakfast. They were delayed at Arrochar until dark on Monday, and crossed the perilous mountain road by night. The three men had but one lamp between them, and that was carried by Hay, who had no brakes. Hay's trouble was punctures. Donaldson's cylinder was noticed to be lifting at Arrochar, as his crank case had cracked across, but he merely complained that he was losing a lot of oil. However, he finally had to go back to the smithy at Tarbet, where the Scotch Vulcan improvised two large iron clamps. Gerard's magneto proved his *bête noire*. The trio had many adventures in the darkness. We had asked Hay at Edinburgh why he entered a 2 h.p. this year, since in 1909 and 1910 his 3½ h.p. had failed on all the hills. "Man," he retorted, "if she'll no climb, I can carry her, but I canna carry a 3½ h.p." True to his word he carried his Aleyon over the Rest, with some help from Donaldson. At 7 a.m. the three reached the Crianlarich Hotel in such a pitiable condition that they were refused admission. However, the compassionate proprietor provided them with breakfast in the street.

We had hoped for a fine day after yesterday's downpour, but the proverb which says "Always wear oilies in Scotland" was justified, for the heavy rain which had been falling most of the night soon recommenced. The judges added fifteen minutes to the standard half-hour for adjustments before starting, and several men found the extra time very welcome. Davies had broken his carrier at Kenmore on Monday, and it had cut his new Kempshall almost in half. He took out his rear wheel, fitted a new tyre, and repaired his carrier in the forty-five minutes. Others were equally busy, but everybody excepting poor Fletcher, whose timing gear stripped, was ready to start at 10 a.m.

The day's run was short, but undoubtedly severe, the roads varying from dry to greasy and from greasy to flooded during the 106 miles. We began by following the southern bank of the Tay into Dunkeld: the slimy surface and sharp corners were the only trouble here. The roads are so heavily cambered that it is unsafe to take a right-handed corner wide, and the unusual spectacle of expert riders cutting sharp right-hand corners fine along the inside camber was frequently visible. Several men took heavy tosses. Leaving Dunkeld a wicked V corner introduced us to a steep twisty hill with a treacherous surface; it witnessed many failures. The road improved towards Blairgowrie, and for a few miles the surface became dry and hard before Kirriemuir. This is a villainous little town entered by a short stiff hill, at the

top of which you twist sharp right and sharp left down narrow alleys. One well-known rider thought to treat the assembled crowd to a thrill, and tackling the hill at 40 m.p.h. hit a grid projecting 6in. from the roadway, over which his machine leapt a foot into the air, concluding with an S swerve, and a frightful crouching under the very eyes of the Chief Constable.

Torrents of Rain.

Leaving Kirriemuir for Edzell the rain recommenced, and this time the downpour was of the "clear-the-streets-in-ten-seconds" variety. The roads were soon awash, and belt-slipping was the order of the day. Poor Ware had a succession of six punctures in the driving wheel of his Chater-Lea sidecar. After lunch at Edzell engines were carefully nursed for the dreaded ascent of Cairn-o'-Mount, eight miles away. This hill is a far more genuine pimple than Rest and be Thankful. Although, like all Scotch passes, it conducts you to the summit in "steps," it is credited with an average gradient of 1 in 9 for two miles. When the entire countryside rises with the road, a stretch that looks like a level "landing" is probably 1 in 10 or 1 in 12. Anyhow it troubled the competitors exceedingly. The first mile's climb commences with a very bad knuckle, at which a proper rush is unobtainable; this brought the variably geared brigade off top speed with a vengeance. Then the grade undulates between 1 in 15 to 1 in 6 for a mile, until two hundred yards below the one level resting place a dreadful prospect saluted us. The road on a patch of 1 in 12 was covered with soft sand, mud, and broken bricks to a depth of eight inches for two hundred yards. A semi-practicable cycle track had been left at each side, but the rain had soaked this narrow avenue (not a foot wide) into the semblance of a ploughed field. We did not see one rider surmount this patch, but a labourer told us several men had backjumped



The start from Aberfeldy on Tuesday morning last week, on which day Cairn o'-Mount was ascended—in more ways than one!

The Scottish Six Days' Trials.

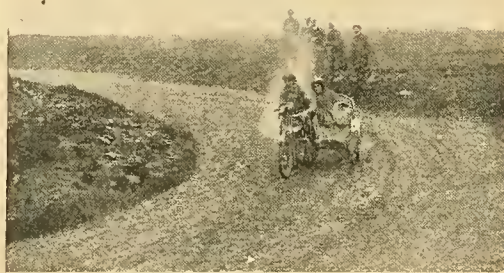
along the outer side, skirting the steep drop into the valley; most of us tried the right-hand side, and got stuck in a deep mud hole half-way along. After this nightmare a very little climbing brought us to a level patch, above which there is nearly a mile of heavy climbing, culminating in a double Devil's Elbow on a single figure gradient. Hereabouts many of the early failures got re-started. The impression is that not half a dozen men made clean ascents from bottom to top, but owing to the length of the ascent it was impossible to observe the riders' performances properly, and the subjoined notes of individual performances were jotted down at the Devil's Elbow just below the summit.

Observations on Cairn-o'-Mount.**CLASS 1.**

1. Allan Hay (2 Alcyon), not observed.
2. John Morrison (two-speed Douglas), failed below first bend, remounted, rounded second bend, kicking with his feet.
3. J. S. Holroyd (Motosacoche), rounded both bends finely with pedal-assistance.
4. F. Smith (5 Clyno and sidecar), excellent performance.
6. H. V. Colver (two-speed Enfield), failed first bend, remounted, took second bend well.
7. P. Phillips (two-speed Douglas) rounded both bends well, kicking with his feet.
8. E. B. Ware (8 Chater-Lea and sidecar), excellent performance.
9. W. B. Gibb (two-speed Douglas), got up kicking hard with both feet.

CLIMBING CAIRN-O'-MOUNT.

17. G. T. Gray (3½ Rudge with N.S.U. two speed gear), very fine climb indeed.
18. A. Hill (3½ Rudge with N.S.U. two-speed gear), almost stopped first bend, conked out at second bend.
19. Smith (8 Bat), very fine climb.
20. R. Downie (3½ Brown), excellent.
21. F. Downie (3½ Ariel), had a good wind, ran alongside for 100 yards.
22. Mouat (3½ Rudge with N.S.U. two-speed gear), fast, pedalled to relieve slipping belt; one could smell the charred leather.
23. Donaldson (4½ Norton), the star performance of the day; his huge single-cylinder engine (82×120 mm. Norton) came up very fast and quite smoothly.
24. Alexander (3½ two-speed Humber), stopped lower down, got up with kicking.
25. H. G. Dixon (3½ three-speed New Hudson), came up well with the aid of kicking and pedalling.
26. W. Westwood (3½ T.T. Triumph), excellent.
27. Geo. Bell (3½ three-speed New Hudson), pedalled at second bend.
28. Pratt (3½ two-speed Humber), pushed round first bend, remounted, and got up kicking.
29. Bostock (3½ three-speed New Hudson), failed first bend, remounted, good round second bend.
30. Scott (3½ B.S.A.), not observed.
31. W. H. Elce (3½ Rudge with R.-W. gear), excellent.
32. C. S. Burney (3½ Rudge with R.-W. gear), excellent.
34. Pennington (3½ T.T. Triumph), good, but kicked a little.



(2) J. Morrison (8 h.p. Bat-Jap).

(4) Frank Smith (5-6 Clyno and sidecar).

(1) S. Fontaine (Quadrant).

(3) L. Pennington (T.T. Triumph).

(5) E. B. Ware (8 h.p. Chater-Lea and sidecar).

10. Gerard (two-speed Enfield), broke his chain below first bend.

CLASS 2.

11. Thomson (8 Bat), excellent.
12. B. H. Davies (3½ Rudge with N.S.U. two-speed gear), seized low gear halfway up hill, pushed remainder.
14. C. MacGregor (5 Bat), sooted plug several times on hill, took bends well.
15. Dr. Dibb (5 two-speed Rex), failed first bend, remounted, took second bend well.
16. Reay Morrison (5 Bat), fast, ran alongside on second bend.

35. W. Houghton (3½ Rudge), excellent on first bend, was unluckily baulked by a slower rider at the second bend.

36. T. Silver (3½ Quadrant), failed, but got going again, had a trying time.

37. Fontaine (3½ Quadrant), similar performance to Silver's. The following have lost marks on Tuesday's run:

CLASS 1. E. B. Ware 28 and Gerard 30.

CLASS 2. Smith 36, R. Downie 34, Mouat 26, Donaldson 60, Alexander 60, and Silver 20.

The following have lost no marks at all up to date:

CLASS 1. J. Morrison, J. S. Holroyd, F. Smith, H. V. Colver, P. Phillips, and W. B. Gibb.

Scottish Six Days' Trials.—

CLASS 2. Thomson, B. H. Davies, Dr. Dibb, R. Morrison, G. Gray, A. Hill, F. Downie, Dixon, Westwood, Bell, W. Elce, C. S. Burney, and W. Houghton.

Allan Hay is the only starter not yet arrived.

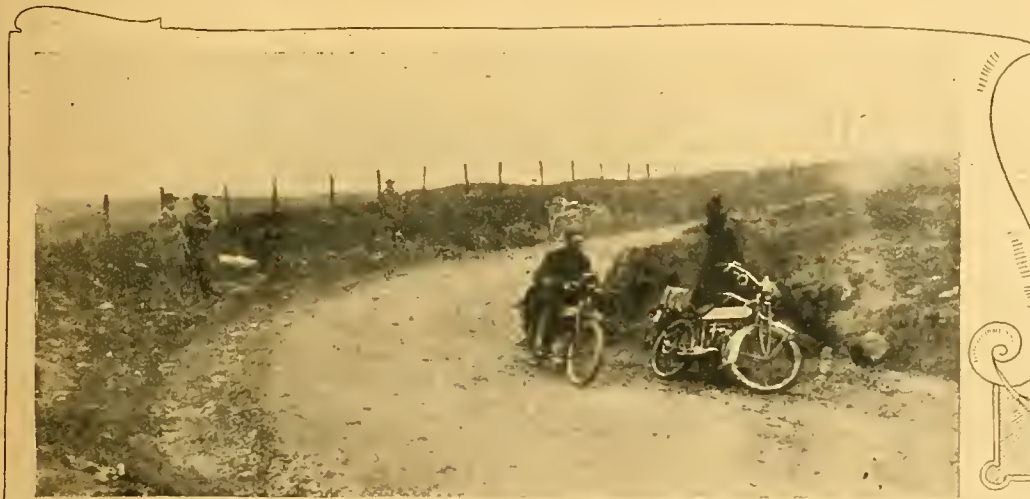
Whatever happened amid the privacy of the foothills, most of the riders reached the summit a long way behind time, and judging from their language on the score of rubber belts and wet weather, I could make a shrewd guess at the commonest cause of failure. Nor was the next section adopted for picking up lost time. For sixteen miles the road was undulating, rough and twisty. It was composed of a soft red sandy material, in a state of liquefaction, scarred by deep ruts, and the tracks showed that the machines had been jumping about in the most vivacious fashion, while deep slashes in the soft mud at every corner proved that spills had been frequent. However, the rain had ceased, and fifteen miles from Aberdeen we ran on to a hard, dry, broad, and straightaway highway. Here—for the first time in the trial—we had a chance to make up time, and "Teeteeing" was freely indulged in. I regret to say that more than one machine came near covering these fifteen

Inverness on a score of occasions, and has always found it either raining, or leaving off raining, or just beginning to rain. To-day it was dry whether in honour of the Trials or of the Show deponent knoweth not.

Allan Hay got in late last evening, having driven his Alcyon up Cairn-o'-Mount with a couple of rests to cool Gordon Fletcher turned up smiling at 5.30 this morning, and has recommenced to run officially. He took his Douglas to Perth by train, had a new timing pinion made, rode back to Aberfeldy, and started at 8 p.m. on Tuesday to cover the route on which we had started at 10 a.m. His impressions of the Cairn—ridden in darkness—were iroid. It remains to be seen what view the judges will take of the fact that his machine did not cover a few miles of Monday's route under its own power; but as he is permitted to check in, he will presumably be awarded a bronze medal if he finishes.

Third Day's Run Easy by Comparison.

As to-day's run was childishly easy, incidents were few and far between. Elce lost his way, and had a heavy fall while scrapping to regain lost time, cutting his hand so severely that a doctor's services had to requisitioned. The



C. S. Burney (Rudge) at the first bend of Cairn-o'-Mount, which long ascent unseated a great many competitors

miles in fifteen minutes. I even saw three riders with their heads down doing a good forty-five miles per hour along the tramlines into the Aberdeen control. The secret history of many a gold medal for "reliability" would be interesting reading, and a little "T.T." experience comes in handy when one has pushed up a two miles hill.

Wednesday's Run, Aberdeen to Dingwall, 140 miles approximately.

To-day's run was a perfect picnic after the trying roads and weather of Monday and Tuesday. We had only 143 miles to cover, and except for a few light showers the weather was fine. The roads were broad, hard, and practically level, though in many places they were atrociously bumpy, owing to the heavy traction engine traffic between the distilleries and the railway; wherever trees overhung the road, there were real possibilities of a bad skid. Leaving Aberdeen at 9 a.m., we cut across in a N.W. direction to touch the sea coast at Banff, and then hugged the coast-line *via* Elgin and Inverness into Dingwall. The scenery was very tame as far as Forres, which was disappointing in view of the fact that we were unable to take our eyes off the road on Monday and Tuesday. After Forres there was plenty to look at. The route was very scantily marked with arrows, and many of us went astray on several occasions.

Inverness Actually Fine.

The traffic in Inverness was very heavy, owing to the Highland Show. The writer has previously visited



Just over the steepest portion of the climb.

machines I saw most of during the day's run were the Big Bats, the Ridges, the Douglasses, and Colver's Enfield. The gigantic Bats reel off the miles at high speeds, with their engines barely ticking round on 3 to 1 gears, but Thomson had his front wheel bearing out at Inverness. Fast as the Bats are, the tiny Douglasses keep level with them, in spite of only being geared 6 to 1 on top. These rapid little engines can touch 40 m.p.h. on this gear. Colver's Enfield is always spluttering away in the van, its exhaust having the true Junior T.T. crackle. Houghton's Rudge is another very fast machine, being a single-gear T.T. model

The Scottish Six Days' Trials.—



The team of Rudge riders in the Scotch Trials.

with dropped bars and cellar door filler holes. This rider is usually half an hour ahead of time at the controls, and has shaken many of his fittings to pieces by hard driving, but considering that he has only a single gear, he is putting up a very fine performance, especially on the hills.

A Series of Serious Troubles.

Several riders have had serious trouble along the road. Gerard has thrice broken the driving chain of his Enfield, and when last seen he was coaxing a lady cyclist to let him remove sundry small bolts and washers from her machine to mend his chain with. Bostock is not in yet, having suffered a host of minor troubles with his Humber. His engine developed a squeak, which he ascribed to a broken piston ring. In removing the cylinder he twisted the compression tap in half, and wasted a long time in obtaining a bolt to fill the hole. One of the cars accompanying the trials broke its petrol pipe, and after a long ride on a borrowed bicycle the driver unearthed a blacksmith, who said he could mend it. After an hour's work the repaired place bulged like a graft on a fruit tree, and on being removed from the vice promptly fell in half. The exasperated owner asked the smith if he had ever used a soldering iron before. The smith scratched his head, and admitted that "he mended a bucket fifteen years ago!"

McGregor's Misfortunes.

Campbell McGregor has now forfeited all his marks, and is riding along comfortably, with no hope beyond the finisher's award. He broke a big end bearing of his Bat a week before the trials, and at the end of last week had to train up to London and back for spare parts. He just got his engine reassembled in time to start, but it was in very poor form, and he was gradually tuning it up throughout Monday's run. As a consequence, he had many stoppages on the hills, and when he tried to run alongside on the stone-strewn grades he fell over, being a small light man. He had six tumbles from this cause on a single hill—the very awkward climb beyond Dalmally. These falls bent his front forks, and when he scrapped into Aberdeen last night his front wheel lay over at 75° with the machine vertical. Kind friends told him to drop his Bat on its other side a few times to straighten it, but he took the front wheel out this morning and cranked the forks true with a huge crowbar. His ill luck continued, for his adjustment pulley went wrong to-day. He procured a new flange from somewhere, but it did not fit, and the delay in getting the thread combed out cost him another 60 marks. So he took matters easily, and went to a concert in Inverness.

How Cairn-o'-Mount Troubled some of the Competitors.

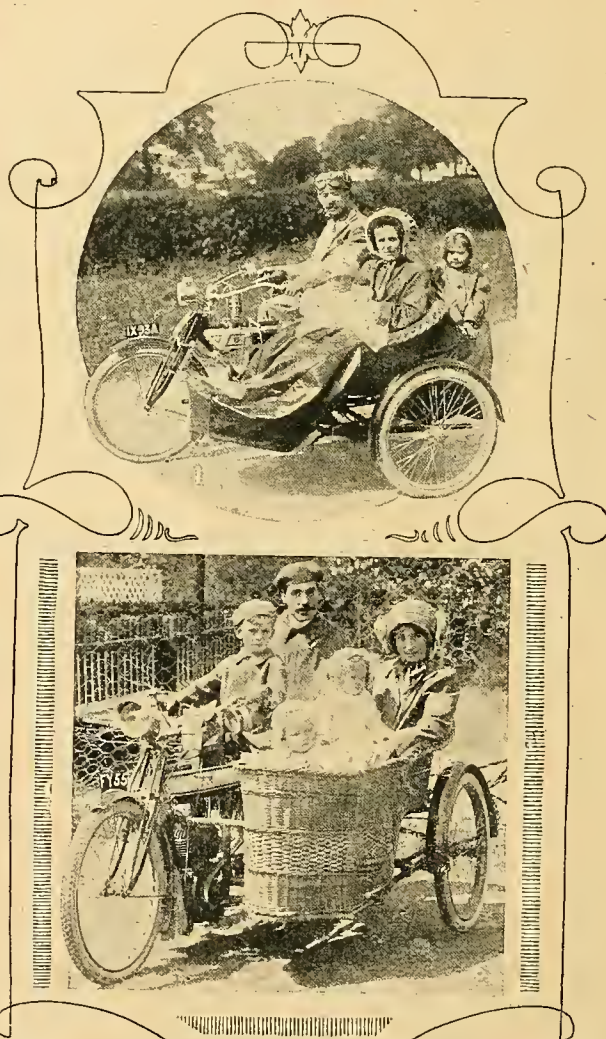
A. D. Scott (single-geared B.S.A.), who was missing last night, is rumoured to have withdrawn, after nearly killing himself in trying to push up the last mile of Cairn-o'-Mount. Davies and Silver looked very exhausted last night for the same reason. Davies had scrapped the Rudge handle-bar

wire control of his N.S.U. gear in favour of the German tank lever type, and hopes to have no further trouble with the gear. He has had a trying time, as he pushed up the last mile of the Cairn on Tuesday, owing to gear troubles, and on Monday his carrier broke and gashed his Kempshall cover through to the canvas all round. However, by hard riding he avoided loss of marks on both occasions. The slower riders report having encountered heavy rainstorms to-day, which the earlier starters and faster men escaped.

Wednesday's Marks Lost.

The following have lost marks to-day [it should be noted (a) that nobody can lose more than sixty marks in one day, however late he arrives; (b) that gold medals are awarded only to those who lose no marks at all; (c) silver medals to all losing less than seventy-five marks; (d) bronze medals to all who finish after losing seventy-five marks or more]. List of marks lost: Hay 60, Gerard 60, McGregor 60, and Bostock 60.

The difference made by easy roads, devoid of hills, and by good weather, is thus amply demonstrated; nobody lost a single mark except these four men, who experienced serious mechanical troubles.

FAMILY SIDECARS.

(1) W. Edgar, of Hull, and his 3 h.p. Bradbury with N.S.U. gear and sidecar.

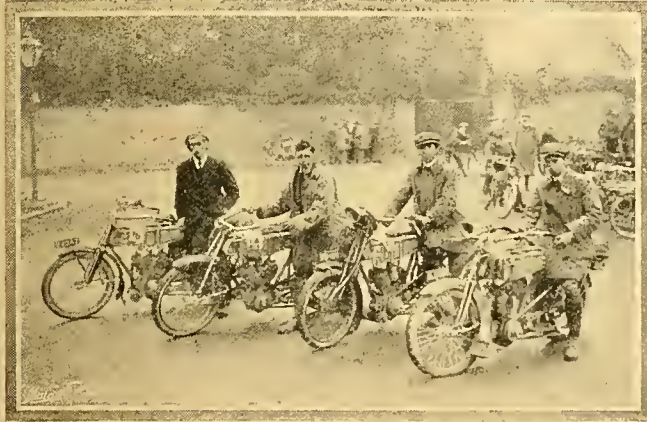


(2) Rowland Hill, of Southport. His machine is a 5 h.p. Norton with Montgomery sidecar, which usually carries four persons.

The Scottish Six Days' Trial.—

Fourth Day.

The Scottish Trials lived up to their reputation to-day in every respect except weather. The scenery was absolutely superb, according to those who travelled in the back seat of the official car. All the motor cyclists had to keep their eyes glued to the road, and could see little else. Fortunately,



The Lat Team—which included S. J. Thompson, C. McGregor, R. Morrison, and R. S. Smith—at the finish of the Scottish Trials.

the sun shone brilliantly for most of the day. Had the entire route been wet, few would have escaped loss of marks. After leaving Dingwall, we proceeded by a magnificently broad and smooth road into Strathpeffer, four miles away; the road then narrowed and became loose and cornersome as far as Garve.

Eighty Miles—A Nightmare.

A little way beyond Garve we turned down a narrow, grass-grown, rock-strewn cart track, and the going was simply villainous for about eighty miles. The narrow track wormed in and out between lochs and mountains, dropping and rising at Nature's behest. Most of it was bordered by a deep ditch on one side and a giddy precipice on the other. The six-foot "fairway" between was freely scarred with deep ruts and potholes, twisted into the craziest hairpin bends, zig-zagging across countless humpbacked skewbridges, etc. One rider said he had never imagined such a road in a nightmare, even after partaking of dressed crab and porkpie at midnight. The surface was indescribably bad. The road's central hump was generally piled with loose 2in. granite lumps, protected on either side by deep ruts of soft red loam, outside which large potholes, full of water or rubble, warned you to keep away from the ditch or precipice. No wonder that spills were frequent, and serious smashes not altogether unknown. The men never knew what was in store round the next corner. To quote three surprise packets: near Poolewe a wicked corner ended in twenty yards of loose broken granite a foot deep; at the apex of Gruinard Bay a sand-drift a foot deep guarded the approach to a skewbridge; and past Gairloch Hill a bad hill that needed rushing had a patch of deep quagmire clean across it halfway up. Each of these claimed its victims. Understand me, the going was not so bad but that a crack rider on a good machine could average a speed in excess of legal limit; but at all points a mistake was literally perilous, and the tracks of the wheels showed that skids, wobbles, and spills had been innumerable. As regards hill-climbing, the difficulty of Little Gruinard has been much exaggerated. The skewbridge at the foot is so far from compelling a standing start that many of us got round at 30 m.p.h. The gradient is not excessive, and the hill is short, while the surface is quite fair (for Scotland, *bien entendu*), though stony round the bend at the top. Poolewe Hill was actually the more trying ascent of the two to-day, for the wind was roaring straight down it at 40 m.p.h., while Gruinard was sheltered until we rounded the bend, where the wind hit us flop! The three-mile climb beyond Kinlochewe was also a severe test in the teeth of the gale. Most of the riders seemed to find the first twenty-five miles past Gairloch Hotel more trying than anything else, as the grease in the pine forests was exceptionally treacherous.

Some of the Victims and their Fate.

It was fine when we started, but dour black clouds, patched with a ghostly white light, hung round the mountain tops, and seemed to threaten rain. In Strathpeffer we saw the evergreen Alan May worsted by a quite trivial gradient. A little further on Gibb had the worst of an argument with a skewbridge, and has ever since been trying to borrow a footboard. Presently Davies was seen mending a couple of punctures, and various other riders were busy straightening out footrests, etc., after tumbles. The vanguard were half an hour early at the first check, as usual, undaunted by the bad going, and by nipping on to their machines had the best of an enterprising petrol salesman, who wanted to charge each man 2s. 6d. for a about quart of petrol on the ground that he had no measure. We were all filling our tanks brimful wherever we saw a petrol can, as considerable doubt existed whether further supplies would be obtainable for 100 miles or so; these regions are considered quite populous if there is a shepherd's hut every ten miles, and for leagues together we did not see a soul. Nineteen miles before lunch came the aforementioned ascent of Little Gruinard, about which a well-known sidecar owner had created a perfect scare. In reality it is a fairly simple climb, and most of the men made light of it, the far worse surfaces previously encountered having prepared us for its scanty sprinkling of small stones. As it was an "officially observed" hill, I append individual notes:

Notes on Little Gruinard Hill.

CLASS I.

Excellent.—J. Morrison, F. Smith, G. L. Fletcher, P. Phillips, E. B. Ware, W. B. Gibb, and J. Gerard.

J. S. Holroyd.—Clean ascent, but not without pedal assistance.

Colver ran alongside up part of the straight, but remounted before the corner.

CLASS II.

Excellent.—Thomson, Davies, McGregor, Dibb, R. Morrison, Gray, Hill, Monat, Dixon, Westwood, Bell, Elce, Burney, and Pennington.

R. S. Smith came up fast, cut out at the corner, and stuck immediately above it.

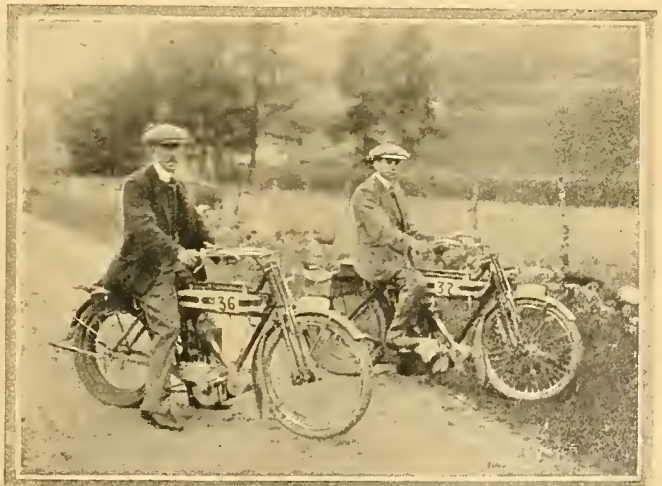
R. Downie pedalled all the way, and stuck just round the corner. His brother pedalled up the entire distance, but had sufficient breath to remark "Fine view" to the judges, as he plugged round.

M. Pratt was slow but sure.

Houghton came up very fast, lifted his valve at the corner, and conked out when the gale struck him through the gap above.

Silver and Fontaine both came up very fast; both skidded on the loose stones at the corner, and came off.

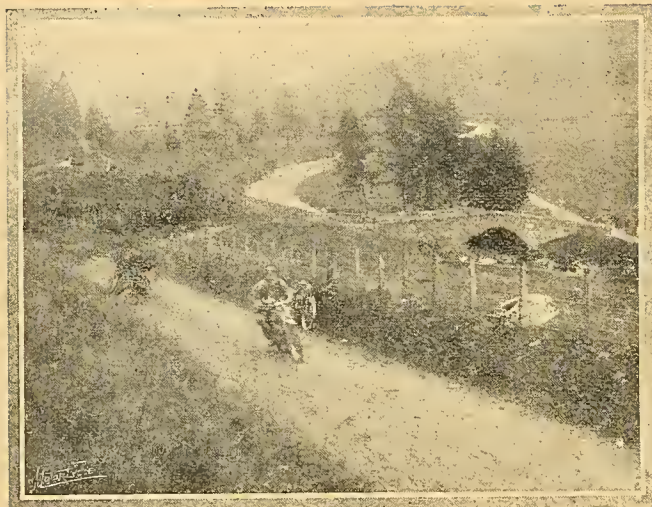
Hay, Donaldson, Alexander, and Bostock had not arrived when the judges' car left the hill.



S. Fontaine and T. Silver, who rode $3\frac{1}{2}$ Quadrant machines in the Scottish Trials which came to an end last Saturday.

The Scottish Six Days' Trial.—

Fifth Day.



Scottish Six Days' Trial. A. F. Downie (3½ h.p. Ariel) on Amulree.

One individual was indeed heard to remark, "If this is Little Gruinard what must Big Gruinard be like?" but as his engine was out of tune, his surmise may be ignored.

Lunch at the Gairloch Hotel on the shore of a magnificent loch, open to the sea, came as a pleasant relief, and most of the men were creditably inside maximum time, the "scare" having led us to expect much worse than we got. We were charged 1s. 10½d. a gallon for Ross petrol, which is only 1s. in less outlandish places; the faces of the sidecar and car men were a study, as they needed several cans apiece. After lunch we had twenty-five miles of dreadful going, after which the road became tolerably good, and as the district was uninhabited, high speeds again became the order of the day.

Reverting to individual incidents, Graham Dixon has been the most unlucky. A red car forced him off the road among the mountains, and his back wheel was buckled. He rode on to within four miles of Dingwall, where a 6in. arc of the rim cracked clean off. Ware's sidecar played the Good Samaritan, and brought in both Dixon and his machine in addition to its usual load. Fontaine came over very heavily through taking a stony hair-pin near Auchnasheen at high speed; he is badly cut about. Davies mended two punctures and took out his back wheel to fit his third cover since Monday, all without once being late. Donaldson is reported to have smashed up his Norton near the foot of Little Gruinard, and was last seen carrying his machine into a solitary house there quite early this morning. Some anxiety is felt about Bostock, who is reported to have charged a cottage at Poolewe, while no news is obtainable of Alan Hay, but we never expect him till next morning when the day's route is severe. Houghton (3½ h.p. T.T. Rudge) has been disqualified for a breach of the rules at the Dingwall control, after finishing to-night.

The following have lost marks: R. S. Smith, 59; A. U. R. Downie, 60; G. A. Alexander, 60; Silver, 2; and Fontaine, 59. Hay, Donaldson, and Bostock will all be penalised 60 marks, if they arrive at all. Elce's pluck deserves special mention. He cut the guide of his left thumb in a smash yesterday, started in defiance of the doctor to-day, and rode all day practically one-handed.

To-day has again proved a regular nightmare. The arrangements were particularly bad, as the men were set to do one hundred miles before lunch, and in addition there was a delay of two and a half hours at Fort Augustus, for the purpose of the optional hill-climb up Glendoe. When the men reached Fort Augustus, no officials were present, and the timing telephone had not been laid down. Moreover, the road from Dingwall to Fort Augustus was poorly marked with arrows, and several riders went up to twenty miles out of their way, while those who adhered to the official route had considerable difficulty in keeping inside maximum time, owing to the indescribably treacherous surfaces, especially up Glen Urquhart. The first riders were free to leave Fort Augustus at 12.30 p.m., and they then had to cover a further sixty miles before lunch at Newtonmore, on the Grampians. A few patches of this road provided excellent going, but the greater part of the distance was soft, rutty, and slimy to a degree. Spills were frequent, and everybody had an exhausting time. The fastest men did not get in to lunch until 3.30 p.m., and had tasted no food since 6.45 a.m. breakfast. Hence complaints at the official arrangements were loud and numerous.

To revert to Thursday's run, Alan Hay got in at 1 a.m., having lost most of his time in ministering to Bostock, who smashed up his Humber through a bad wobble at high speed on a treacherous part of the road. Donaldson was not injured, as reported last night, but blew his cylinder off once more, and spent many hours at the Gruinard smithy. He and Hay had a thrilling ride over the perilous roads, with but one lamp to illumine their path in the gloom and rain. Houghton appealed against his disqualification, and has been allowed to continue the run, pending the official decision. Graham Dixon built a new rim on to his damaged wheel last night, and started this morning, but it presently collapsed again, and he has now finally retired. His partner, George Bell, on the other New Hudson, has had similar trouble with his front wheel to-day, and has also retired. E. B. Ware and B. H. Davies have had endless tyre troubles. Davies has used up three covers and four inner tubes in the five days, and, owing to his inflator connection breaking to-day, had to race into Newtonmore control with his back tyre practically flat. He presented a weird sight as he tore round the flooded road bordering Loch Loggan, rolling fearsomely all over the road, and sending out a whirl of spume from his front wheel like the bow wave of a motor boat. Several men have executed smart changes of covers on the road, Alan Hill getting his Rudge back wheel out and in again within eleven



The start on Friday for the Glendoe Hill-climb, a supplementary competition for which entrance was optional and the awards made separately.



E. B. Ware (8 Chater-Lea and sidecar) in Glendoe.

minutes. Houghton broke an exhaust valve, and Mouat a valve guide. Elce had to change a cover, and lost a lot of time through the collapse of a front wheel cone. Frank Smith and his sister are having an anxious time with their Clyno sidecar. They have not lost a single mark, and their machine has performed magnificently; but on Tuesday morning the outside crankshaft bearing fell off, and the engine driving sprocket has been kept in place for three days by the key only.

The day's ride falls into two sections—one hundred miles before lunch, and fifty-six miles after lunch. The former was perhaps the most exacting of the entire trial, owing to the greasy surfaces. Rain was falling when we left Dingwall, but the going was fast as far as Beaulieu. From Beaulieu to within ten miles of Newtonmore (one hundred miles away) a bad skid was always possible. A Bat rider drove in front of me for thirty miles with his feet trailing the whole way. Scarcely a hundred yards of the road was straight, the surface consisted of grease, deep soft ruts, and pools of water, while most of the corners were "blind." Quite half the men missed the turn for the bridge at Invermoriston, and travelled some distance towards Cluny. At Fort Augustus we were compelled by the foolish regulations to spend two and a half hours at the foot of a lonely hill, with no shelter from the rain, and no food, drink, or petrol available, after which we had to negotiate sixty miles of atrocious road before lunch at 3.30 p.m. Fortunately, we ran into sunshine near Newtonmore, and the run to Aberfeldy afterwards was quite a picnic. We coasted down off the Grampians along a road which is now broad and hard and smooth for most of the distance, having been absolutely transformed by an energetic surveyor since 1903, when I first pumped over the old road in vast discomfort. The sun shone brilliantly all the way home, and the Pass of Killiecrankie has never looked half so lovely.

The officials are keeping the times and formula results of the Glendoe hill-climb secret for the present, as they are to be combined with those of the Annulree climb to-morrow. The climb is quite distinct from the trials, being optional, with a separate entry fee. The climb consisted of 1,000 yards, averaging 1 in 7.54. The surface was a trifle stony, with one or two ruts; the wind was up the hill, and a short flying start downhill was given, though its benefit was cancelled by the grease on the bridge at the foot. Individual impressions follow:

CLASS II.

J. F. Morrison (Douglas).—Very fair; did not change gear all far up.

G. L. Fletcher (Douglas).—Excellent: apparently the fastest lightweight.

H. V. Colver (Enfield).—Only one cylinder firing on his first attempt; he conked out, but afterwards went up well.

P. Phillips (Douglas).—Excellent.

W. B. Gibb (Douglas).—Took the gradient easily.

E. B. Ware.—The powerful Chater-Lea sidecar devoured the gradient greedily.

S. J. K. Thomson (8 h.p. Bat).—Positively terrific ascent. Easily the fastest of the day. The spectators held their breath when the giant twin got in a rut for at least one hundred yards, and wobbled as if it must come over.

C. McGregor (5 h.p. Bat).—Steady but sure. Lost several seconds by taking the ditch well up the hill. The rider steered out again most adroitly.

R. Morrison (5 h.p. Bat).—Slow, and swayed a good deal.

G. Gray (3½ h.p. Rudge).—Went up easily.

B. A. Hill (3½ h.p. Rudge).—Bad start, but picked up grandly.

R. S. Smith (8 h.p. Bat).—Slow considering his power; cut out at all the bends, which are not difficult.

A. F. Downie (3½ h.p. Ariel).—Went up creditably.

J. Donaldson (5 h.p. Norton).—Good ascent.

W. Westwood (3½ h.p. Triumph).—Magnificent climb. Almost as fast as Thomson's 8 h.p. Bat. Easily the fastest single. Immensely creditable, considering the gruelling the machine has had in the trials.

W. Elce and C. S. Burney (3½ h.p. Ridges).—Good ascents. Burney's engine was noticeably misfiring.

W. Houghton (3½ h.p. Rudge).—Quite fast.

The following have lost marks to-day: Hay (still missing), 60; Mouat, 17; Alexander (not yet in), 60; Dixon and Bell have both retired; Elce, 60; Silver, 4; and Fontaine, 14. Special credit attaches to Fontaine, who was so cut about yesterday that he can hardly stand; to Elce, whose injured hand proved a great handicap in repairs to his tyre and front wheel bearing; and to Fletcher, who had a bad crack on the head, owing to the scales tripod collapsing while he was being weighed in at Glendoe.

Sixth and Last Day.

The last day of a trial is always the most anxious, and we all started in a half-concealed anxiety lest some serious trouble should crop up and nullify our week's hard work. The half-hour before the start from Aberfeldy was exceptionally busy. The back tyre of Frank Smith's Clyno outfit had split yesterday for 5in. along the bead, and he did well to fit a new cover within thirty minutes. Mouat replaced his broken valve guide, and Davies had a rare wrestle with his back cover. Overnight he had noticed the tube showing through a stone cut close to the valve, and it took three men to get the bead into the clinch. The weather was fine, and the first section consisted of the seventeen miles to the foot of Annulree Hill, up which an optional hill-climb was held, terminating below the first bad corner, so that riders to whom the hill was new should suffer no disadvantage. The officials conducted this climb with commendable promptitude, a strong contrast to the Glendoe muddle. The machines were weighed by Norman McMillan



A helping hand near Blair Athol.

The Scottish Six Days' Trial.—



Leaving Aberfeldy on Saturday. Alan Hay (2 h.p. Alcyon), G. Piggot (6 h.p. Zenith-Gradua), and one of the Douglas riders.

in the farmyard at the hill foot, and the trials were *en route* again in an hour. Judged by eye alone, the performances were as follows:

CLASS I.

Morrison (Douglas) misfired and stopped low down.

Fletcher (Douglas) good.

Colver (Enfield) excellent, took the skewbridge at the bottom better than anybody else.

Gibb (Douglas) good.

E. B. Ware (Chater-Lea sidecar) roared up. Hearing that no sidecar had ever made a clean ascent of Amulree, Ware continued past the timekeeper, and tackled the infamous S bend, but stopped above the first corner, as he had wrenched his handle-bar round in its socket. On returning to below the first bend he galloped up to the top in grand style.

CLASS II.

Thomson (8 Bat), a terrific ascent; the machine leapt clean off the ground on the skewbridge.

McGregor (5 Bat) distinctly fast.

R. Morrison (5 Bat) fast and workmanlike.

G. T. Gray and B. A. Hill went up well on their Ridges, but lost time through tackling the skewbridge very cautiously. They picked up well afterwards.

R. S. Smith (8 Bat) seemed nervous of the hill, and cut out his engine frequently; nevertheless made a fast climb.

F. Downie (3½ Ariel) went up fast in clouds of smoke.

J. Donaldson (5 Norton) went up beautifully; the big Norton single cylinder has a beautifully smooth hum on bad hills.

W. Westwood (3½ Triumph). His ascent was not to be compared with his Glendoe climb. Possibly he was over-gearred. Fast, but not so brilliant as in the other climb.

C. S. Burney (3½ Rudge) went up well considering his engine was missing one explosion in ten.

W. Houghton (3½ Rudge), apparently the fastest machine of this make.

About 11 a.m. we all got the word to continue on our way towards Edinburgh, and within 100 yards Davies was seen with his back wheel out fitting his fourth cover of the week. A flint got wedged in the stone cut sustained yesterday and gashed right through the stout gaiter into the inner tube. Alan Hay was for once well up to time, and his Alcyon roared down into Crieff with the pedals spinning round at 3,000 r.p.m. A little further on Elce was seen gingerly picking his magneto to pieces with his uninjured hand. He lost nearly an hour, most of which he afterwards recovered by fast riding. The ride into lunch at Callander was singularly lovely, the scenery along the wooded banks of Loch Earn and Loch Lubnaig being marvellously beautiful. Dry roads gave us almost our first opportunity to gaze about us, though now and again an atrocious pothole or a wicked hog-backed bridge brought our eyes back to the road with a

jerk. After lunch the ride into the finish through Stirling, Falkirk, and Linlithgow was abominably dull and bumpy, while a blinding drizzle drove in our faces for the last few miles, so that the dreary car terminus at Murrayfield outside Edinburgh seemed a veritable haven of rest. Here Messrs. Tolfree and McNullan overhauled the machines which finished, and at about 5 p.m. we were free to depart in peace. Men, machines, and clothing showed signs of the severe buffeting they had received. The route was undoubtedly easier than that of the 1910 trial, but the veteran competitors are inclined to regard the two trials as equally exacting in view of the fearful weather which has been experienced this year.

The competitors felt specially grateful to the Vacuum Oil Company, who by sending a car round enabled us to replenish our tanks when we were fifty miles from a garage; to the Anglo-American Co. for forwarding supplies of "Pratt's" to the most outlandish places and to the officials, for their uniform courtesy and kindness. Before recording the official results I should like to emphasise Frank Smith's wonderful achievement in driving his 6 h.p. Clyno sidecar outfit round this terrible course without losing a single mark. The feat is a record for the Scottish trials, no sidecar having previously gained even a silver medal, and the Clyno could not have put up such a faultless score if it had experienced trouble, for no passenger machine could hope to average more than twenty miles per hour on this route, and Smith plugged steadily away all the week at about this pace. Some of the credit goes to his passenger, Miss Evelyn Smith, who looked after the times and the route; the pair were greeted with a tremendous ovation at Edinburgh, as was the veteran Alan Hay, who did well to coax a single-gear 2 h.p. machine over such roads, and acted as Good Samaritan to all the injured, and general mirth provider to the men. One of the riders caught a hedgehog last night, and when a competitor went to bed after rather too many "wee drappies" of the native liquor, the hedgehog was put to bed with him, but the "wee drappies" were so potent that the victim did not notice his prickly bedfellow till next morning. Ware on the Chater-Lea sidecar would have equalled Frank Smith's performance but for never-ending tyre troubles. On Saturday alone he took his back wheel out seven times, and must divide with Davies the unenviable distinction of breaking all records for tyre troubles. His engine has run magnificently throughout, and has seldom required first speed, it conquered Glendoe on second gear with ease.

We should like especially to thank the Vacuum Oil Co. for their courtesy in placing a seat on their car at the disposal of our photographer who accompanied the riders throughout the trials. The official table of results and awards will be found on the next page.



Alan Hay arriving at Edinburgh on his 2 h.p. Alcyon.

The Scottish Six Days' Trials.—

OFFICIAL RESULTS.

Rider, H.P., and Machine.	MARKS LOST.							REMARKS.
	1st Day	2nd Day	3rd Day	4th Day	5th Day	6th Day	Total	
CLASS. 1.—								
J. F. Morrison, 2½ Douglas (2-sp.)	0	0	0	0	0	0	0	Gold medal.
P. Phillips, 2½ Douglas (2-sp.)	0	0	0	0	0	0	0	Gold medal.
W. B. Gibb, 2½ Douglas (2-sp.)	0	0	0	0	0	0	0	Gold medal.
J. S. Holroyd, 2½ Motosacoche (single gear)	0	0	0	0	0	0	0	Gold medal.
H. V. Colver, 2½ Enfield (2-sp.)	0	0	0	0	0	0	0	Gold medal.
F. Smith, 6 h.p. Clyno s.c. (2-sp.)	0	0	0	0	0	0	0	Gold medal.
E. B. Ware, 8 Chater-Lea s.c. (3-sp.)	0	28	0	0	0	25	53	Silver medal (tyre troubles).
G. L. Fletcher, 2½ Douglas (2-sp.)	60	60	0	0	0	8	128	Bronze medal (stripped timing gear).
John Gerard, 2½ Enfield (2-sp.)	60	30	60	0	0	0	150	Bronze medal (chain and magneto troubles).
A. A. Hay, 2 h.p. Alcyon (single gear)	60	60	60	60	60	40	340	Bronze medal (general trouble).
CLASS 2.—								
S. J. K. Thomson, 8 Bat (single gear)	0	0	0	0	0	0	0	Gold medal and fastest hill-climb prize.
R. Morrison, 5 Bat (single gear)	0	0	0	0	0	0	0	Gold medal.
B. H. Davies, 3½ Rudge (N.S.U. 2-sp.)	0	0	0	0	0	0	0	Gold medal.
G. T. Gray, 3½ Rudge (N.S.U. 2-sp.)	0	0	0	0	0	0	0	Gold medal.
B. A. Hill, 3½ Rudge (N.S.U. 2-sp.)	0	0	0	0	0	0	0	Gold medal.
C. S. Burney, 3½ Rudge (N.S.U. 2-sp.)	0	0	0	0	0	0	0	Gold medal.
W. L. Dibb, 5 Rex (2-sp.)	0	0	0	0	0	0	0	Gold medal.
A. F. Downie, 3½ Ariel (single gear)	0	0	0	0	0	0	0	Gold medal.
W. Westwood, 3½ Triumph (single gear)	0	0	0	0	0	0	0	Gold medal and formula hill-climb prize.
M. Pratt, 3½ Humber (2-sp.)	33	0	0	0	0	0	33	Silver medal.
T. Silver, 3½ Quadrant (single gear)	17	20	0	2	4	0	43	Silver medal.
R. H. Mouat, 3½ Rudge (N.S.U. 2-sp.)	8	26	0	0	17	0	51	Silver medal.
L. Pennington, 3½ Triumph (single gear)	60	0	0	0	0	0	60	Silver medal.
(with borrowed 1908 engine)								
W. H. Elce, 3½ Rudge (Rudge 6-sp.)	0	0	0	0	60	21	81	Bronze medal (tyres and magneto trouble).
R. S. Smith, 8 h.p. Bat (single gear)	0	36	0	59	0	0	95	Bronze medal.
A. U. R. Downie, 3½ Brown (single gear)	18	34	0	60	0	0	112	Bronze medal.
C. McGregor, 5 Bat (single gear)	60	0	60	0	0	0	120	Bronze medal (jammed adjustable pulley).
George Bell, 3½ New Hudson (Armstrong 3-sp.)	0	0	0	0	60	60	120	Bronze medal (wrecked front wheel rebuilt).
S. Fontaine, 3½ Quadrant (single gear)	60	0	0	59	14	0	133	Bronze medal (several falls).
FAILED TO FINISH, ETC.—								
J. Donaldson, 5 Norton (single gear)	60	60	0	60	0	—	—	Retired at Comrie on 6th day through broken crank case.
G. A. Alexander, 3½ Humber (2-sp.)	49	60	0	60	—	—	—	Retired at Blair Athol on 5th day with gear trouble.
H. Graham Dixon, 3½ New Hudson (Armstrong 3-sp.)	0	0	0	60	—	—	—	Retired at Fort Augustus on 5th day after collapse of rebuilt rear wheel.
A. G. Bostock, 3½ Humber (2-sp.)	60	0	60	—	—	—	—	Retired at Garve on 4th day (bad fall and gear troubles).
A. D. Scott, 3½ B.S.A. (single gear)	60	—	—	—	—	—	—	Retired at Cairn-o'-Mount on 2nd day, unable to get up the hill.
W. Houghton, 3½ T.T. Rudge (single gear)	0	0	0	0	0	0	0	Disqualified for breach of rules in Dingwall control on Thursday. Checked through to the finish, pending official confirmation of the travelling marshal's verdict.

HILL CLIMBS.

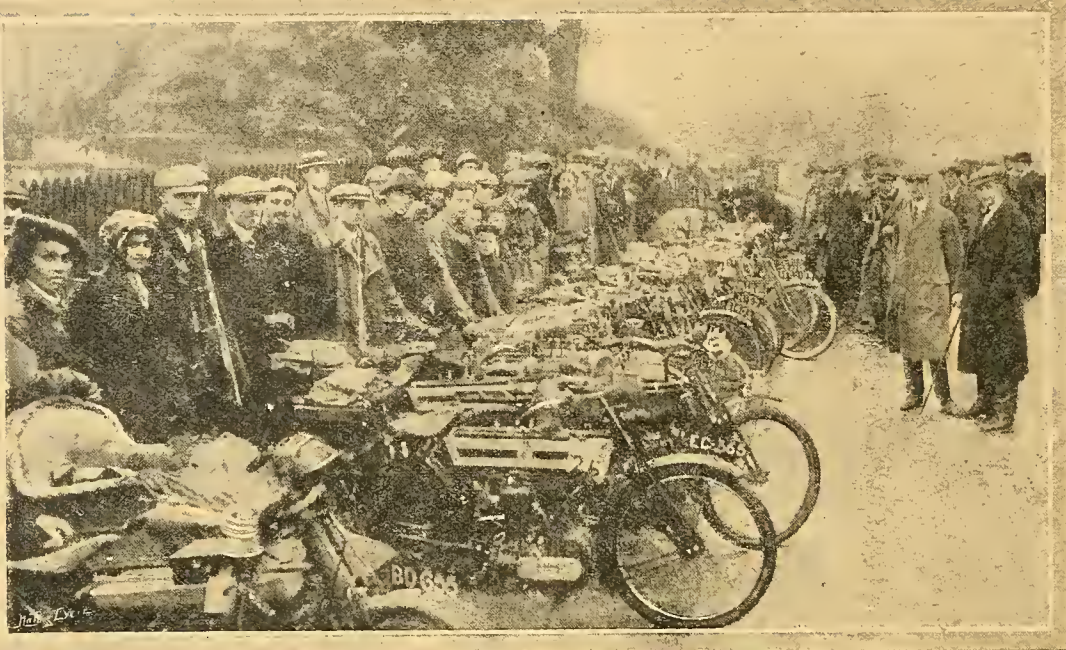
NOTE.—No rider was allowed to take a hill-climb prize if he lost 100 reliability marks. The times of the two climbs (Glendoe and Amulree) were added together, and put into a special formula. The big twins came out badly, because their riders were unable to let their machines out.

Rider, H.P., and Machine.	For- mula.	Time up Glendoe	Time up Amulree.
CLASS 1.—			
1. A. V. Colver, 2½ Enfield (2-sp.)	3809	1 43½	1 47½
2. W. B. Gibb, 2½ Douglas (2-sp.)	2724	2 3	2 3½
J. F. Morrison, 2½ Douglas (2-sp.)	—	1 51	Failed
P. Phillips, 2½ Douglas (2-sp.)	—	Failed	Did not start
*G. L. Fletcher, 2½ Douglas (2-sp.)	—	1 38½	1 43½
†E. B. Ware, 8 Chater s.c. (3-sp.)	—	1 42½	1 45½
CLASS 2.—			
1. W. Westwood, 3½ Triumph (single gr.)	6470	59	1 10½
2. G. T. Gray, 3½ Rudge (N.S.U. 2-sp.)	6289	1 10	1 15½
3. B. A. Hill, 3½ Rudge (N.S.U. 2-sp.)	6285	1 10	1 11½
4. C. S. Burney, 3½ Rudge (Rudge 6-sp.)	6213	1 15½	1 26½
Rider, H.P., and Machine.	For- mula.	Time up Glendoe	Time up Amulree.
CLASS II.—(Continued.)			
5. F. Downie, 3½ Ariel (single gear)	5913	1 8½	1 19½
6. S. J. K. Thomson, 8 Bat (single gear)	5339	54½	1 1
7. R. Morrison, 5 Bat (single gear)	5073	1 0	1 6½
8. R. Smith, 8 Bat (single gear)	2939	1 20	1 11½
*J. Donaldson, 5 Norton (single gear)	—	1 13	1 22
*C. McGregor, 5 Bat (single gear)	—	1 1	1 10½

The special prize for fastest time in the two climbs, added together, is awarded to S. J. K. Thomson, 8 h.p. Bat.

* Disqualified by losing over 100 reliability marks.

† Exhibition climbs.



The finish
of the
Scottish Trials
inspection of
machines
at Murrayfield.

EXETER AND DISTRICT M.C. OPEN HILL-CLIMB.

This hill-climb took place at Newt's Hill, Tiverton, last Saturday, and comprised nine events, for which there were a fairly representative number of competitors. The proceedings were marred somewhat by a severe thunderstorm, but this interlude was not allowed to interfere with the running off of the events. One or two of the competitors had narrow escapes from accidents owing to their inability to see their way in the lightning and rain. Some of the riders were timed incorrectly, but as they pedalled their machines on the hill it is not probable that their performances were of much importance. The club is especially indebted to Messrs. E. Gould, F. Dee, E. J. Hancock, and the Bros. Woodgate, as well as to the police superintendents for their kind assistance. The results on fastest time were as follows, the final results on the A.C.U. formula not yet being made known.

Event 1 (lightweights).—W. W. Douglas (2½ Douglas).
Event 2 (touring singles up to 500 c.c., and multi-cylinders up to 750 c.c.)—L. W. Broadbear (3½ Premier).
Event 3 (club lightweights).—H. P. Overmass (2½ Douglas).
Event 4 (touring singles with fixed gear).—C. Roper (3½ Ivy-Precision).
Event 5 (racing motor cycles up to 1,000 c.c.)—1, A. L. Ommaney (3½ Rudge); 2, A. M. Myott (5 Indian).
Event 6 (club singles).—F. T. Wilson (3½ Rudge).
Event 7 (racing singles).—1, C. Roper (3½ Ivy-Precision); 2, S. J. Saunders (3½ Rudge).
Event 8 (club multi-cylinders).—Cancelled.
Event 9 (club racing, any machines).—1, A. C. Hardy (3½ Norton); 2, R. Holloway (3½ Premier).
A. C. Hardy also wins the medal presented by Messrs. Nye and Co. for the fastest club time of the day.

ENTRIES FOR THE A.C.U. SIX DAYS' RELIABILITY TRIALS.

Rider and Machine.	Cyls.	
*W. Cooper (3½ Bradbury), 1		O. Godfrey (7 Indian, sc.), 2
*E. B. Ware (8 Chater-Lea and sc.), 2		*G. Whitworth (2½ Enfield), 2
*A. Robbins (3½ Humber), 1		W. Heaton (2½ A.J.S.), 1
*E. Colliver (3½ Zenith), 1		A. Stevens (2½ A.J.S.), 1
*C. C. Cooke (3½ Triumph), 1		*E. Merratt (3½ P. and M.), 1
*W. Wilberforce (3½ N.L.G.), 1		J. Crickmore (3½ Premier), 1
*B. H. Davies (3½ Rudge), 1		F. Edward (3½ Premier), 1
W. Douglas (2½ Douglas), 2		*G. Piggott (6 Zenith), 2
W. Douglas (2½ Douglas), 2		*S. Sawyer (3½ Premier), 1
R. O. Wells (3½ Bradbury), 1		F. Philipp (3½ Scott), 2
J. Tassell (8 Matchless and sc.), 2		L. S. Parker (3½ Scott), 2
A. R. Abbott (8 Matchless and sc.), 2		*J. Baker (3½ Scott), 2
H. H. Bowen (4 Bat)		F. Smith (5-6 Clyno—sc.), 2
H. Colver (2½ Enfield), 2		*C. P. Finn (2½ Enfield), 2
H. Greaves (2½ Enfield), 2		T. Pollack (3½ James), 1
R. W. Duke (3½ Zenith), 1		A. D. Arter (3½ James), 1
P. Weatherill (3½ Zenith), 1		C. S. Burney (3½ Rudge), 1
J. Haslam (6 Zenith), 2		B. A. Hill (3½ Rudge), 1
P. Shaw (3½ P. and M.), 1		*H. M. Jameson (3½ Zenith), 1
W. Pratt (3½ P. and M.), 1		*G. Ruscoe (2½ Forward), 2
*P. Moffat (2½ Douglas), 2		W. T. Munroe (3½ Rover), 1
*J. Baker (3½ Triumph), 1		C. T. Newsome (3½ Rover), 1
*C. Williams (3½ Triumph), 1		*P. Gront (2½ Douglas), 2
*F. Dover (3½ Premier), 1		F. Banks (3½ Invincible), 1
H. Morgan (8 Morgan), 2		P. Castagnoli (3½ L.M.C.), 1
		N. Woollen (3½ L.M.C.), 1
		J. Slaughter (3½ L.M.C.), 1
		J. I. Day (3½ Bradbury), 1
		H. Dixon (3½ New Hudson), 1

Rider and Machine.	Cyls.	
T. C. Atkinson (3½ New Hudson), 1		S. T. Tessier (5 Bat), 2
*G. Wray (3½ Bradbury), 1		J. Babbington (5 Bat), 2
*H. Gibson (3½ Bradbury), 1		W. H. Eggington (6 Zenith-Gradua), 2
*H. E. Ashby (3½ L.M.C.), 1		*F. G. Boddington (4½ Precision), 1
*W. Houghton (3½ Bradbury), 1		*H. Hughes (6 N.S.U. & sc.), 2
T. Silver (3½ Quadrant), 1		*D. O'Donovan (3½ Singer), 1
*V. Busby (3½ Precision), 1		*A. Uffelman (3½ Humber), 1
Humber, Ltd., have entered three machines.		
*Denotes private owner.		

IRISH HILL CLIMB.

The results of the Dublin and District M.C.C. trial and hill-climb held on the 22nd ult. are as under:

	Reliability.	Hills.	Total.
F. J. Walker (3½ h.p. Rudge)	100	83	180
J. Healy (3½ h.p. Rudge)	100	80	180
R. H. Taaffe (3½ h.p. Triumph)	99	80	179
T. J. Dumphy (3½ h.p. P. and M.)	99	80	179
P. Brien (3½ h.p. Rudge)	98	80	178
T. Green (4 h.p. Waverley)	97	80	177
R. Walshe (3½ h.p. Triumph)	95	80	175
N. E. Drury (7 h.p. Indian)	91	80	171
J. H. Taylor (3½ h.p. Rudge)	97	70	167
R. Dumphy (3½ h.p. Triumph)	97	70	167
W. S. Cornborough (3½ h.p. Triumph)	97	70	167
F. Keagh (3½ h.p. Triumph)	94	70	164

CURRENT CHAT

SPECIAL FEATURES.

THE SCOTTISH TRIALS:
Detailed Description and Official Results.
R.A.C. INTER-CLUB MEET AT BROOKLANDS.

EQUIPPING THE SIDECAR.
BRADFORD M.C.C. OPEN HILL-CLIMB.
Police Traps.

On the Chatham-Canterbury Road, approximately between the first and third mile posts out of Canterbury. It is, as usual, grossly unfair, being on a perfectly safe stretch and the timing is done by cheap watches.

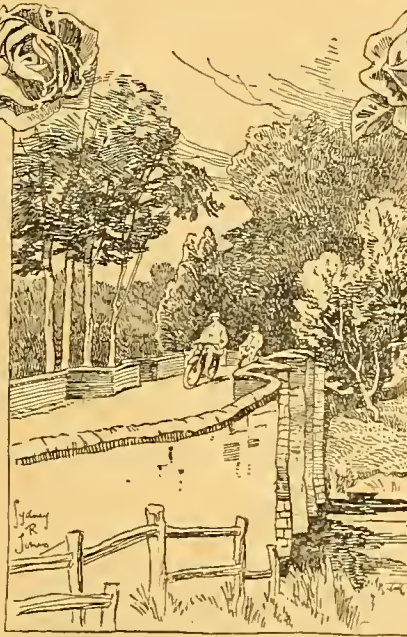
The Walsall police have again been busy trapping motorists.

Stolen Machines.

On Tuesday (25th ult.), two men called at 5, Routh Road, Wandsworth Common, S.W., the house of Mr. E. L. Ford, handed in a bogus card, desiring to buy a motor bicycle. After trying it on the stand, one of the would-be buyers tried the machine on the road, the second writing out a cheque for the required amount, which after they had left was proved to be a forgery. In this way they managed to relieve Mr. Ford of his motor cycle, the particulars of which are: New 1911 Royal Enfield; two-speed free engine, painted naval grey; nickel-plated carburetter with extra air inlet pipe; Dunlops; No. LA 2751; frame No. 1192; engine No. 16424.

Two More Attempts at Six Days' Records

At present there are two attempts being made by motor cyclists to capture the six days' record—one by J. Guzzwell, of Grimsby, who is riding a free engine Triumph, and the other by A. W. Brittain, of Buxton and Cambridge, on a Rudge. It will be remembered that last week we mentioned that Mr. Brittain had retired at Leicester, but a footnote added to his card showed his intention of making another attempt in a week or so, which he has done, having recommenced last Saturday at midnight. Since then we have received cards posted from various places *en route*, showing the total distance covered up till seven o'clock on Monday night as 1,000 miles, which is an average of five hundred miles per day. A telegram from Britain on Tuesday reads: "Speedometer 3,863, feeling fit, machine given trouble." He therefore retired with 1,205 miles to his credit. Mr. Guzzwell started at 12.15 a.m. on Saturday, July 29th, just twenty-four hours before Brittain. The total distance covered by him on Saturday, Sunday, and up till 6 p.m. on Monday, when he checked at our Coventry office, was 1,252 miles. On leaving, he remarked that he intended riding another 250 miles by midnight if possible, thereby bringing his total up to 1,500, or an average of five hundred miles per day for three days. Guzzwell seemed in perfect condition, not looking any the worse for the first half of the strenuous task he is undertaking.

**Hill-climbing at Wagga Wagga, N.S.W.**

A correspondent sends us an account of a privately organised hill-climbing competition at Wagga Wagga, about 300 miles from both Melbourne and Sydney. The hill is two miles in length, but the gradient is not recorded. The result of the contest was a triumph for Triumph riders, the first three J. E. Lucas, R. McIntosh, and S. Ralston, all riding that type of machine, and reaching the winning post in 48s., 49s., and 50s. respectively. There are many motor cyclists in this district who use their mounts for business purposes only, and so far have not taken much interest in the sporting side of the matter. As a result of the climb a meeting is being convened for the purpose of forming a club.

TIME TO LIGHT LAMPS.

August 3rd	...	...	8.44 p.m.
" 5th	...	...	8.40 p.m.
" 7th	...	...	8.36 p.m.
" 9th	...	...	8.32 p.m.

A Postponement.

Owing to insufficient entries and the beginning of the holiday season, the M.C.C. petrol consumption trial has been postponed until after the holidays.

Brooklands Bank Holiday Meeting.

The following entries have been secured for the Fifth Short Motor Cycle Race at the August Bank Holiday meeting on Monday next. The motor cycle race commences at 2.30 p.m. There are several races for cars, and motor cyclists who do not intend to leave town for the Bank Holiday will find plenty to interest them at Brooklands.

B. Pattison (1-cyl. Brown).
F. E. Wasling (2 Enfield).
Paul Smidt (2 N.S.U.)
H. Shanks, jun. (1 Kingfisher).
E. T. Bolton (2 Indian).
G. Griffith (1 Zenith).
H. S. Gaskell (1 Triumph).
C. R. Collier (2 Matchless).
H. A. Collier (2 Matchless).
A. J. Sproston (1 Rudge).
J. R. Haswell (1 Triumph).
A. J. Luce (2 Bat).
T. G. Meeten (1 Rudge).
Stanhope Spencer (1 Rudge).
Hugh Mason (2 Matchless).
S. G. Fenton (1 Zenith).



Scene at the start of the Bradford M.C.C. Open Hill-climb. (See page 809.)

Last Saturday's Short Distance Handicap at Brooklands.

In addition to *The Motor Cycle* cup awarded to H. Hunter (5 h.p. J.A.P.) in the A.C.U. Short Distance Handicap at Brooklands last Saturday, the following prizes have been won: The second rider, H. Martin (2½ h.p. Martin), receives a silver salver; the third, M. Campbell (3½ h.p. Triumph), a silver salver; and the fourth, S. T. Tessier (4 h.p. Bat), a handle-bar watch.

The Sidecar End-to-end Record.

H. Gibson and his passenger, G. Wray, will in all probability be disqualified by the Auto Cycle Union for exceeding the legal limit of speed in their recent successful attempt on the End-to-end sidecar record. If this disqualification takes place, both riders will, of course, be unable to take part in the Six Days' Trials, for which both have entered.

The Scottish Six Days' Trials.

The judges in this event have awarded the special prizes as follow: Ross Prize—C. S. Burney (3½ h.p. Rudge, N.S.U. two-speed). Lightweight Prize—W. B. Gibb (2½ h.p. Douglas, two-speed). The Trade Team Prize has been awarded to the Rudge team, composed of C. S. Burney, B. A. Hill, and W. H. Elce. Elce and Burney rode six-speed Rudges, and Hill a Rudge with N.S.U. gear.

A.C.U. Six Days' Trials.

As we go to press we learn that the following entries have been received for the Six Days' Trials in addition to the list given on page 804:

J. S. Holroyd (2 Motosacoche)
H. P. Maurice (3½ Premier)
G. T. Gray (3½ Rudge)
S. Crawley (3½ Triumph)
W. F. Newsome (3½ Triumph)
W. Creyton (3½ Triumph)
W. A. Jacobs (3½ Rex, water-cooled)
S. Fontaine (3½ Quadrant)
A. Clark (2½ Dene-Precision)
F. W. Applebee (3½ N.S.U.)
A. R. Abbott (3½ Bradbury)

The Motor Cycle will present gold medals, as in previous years, for the best performance by a private owner in the bicycle and passenger classes. The awards will be made in accordance with the judges' decision.

FUTURE EVENTS

Aug. 5-7—Motor Cycling Club Standard, Reliability, Hill-climbing, and Brake-testing Trial.
" 7—B.A.R.C. Bank Holiday Meeting.
" 7-8—Dublin and District M.C.C. Open Two Days' Reliability Trial to Glengarriff and Killarney.
" 14-19—A.C.U. ANNUAL SIX DAYS' RELIABILITY TRIAL. HARROGATE AS A CENTRE.
" 26—Mersey M.C. Open Hill-climb.
Sept. 2.—Coventry and Warwickshire M.C. Annual Open Hill-climb.

A Catholic Bishop appeals for a Motor Cycle.

As evidence of the very practical use to which a motor cycle may be put by the clergy, it is interesting to note the letter of the Rt. Rev. Dr. Chisholm, Bishop of Aberdeen, in the Catholic papers, pointing out that his diocese is the largest and the poorest in the kingdom, and that many families in glens and distant places, ten, fifteen, and even thirty miles from church, are compelled to live out of touch with their spiritual advisers. These difficulties could be overcome and greater opportunities afforded to children for instruction if a priest could have the use of a motor cycle. An earnest appeal is made by the Bishop to Catholics in his diocese to enable him to provide a machine for the use of a travelling priest.

Lady Competitors at New Brighton.

In the motor cycle events which were included in the programme on Saturday last at New Brighton, Mrs. E. Baxter and her sister-in-law, Miss Baxter, took part in a mile pursuit race, both mounted on 3½ h.p. Rexes, Mrs. Baxter winning by about 100 yards. Subsequently in a mile scratch race, Mr. E. S. Baxter, riding his wife's machine, was easily beaten by L. Mogridge (5 h.p. twin Vindec). In an attempt on his own three miles record of 3m. 24s., Mr. Baxter failed on a 7 h.p. twin Rex, but succeeded in beating his previous five miles record by 24½s.

Non-stop Run in Yorks.

The second of the series of 100 miles non-stop runs under the auspices of the Hull and East Riding A.C. took place on Saturday last, the route taken being via Haworth Arms, Beverley, Lund, Tibthorpe, Wetwang, Fimber, Wharrah, North Grimstone, Norton (Malton), Rillington, Sherburn, Ganton, Hunmanby Hill, Dotterill, Bridlington, Driffield, Hull.

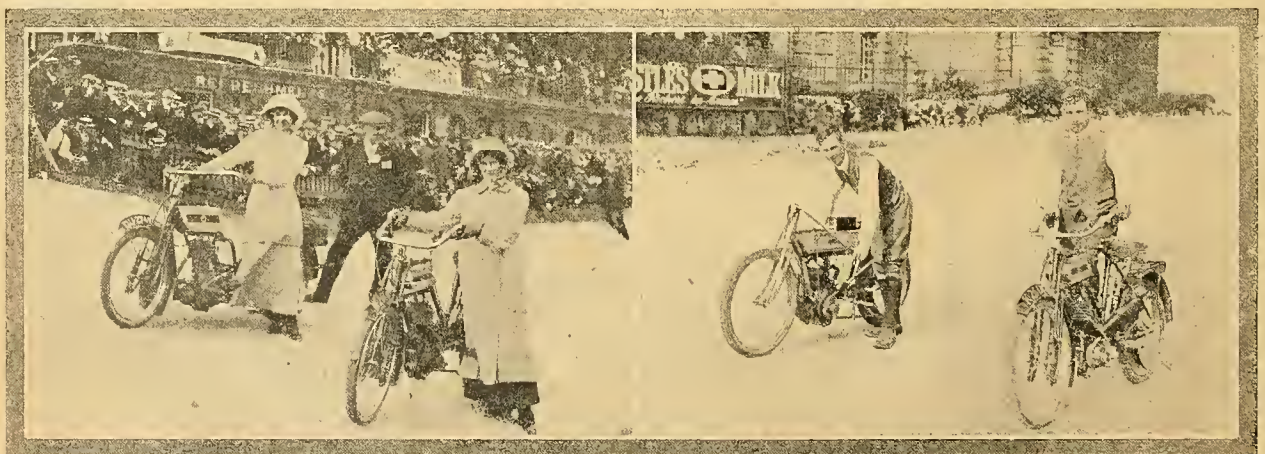
The following riders made non-stop runs and thus qualified for medals:

C. Edgar (3½ h.p. Bradbury), J. W. Noble (3½ h.p. B.S.A.), B. Hodgson (2½ h.p. Torpedo), J. Fletcher Walton (3½ h.p. Rudge), C. Mehew (3½ h.p. Rudge), A. H. Walker (5 h.p. Rex and sidecar), E. A. Downs (3½ h.p. P. and M.), A. G. Hearfield (3½ h.p. Rex), and E. L. Brown (3½ h.p. B.S.A.)

THE LIGHTWEIGHT SIX HOURS' TRACK RECORD.



C. Stanley Franklin who, riding a 2½ h.p. Hazel-Jap, set up a new six-hours record for light-weights, covering 203 miles 222 yards in that time. (See page 780 last week.)



On the left are Mrs. Baxter and her sister-in-law, Miss Baxter, with their 3½ h.p. Rexes on the track at New Brighton, while in the right-hand picture Mr. Baxter is preparing to mount his wife's machine to race with L. Mogridge on a 5 h.p. twin Vindec.

North-west London M.C.C. Tour to Lyons.

THE afternoon of July 29th and the early hours of the 30th saw sundry members of the N.W.L.M.C.C. converging on Folkestone, the first stage of their journey to Lyons, cherishing designs on the "Circuit du Rhone," and intent on cementing the Entente Cordiale. My run to Folkestone with my 8 h.p. Chater-Jap and sidecar calls for little description as it was devoid of any incident



The North-west London M.C.C. tour. Riders with their machines on the quay at Boulogne last Saturday waiting to pass the customs.

of note, nor does the journey over to Boulogne. Some time elapsed before we could get clear of Boulogne as the whole of an immense quantity of baggage was dealt with first; however, once the machines were landed we progressed rapidly and found the passage of the customs by no means the fearsome process we had anticipated. Needless to say we are

A LONG DISTANCE COAST RIDE.



Harry Long (Triumph), who recently completed a long distance coast ride, being accompanied by A. P. Maurice, a Premier rider. The photograph shows the two passing through Paignton.

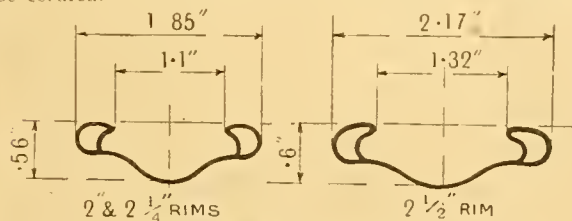
all provided with the R.A.C. international pass, without which no motor cyclist should tour abroad, unless he is looking for trouble.

Cheered by a vociferous *bon voyage* of the inhabitants we left Boulogne, keeping carefully to the right, and following Route Nationale No. 1. Our curiosity regarding *paré* did not for long remain unsatisfied, for we struck frequent patches almost at once. It is terrible stuff, and careful driving is absolutely essential. Halting at Pont de Briques, a few miles outside Boulogne, where we had been directed to an English speaking restaurant, we were at home in two minutes, my passenger and I enjoying glorious omelettes. A heavy thunderstorm delayed us somewhat, but we were soon bowling along again through excellent country hall-marked with the prosperity of a landed peasantry. Hereabouts Ashworth's sidecar tyre went flat, a hasty examination disclosing both sides of the tube torn by a flat-headed nail of the kind largely used in the boots of villagers.

This trouble dealt with we made good progress except for frequent *paré* to Montreuil, where we struck a dreadful sample with a steep winding hill into the town. Soon afterwards we came upon several of our men in trouble. Hal Hill being the worst off with a punctured float and no hope of a soldering iron until the morning. Several of the party thereupon decided to stay in the small village of St. Martin, where they filled the only inn. Ashworth and I proceeded over vile roads with Baxter on a Triumph to Abbeville, where we put up comfortably at the Hotel de la Tête de Bœuf. The rest of the party came in next morning, and we are now off in glorious weather to Rouen, and as far beyond as circumstances will allow. More anon. W.

STANDARDISATION OF MOTOR CYCLE RIMS.

It is gratifying to announce that the sub-committee appointed by the Cycle and Motor Cycle Manufacturers' and Traders' Union, Ltd., have issued their report, and that the opinions frequently ventilated in these columns have at last borne fruit. This committee have confined their investigations to standardisation of dimensions of rims (not design), whereby the interchangeability of all motor cycle tyres may be secured.



Standard rims for beaded edge tyres.

The circumference and diameter of each rim are measured on the extreme top of the beads.

26in. x 2in. and 26in. x 2 1/4in.
Cir., 71 1/8 inches.
Dia., 22 1/2 inches.

26in. x 2 1/2in.
Cir., 66 1/2 inches.
Dia., 21 1/2 inches.

As a result of communications with the following firms of tyre manufacturers—Messrs. Bates, Clipper, Clincher, Continental, Coventry Rubber Co., Dunlop, East London Rubber Co., B. F. Goodrich, Gorton Rubber Co., Kempshall, Macintosh, Palmer, ROM, Avon, Liberty, etc.—the dimensions of rims as delineated in the accompanying illustration have been approved, and it is now recommended (1) that rims of these dimensions should be adopted by the trade, (2) that these rims should be known as the standardised rims, and (3) that manufacturers when ordering either tyres or rims should always specify "standardised sizes."

All tyre and rim manufacturers are being informed that only rims of such sizes and only tyres suitable to such rims will be ordered by the motor cycle manufacturers after September 1st, 1911.

The importance of this recommendation will be fully recognised by all motor cyclists, and should be of equal service to manufacturers.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

A Tip for Cleaning Crank Cases.

[5771.]-I do not know if the following way of cleaning a dirty engine is of any use to you. Procure an old bicycle pump, fit a 1/4 in. brass tube in place of connection, fill with petrol, and squirt at the engine with it. I have found this a very quick and satisfactory way of removing oil and filth.

E. DAVIS.

The International Match.

[5772.]-I have not the pleasure of knowing either Mr. Macneill or Mr. E. Barnfather who are good enough sportsmen to offer to put up a sum of £55 between them for another match with Mr. C. R. Collier. I agree with Mr. Macneill that it was unfortunate that both of us had bad luck in the International match; it would have been much better and probably more satisfactory all round if Collier and I had arranged beforehand that, if either one had tyre or other troubles, the race should be re-run, but in view of the fact that Collier did not offer to run the second match race over, I could hardly be blamed for taking the third match and claiming the championship after Collier had his trouble in the third race.

Much as I would like to give the English public an opportunity of seeing another match race, I regret that this will be quite impossible, as I have already booked my passage back and am sailing on the 5th August, but I would like to take this opportunity of suggesting to Mr. Collier, whom I consider one of the finest riders in the world, that he come to America. Just at this season of the year I can myself easily make upwards of £150 a week at racing, and Mr. Collier, after the splendid performance he put up against me, would be a great drawing card at any meet in America (and there are on an average three a week), and could without difficulty nett a still larger sum.

I hope Mr. Collier will carefully consider the advisability of coming over to America, and I am sure that if he does he will have the same splendid reception that has been given me by the English newspapers and the motor cycling fellows I have run across. I hope to have an opportunity of coming to England another year, and if there is another T.T. race I want to have a go at it. I was handicapped this year, as I have not done any road riding for the past seven or eight years, but if I go in another T.T. race I shall do a lot of riding on the road and get prepared months ahead.

JAKE DE ROSIER.

[5773.]-I congratulate your many contributors on their very gentlemanly and sportsmanlike replies to Mr. Wells's letter. If Messrs. Collier and de Rosier are to be matched again I consider the following conditions should be added:

1. Both machines should be either belt or chain driven.
2. Competitors to be started at intervals, as in the T.T. Races.

It would be a question of "all out" then, and no mistake.

A. J. ATKINGS.

Tendency of Design.

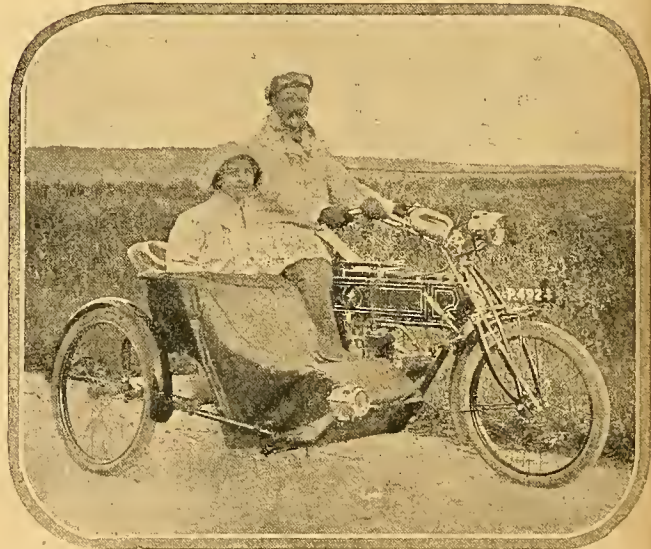
[5774.]-I was extremely interested in the article "Tendency of Design," the last paragraph, regarding the future construction of motor cycles, especially appealing to me, as at present single and twin cylinder machines of the following specification are undergoing vigorous road tests: Direct chain drive in conjunction with a shock absorbing device,

both of which are completely enclosed in an oil-tight chain case, two speeds, handle-bar control, spring seat-pillar, automatic carburetter and lubrication. Your correspondent's predictions are truly remarkable, as the above practically fulfils them. Although neither machine will be complete in many details, one will be entered in the A.C.U. six days' trial, and such a severe test should lend valuable data to the construction of 1912 models which may shortly be placed on the market.

F.B.

Change-speed Gears and Sidecars.

[5775.]-*Appropos* the recent controversy *re* the above, I thought I might let you know my experience which so far has been most satisfactory. For the past three years I have driven a 3 1/2 h.p. N.S.U. and sidecar, fitted with the N.S.U. two-speed gear, and have found this gear so satisfactory that upon changing my machine for a 6 h.p. model I fitted the same gear. This gear has now taken me about 15,000 miles without the slightest adjustment (except, of



course, new pulleys), and I find it will take practically all gradients without any sign of slipping.

With regard to tyres, I have so far experienced no trouble in this direction. I use the Dunlop special, and find they give every satisfaction. In my opinion I consider the life of a tyre is governed by the way one drives, especially on high-powered machines.

ERNEST G. NOPTON.

[5776.]-I was very interested in Mr. A. Barker's remarks *re* his N.S.U. two-speed gear in the issue of July 13th. I am riding a 1911 N.S.U. also with a two-speed, but I cannot get the low gear to hold. The makers have only allowed threequarters of a turn of the gear handle for this gear, and if I don't hold the handle all the time I am on low gear it works round to the free engine. This is the only fault I have with the machine at all. Perhaps one of your readers can explain this curious fact. My machine pulls twenty per

cent. better with the cut-out closed. I have tested this fact with the speedometer and by testing it with another motor. The cut-out does not let out the exhaust gases against the wind, but sideways, also before the gases enter the silencer. I have asked several people to explain this, but they have been unable to do so. I might say that I have ridden motor cycles for ten years, and I have never heard of another case like this.

H. G. PARKES.

Regulations for the 1912 Tourist Trophy Races.

[5777].—Your opinions on motor cycles contests are so generally acceptable from the sporting point of view that the last few lines of your editorial in *The Motor Cycle* of July 27th come as a great surprise. You say that "the suggestion to limit the speed and develop the contest into a high speed reliability trial is distinctly a good one." From whose point of view? Certainly not from that of the amateur rider.

I do not think I am far wrong in attributing the great support accorded to the T.T. by this class of competitor entirely to the fact that the race offers the only satisfying outlet in the year to those who look for a road contest where the result depends entirely upon speed, and is completely devoid of the irksome plethora of checks, controls, and formulae which already infest a quite sufficient number of the year's trials (in every sense).

Once this fungus is permitted to overgrow it the T.T. will be damned entirely from the sporting point of view; it will interest neither the racing amateur, the trade (who already have the Six Days and Quarterly Trials), nor the islanders, upon whose enthusiasm we depend for the very existence of the event.

We have been unfortunate in the matter of serious accidents this year, it is true; but if it is not considered that their effect will be to act as an ample warning to "first-timers," then surely there are other means at hand to secure the same end without making a farce of the whole thing. Fatal or serious accidents occur in the hunting field, yet one never hears of the hard rider to hounds being placed under a speed limit, still less of the abolition of this virile sport.

H. LISTER COOPER

Foreign Machines and British Riders.

[5778].—The seriousness with which most of your correspondents in last week's *Motor Cycle* have treated my letter on this subject would indicate that I have signally failed in my efforts to be humorous. As a matter of fact, as I explained to you personally, this letter was never sent to *The Motor Cycle* with any idea of having it published. No one appreciates more than I do the splendid reception the British public has given the Indian motor cycle since it has been on this market, but when I read Mr. A. C. Davison's letter, and the rather pointed remarks in your editorial in regard to the single-cylinder machines, both of which appeared to me to be somewhat uncalled for, I could not help indulging in a bit of sarcasm. W. H. WELLS.

[Mr. Wells's letter was addressed to *The Motor Cycle*. It was a reply to Mr. Davison's letter published the previous week. It was not marked private, and as it referred to another correspondent's views and to editorial statements it was given publicity in the usual way.—ED.]

[5779].—I should like to make a comment on Mr. W. H. Wells's attack on your article *re* English riders and foreign machines. I considered the article very fair and British, as no doubt would the majority of your readers, and any spleen that was shown was on Mr. Wells's side in his answer.

He infers that anyone using a British machine would be amongst the "also rans"—but had not Collier made the unfortunate mistake about his petrol capacity the Indians would have been very much amongst the "also rans," and also as regards the appearance of the machines at the finish there was absolutely no comparison.

There is really no necessity for a crusade to oust the American stuff; let us remain English, and give the Yankees sufficient rope and they will oust themselves.

JNO. H. CASTLE.

[5780].—There is a strong flavour of the Noble Red Man about the utterances of Mr. W. H. Wells.

He has been "reading between the lines" and, look you, no matter how you obliterate the trail, his keen eye will

detect every trodden blade of grass, and he is upon you with a tomahawk in the twinkling of a wigwam.

His gentle ways remind you of the Redskin, strutting around the council fire of his tribe, flourishing his scalps, bragging of his prowess, and belittling the courage of his adversaries.

What your correspondent lacks is perspective and sportsmanship. There is a pitiful spirit behind his outburst, and apparently he has yet to realise that the trade on this side of the water has not yet reached his primitive throat-cutting level.

Let our friend "Gobbler-of-the-Lightning" take as many prizes as his ability will gain him, and good luck to him, but let him beware of showing a spirit of mean rancour at an English paper's pardonable satisfaction when British products hold their own.

PALE FACE.

[5781].—The letter in your issue of July 20th, under the above heading from Mr. W. H. Wells will come as a surprise to most readers.

The Indian machines and their crack rider Mr. Jake de Rosier have been received in a really loyal manner here, and the reception of recent achievements has been reported in such a generous way in *The Motor Cycle* that the most critical American could not help feeling that a compliment had been paid. (I am not aware whether Mr. Wells is an American by birth.)

Considering that the machine in which Mr. Wells is interested has accomplished what he desired, it is a pity he should now try to create a nasty taste.

I note the usual confident tone, of repeating deeds with the singles, and trust that when this treat comes along "C.R." will once more be out with his "all right" machine. 'Nough said.

S. K. JONES.

[5782].—In common with a great many other motor cyclists, no doubt, I was disgusted with the tone of letter No. 5751, and can only suggest that your correspondent has been reading *The Motor Cycle* with exceedingly jaundiced eyes. Personally, my loyalty does not prevent me from enjoying a run on a foreign machine, but I do not see the object of buying one. Of course, I suppose the fact that Godfrey holds a special agency for the Indian machine had nothing to do with his choice for the T.T. Race, as having plenty of money he could have no object in advertising and selling Indians. Finally, may I remind Mr. Wells that just as the Indian was defeated by tyre trouble last year, so this year the British champion was ousted from first place by tyre trouble.

H. E. RENDALL.

[5783].—In reply to Mr. W. H. Wells [letter 5751] in your issue before last, I as a private owner (and riding a $3\frac{1}{2}$ h.p. Trump-Jap) am prepared to meet anybody he chooses to put up on a single-cylinder machine (500 c.c. class) for any distance over fifty miles at Brooklands as soon as a meeting can be arranged, although I by no means believe the performances of the Indian twins. However, I should like to show that England can still hold her own on the singles.

(Lieut.) R. N. STEWART.

[5784].—While I have interest neither in the commercial aspect of the Tourist Trophy Race, nor the ethics of subsequent advertisement by means of Letters to the Editor, I am moved as an amateur competitor in the race and as a native of a country which extends a more generous hand to the foreign rival than any other "in this large world," to reply from my own point of view to the ill conceived effusion which appeared in your issue of July 20th over the signature of Mr. W. H. Wells.

Rightly or wrongly, we in this country supplement our sporting traditions of scrupulous fair play to the foreigner, by absolutely unhindered admission of his goods into our markets, and by entirely unprejudiced treatment in the press, but I believe I am right in suggesting that Mr. Wells comes from a country where the would-be commercial rival has to climb the harrier of a 40% duty before securing a market under any conditions. Is this a case of Satan re proving (imaginary) sin; or just a little forgetfulness?

Wading further through this same effusion, we gather on Mr. Wells's disinterested authority that to ride anything but

one of his machines was to condemn oneself inevitably to the fate of an "also ran." There seems to have been quite a number anxious to qualify under this category.

The difficulty is, however, to know beforehand whether this simple rule is going to apply; for one seems to recollect that last year a candidate for this distinction could hardly have done better than ride an Indian. True, tyre troubles were held largely responsible for this; but here again there seems to be a fallacy, for the tyres used were of the same nationality as the machine—a mistake one notes which has this year been rectified. And herein lies the truth, which is, not that any one machine is necessarily better than all the others, but that—as I once heard Mr. Wells himself say—the winner is among those few who get through without a stop; and stops, as we all know, are due as often to bad luck and bad judgment as to faults in design.

Lastly, we are told that a long furrow is about to be hoed to our "complete disgust"—that is, of those who with curious perversity prefer to see an English machine win—with the single-cylinder Indian. Though there has so far been singularly little cause for "disgust"—at any rate on the part of its rivals—at the performances of the 4 h.p. Indian. Mr. Wells may rest assured that he has sown more "disgust" in the minds of the general public by his letter than he is ever likely to do by any victory in open competition.

As one who has never been, and never expects to be, within measurable distance of winning such a race as the T.T., I can only say that the victor is entitled to the very greatest credit for the performance of his team, but not to the ridiculous claim that all who do not happen to ride his machines are *ipso facto*, foredoomed to the position of "also ran." A glance at any published account of the race will reveal the absurdity of this. H. LISTER COOPER.

[5785.]-Considering the amount of space you gave to the Indian victory, I thought Mr. Wells's letter a piece of gross discourtesy, and I am extremely glad it did not come from an English firm.

Undoubtedly, Mr. Wells's most amusing remark was that about the British also rans. I heard—but, of course, I may have been misinformed on the subject—that if a well-known British rider had not had to stop for petrol in out of the way places, he would have had a lead of some minutes, but then what are a few minutes to these fast American machines? As to his last remarks on agriculture, no doubt they export some pretty tall plants from America, and we await the Indian single-cylinder record breaker with bated breath. G. L. HUNTING.

[5786.]-I have been much amused by reading the different letters connected with the above heading. As one of the unpatriotic competitors in the T.T. Race, and a rider of an Indian motor cycle, might I presume to take up a little of your space, by commenting upon a few of the letters, and explaining my want of patriotism, so far as motor cycles are concerned.

First of all, it has been remarked to me quite a number of times by different riders of alleged all-British machines, "If the Indian were a British built machine, I would buy one to-morrow," or words to that effect. Well, I must confess that no such scruples trouble me. What I want is the best motor cycle I can get, and when a better one than my present mount comes along, then as an enthusiast for a good motor cycle, and without regard to whether it is British or foreign, I shall get it. In this policy, I am only agreeing with Mr. Hart-Davis when he says, "We only buy foreign articles for use when we find them superior to British made goods" [letter 5761].

Now I come to letter 5763, wherein Mr. Karslake says that Collier's net running time was by far the best. Mr. Karslake must evidently have counted accurately the number of Collier's stops, and the time taken by each stop, before he was in a position to make such an assertion about net running time. I wonder if he was in a position to check this. I might add that the Indian machines were equipped with tanks which held almost enough petrol to complete the race, and each machine had plenty left at the finish.

In letter 5764 Mr. Davison becomes amusingly melodramatic when he talks about the spectacle of a rider "selling his services to the highest bidder." It may be news to Mr. Davison to know that I, an Indian rider, paid all my own expenses, and received no remuneration whatever for my services.

I cannot allow letter 5766 to pass without comment. Mr. Low therein says, "In both T.T. and the recent matches, the Indian machines have been lucky, and thus have been victorious." What poor sport and utter nonsense! And further he says, "If Collier had not had misfortune, the Matchless machines would have again won the T.T., and with plenty to spare." I think it is rather unnecessary to bring in suppositions. In a like sense, I might say that if Indian motor cycles had not had tyre troubles, and Bat motor cycles also had not misfortunes in last year's T.T. Race, the Matchless machines would not have been in the first three.

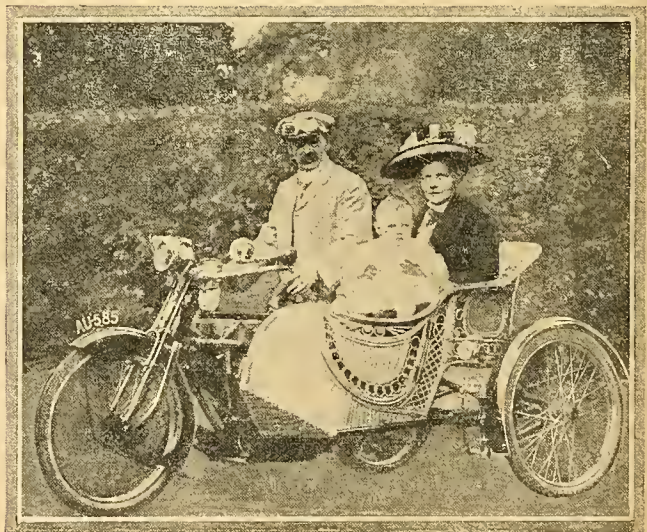
It seems to me that the matter has developed into a comparison between Matchless and Indian. Well that is quite easy to look into so far as the T.T. is concerned. Five Indians started and five finished, taking the three first places. The two Indian riders who were not placed were "lucky" enough to be spilled, which spoilt their chances of finishing well up. I was one of the lucky ones, being brought down three miles from finish of first lap, my time for which was forty-seven minutes fifty-two seconds. I am sorry that Mr. Karslake was not there to see how much time I lost, otherwise he might have been able to give me my net running time for that lap. I was later on lucky enough to get two punctures, which pleased me greatly.

Then again in the Match Race, we all know the exceeding good luck which came to de Rosier in having his tyre come off. As I have said, five Indians started in the T.T. and five finished. In short, what other make of machine in the race had 100% finish, and first, second, and third places. I think I will stick to my Indian yet awhile, even although unpatriotic. J. R. ALEXANDER.

[Letters on the above subject continue to reach us in large batches, but those published will indicate the general trend of feeling in the matter.—Ed.]

A Long Distance Ride without a Toolbag.

[5787.]-Re your article in July 13th issue under above heading, I should like to say that I bought a P. and M. motor bicycle, 3½ h.p., three or four months ago, and have since travelled over 2,000 miles without having to use any



T. H. Walsgrove with his 3½ h.p. P. & M. and sidecar. (See accompanying letter.)

of the toolbag contents for the bicycle, except once for a sparking plug, punctures not counted (having once to put an ordinary tube in back tyre, having only the sidecar spare with me). Most of the distance has been done with the sidecar and passenger.

I have since had the cylinder head off and cleaned, everything being in excellent condition. I was sorry to read of Mr. W. Pratt's accident in your issue of July 20th, for I feel sure that the distance, under the conditions stated in July 15th, could easily have been accomplished.

Needless to say, I have no interest in Messrs. P. and M., only that of a very satisfied user. T. H. WALSGROVE.

THE INTER-CLUB MEET AT BROOKLANDS.



The scene in the Paddock at Brooklands last Saturday, on the occasion of the R.A.C. Inter-club Meeting and gala day.

THE Royal Automobile and associated clubs held a most successful meeting at Brooklands on Saturday last. It was a glorious day, as hot as ever, and the number of events, the excellent entry list, and splendid organisation and capital sport witnessed were to some extent a compensation for the intense heat. Naturally, some of the events dragged a little, but this can only be expected when there is a large number of entries for one event. Naturally, as the Auto Cycle Union is one of the principal bodies affiliated to the parent organisation, two motor cycle races figured on the programme. These provided excellent sport, and were greatly appreciated by the spectators. Just as the first motor cycle event was ready to start, His Royal Highness Prince Henry of Prussia arrived in the car he has been driving in the Prince Henry Tour. He took the keenest interest in the event, and at his request Lieutenant D. J. McGillewie, R.N., one of the competitors, was presented to him, with whom he engaged in conversation for some minutes.

The event was down in the programme as the Auto Cycle Union Short Distance Handicap; distance, about five and a half miles. (This and the other motor cycle event started from the fork.) For all classes of motor bicycles owned and ridden by members and affiliated members of the A.C.U. First prize, a cup presented by *The Motor Cycle*; second prize, a silver trophy; third prize, a silver trophy; fourth prize, a trophy. The majority got away in good form, but Geoffrey Smith unfortunately broke a belt fastener as soon as his engine began to fire. The order at the end of the first lap was: Campbell, D. C. Bolton, Ebbutt, Spencer, Martin, Hunter, Collier, Davis, Tessier, Dixon, Nicholson, McGillewie, Potts, Luce, Cooke, C. R. Collier, and E. T. Bolton. Collier was travelling well, but this was the last occasion on which he appeared, as his belt fastener pulled

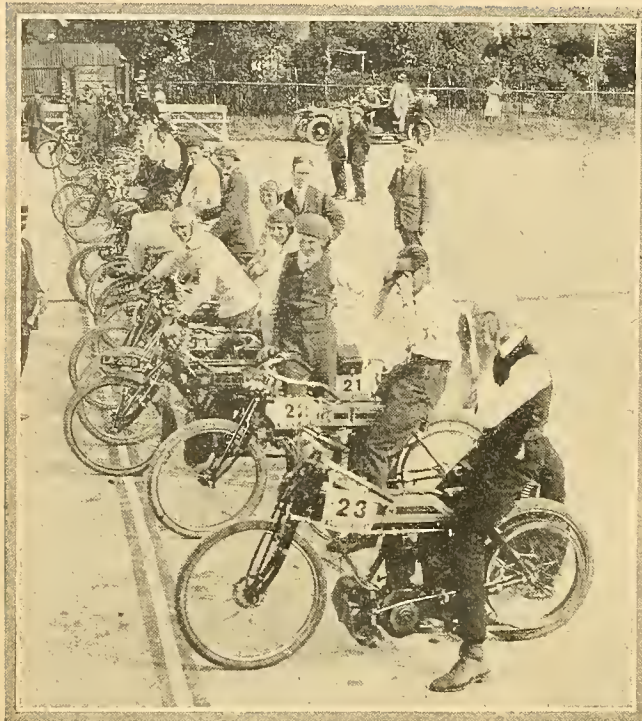
through, while Dixon broke an exhaust valve. Thanks to Mr. Straight's excellent handicapping, there was a close finish, though it is curious that of a group of seven riders who had 1m. 30s. start one rode a free engine Rudge, another a Triumph complete with stand and mudguards, and others rode stripped machines. The machine ridden by the winner, Hunter, had been timed to do 68 m.p.h. in practice. The result was as follows:

	Rider and machine.	Cyls.	stroke.	Bore and		Start.	
				c.c.	m. s.		
1.	H. Hunter (5 J.A.P.)	2	85	×58	666	1	10
2.	H. Martin (2½ Martin)	1	85.5	×60	345	1	25
3.	M. Campbell (3½ Triumph)	1	85	×88	499	1	45
4.	S. T. Tessier (4 Bat)	2	74	×64	580	0	50
	L. F. Ebbutt (3½ Kerry)	1	85	×88	499	1	35
	E. A. Collier (3½ Zenith)	1	85.5	×85	488	1	40
	J. Forgan Potts (5 Indian)	2	70	×83	638	0	50
	A. J. Luce (5 Bat)	2	85	×65	740	0	45
	W. S. Spencer (3½ Rudge)	1	85	×88	499	1	30
	E. T. Bolton (7 Indian)	2	82.5	×98	994	0	5
	L. G. Nicholson (3½ Triumph)	1	85	×88	499	1	30
	Lieut. D. J. McGillewie,						
	R.N. (3½ Rudge)	1	85	×88	499	1	30
	S. R. Cooke (3½ Rudge)	1	85	×88	499	1	30
	F. L. Davis (3½ Rex)	1	84.5	×87	489	1	50
	D. C. Bolton (2 Martin)	1	76	×55.5	297	1	40

The winner's time was 5m. 57½s.

The next motor cycle event was the A.C.U. Inter-team Race for teams of three motor cycles entered by clubs affiliated to the A.C.U. Each team consisted of one single machine up to 500 c.c., one multi-cylinder up to 670 c.c., and one passenger machine up to 1,000 c.c. All had to be standard machines fully equipped for the road. Marks were

The Inter-club Meet at Brooklands.—



Starters for the A.C.U. short distance handicap at Brooklands.

allotted as follows: First over the finishing line one mark, second two marks, and so on. The winning team was the one the riders of which together obtained the least number of marks. The winning team received a silver cup, and each member was to receive a silver Herkomer medal. Each member of the second team was to receive a bronze Herkomer medal. All the machines started together, Colliver, thanks to his Gradua gear, making quite the best acceleration at the outset. The Purley and District team, though dis-

qualified for not having a sidecar machine among the number, started, and one of their members (Ebbutt) had a nasty toss just by the entrance to the railway straight. Mr. Orde was the first to notice the accident, and went off to his assistance, while Prince Henry, borrowing a pair of glasses from a spectator, showed the greatest concern about the *contre-temps*. Baker White, in the Surrey M.C.C. team, had his belt pull through and twist round his rear mudguard. The result was as follows:

STREATHAM AND DISTRICT TEAM.

1. S. T. Tessier (5 Bat). Time, 5m. 13½s.
2. W. O. Oldman (3½ Zenith).
4. A. R. Hunter (8 Zenith and sidecar).
7 points.

NORTH-WEST LONDON M.C.C.

3. E. A. Colliver (3½ Zenith).
8. R. L. Prinz (5 Bat).
11. A. E. Woodman (7 Indian and sidecar).
22 points.

HERTS COUNTY A. AND AEC. (M.C. SECTION).

5. C. C. Cooke (3½ Triumph).
7. G. S. N. Carter (5 Matchless).
10. G. W. Dixon (7 Rex).
22 points.

The two clubs last named tie for second place.

The Surrey M.C.C. lost one man, A. Baker-White, and the Purley and District team, as stated above, was disqualified.

BRISTOL M.C.C. TRIAL TO LAND'S END AND BACK.

This event started last Friday evening at seven o'clock, the distance of two hundred miles having to be completed in the schedule time of ten and a half hours, fifteen minutes each being allowed at Exeter and Bodmin for replenishments. Gold medals were awarded to all riders completing the journey within the total eleven hours.

Of the eighteen original entries, only seven started, the deficiency being doubtless due to counter attractions in the Scottish Trials and the Exeter open hill-climb.

Troubles soon made themselves apparent, and only P. Grout, E. Kickham, and Eli Clarke, all on Douglas machines, reached Land's End on time, Davies (3½ h.p. Rudge) being only 1½m. late through losing his way. On the return journey, E. Clarke ran over a dog at Camborne, and broke his frame, thus leaving only Grout and Kickham in the running, and they reached Bristol dead up to time, their Douglasses doing the whole journey without a hitch.

The Streatham
and District
Team—
winners of the
Inter-club team
race for "The
Motor Cycle"
Cup.

The three riders
who represented
the club are seen
with a number
of their fellow
members.



Bradford M.C.C. Open Hill-climb.

IN comparison with the last open hill-climb on the acclivity on Barton Moor the management was good and the weather somewhat sultry. There was a satisfactory entry, and a few crack riders present stimulated the interest in the event.

A New Timing Apparatus.

The event was started over one hour late, caused chiefly through a fault in the electric wire of the new electrical timing apparatus, which worked splendidly when once started. The apparatus, which is the invention of Mr. A. Griffiths, manager of the Bradford Electrical Engineering Co., employs one watch only, and that at the foot of the hill, and is worked by means of threads which are broken by the competitors themselves. These threads both start and stop the watch, so that the personal element is altogether eliminated.

When all was in order E. Myers, on a 2½ h.p. Enfield, opened the proceedings in Class I. for lightweights conforming to 1911 T.T. regulations. Results:

Rider and machine	Time.
1. E. Myers (2½ h.p. Enfield) ...	69½s.
2. T. Hargreaves (2½ h.p. Enfield) ...	104½s.

CLASS II.—Standard singles up to 500 c.c.

1. S. H. Newman (3½ h.p. Ivy-Precision)...	53½s.
2. J. Bottoms (3½ h.p. Bradbury) ...	54½s.
3. J. H. Slaughter (3½ h.p. L.M.C.) ...	57½s.

Bottoms punctured at the first attempt so was allowed another run, whilst Newman nearly lost his chances by a most alarming bump immediately after the start.

CLASS IIA.—Same as Class II., but for amateurs only.

1. J. Bottoms (3½ h.p. Bradbury) ...	54½s.
2. W. J. Sproule (3½ h.p. Premier) ...	67½s.
3. D. Wilson (3½ h.p. Bradbury) ...	68s.

CLASS III.—For standard touring twins. Strange to relate, all the classes confined to twin-cylinder machines were abandoned owing to lack of entries.

CLASS IV.—For standard two-speed gears.

The only starter, G. Riddiough (3½ P. and M.), when called upon to stop and restart on the hill was very unhappy, and finally fell on top of his machine.



Erlo Myers on a 2½ h.p. Enfield, the first man to be dispatched.

CLASS V.—Confined to members of the Ilkley M.C.C.

1. Harold Moore (7 h.p. Rex) ...	51s.
2. J. A. Hoffman (3½ h.p. T.T. Triumph) ...	54½s.
3. { J. N. Longfield (3½ h.p. T.T. Triumph) ...	55½s.
J. K. Campbell (5 h.p. Indian) ...	



Bradford M.C.C. Third Annual Open Hill-climb. F. Scriven weighing a competitor. The ballast used by the competitor will be noted, which in this case consisted of two large stones.

CLASS VI.—For single-cylinder racing machines not exceeding 500 c.c.

Newsome had a few jumps at the bend, and his machine seemed to run very quietly in comparison to the others, his exhaust pipe being attached to the silencer and not detached as all the rest. His time not having been taken on the first ascent he was allowed another trial.

1. W. F. Newsome (3½ h.p. T.T. Triumph)...	50½s.
2. J. Woodhouse (3½ h.p. Dot-Precision) ...	51s.
3. W. G. McMinnies (3½ h.p. T.T. Triumph) ...	53½s.

CLASS VIA.—Same as Class VI. for amateurs only.

1. S. Grange (3½ h.p. T.T. Triumph) ...	54½s.
2. J. H. Hoffman (3½ h.p. T.T. Triumph) ...	55s.
3. W. G. McMinnies (3½ h.p. T.T. Triumph) ...	55½s.

CLASS VIII.—Any machine up to 1,000 c.c.

1. A. J. Moorhouse (7 h.p. Indian) ...	49½s.
2. W. F. Newsome (3½ h.p. T.T. Triumph)...	51½s.
3. J. Woodhouse (3½ h.p. Dot-Precision) ...	53½s.
4. { S. A. Newman (3½ h.p. Ivy-Precision) ...	54½s.
H. S. Shaw (7 h.p. Indian) ...	

CLASS VIIIA.—Same as Class VII., for amateurs only.

Shaw made a very fast ascent this time, making no mistake, and finishing up with the fastest time of the day.

1. H. S. Shaw (7 h.p. Indian) ...	48s.
2. S. Grange (3½ h.p. T.T. Triumph) ...	53½s.
3. J. N. Longfield (3½ h.p. T.T. Triumph) ...	58s.
4. V. Pratt (3½ h.p. Ivy-Precision) ...	58½s.

No formula was used, but each rider had to bring his weight up to a set standard, the machines not being weighed.

The judges and marshals worked extremely hard, and it would have been as well if the number of the latter could have been larger, especially at the top of the hill.

CLUB NEWS.



Competitors at the start of the Birmingham M.C.C. Lincoln and back Reliability Trial for the Sangster Trophy on Saturday.

Burnley A.C.

On Saturday, August 5th, a hill-climb has been arranged on Thorney Holme Brow, and a start will be made from headquarters at 2 p.m.

Weybridge and District M.C.C.

A general meeting will be held at the Ship Hotel, Weybridge at 8.30 p.m. on August 3rd, and riders attending and enrolled as members will be regarded as founder members.

Doncaster and District M.C.C.

Several members spent a most enjoyable time on Thursday last at Stapleton Park, near Pontefract, kindly placed at their disposal by Mr. W. H. Hope-Barton, on the occasion of an inter-club competition for members of the Northern League. This competition, the first of its kind organised by the Doncaster Club, took the form of a flying kilometre handicap, and proved a great success. The party of about forty included riders from the Doncaster, Barnsley, and Pontefract clubs. The winner turned up in W. Brenchley, of the Doncaster Club, F. Lee, of the Pontefract Club, being second. The fastest time of the day was made by Tom Dunk, Barnsley Club, who covered the

kilometre in 34s. The club has to thank the lady members of the party for providing a most sumptuous tea, which was much enjoyed under the magnificent trees of Stapleton at the conclusion of the afternoon's sport.

Newcastle and District M.C.

The two days' reliability trial on August 6th and 7th, 1911, from Newcastle-on-Tyne to Stranraer and back will start from the club garage at 6.30 a.m. Any local motor cyclists desiring to join the club will be welcomed, and will be eligible to ride in the trial. Application should be made to Mr. E. Hawkins, secretary, 3, Saville Row, Newcastle-on-Tyne.

Birmingham M.C.C.

The club held its second annual reliability trial to Lincoln and back on Saturday last. There were twenty-one entries and nineteen competitors faced the starter at Perry Barr, Birmingham, at 8.0 a.m.

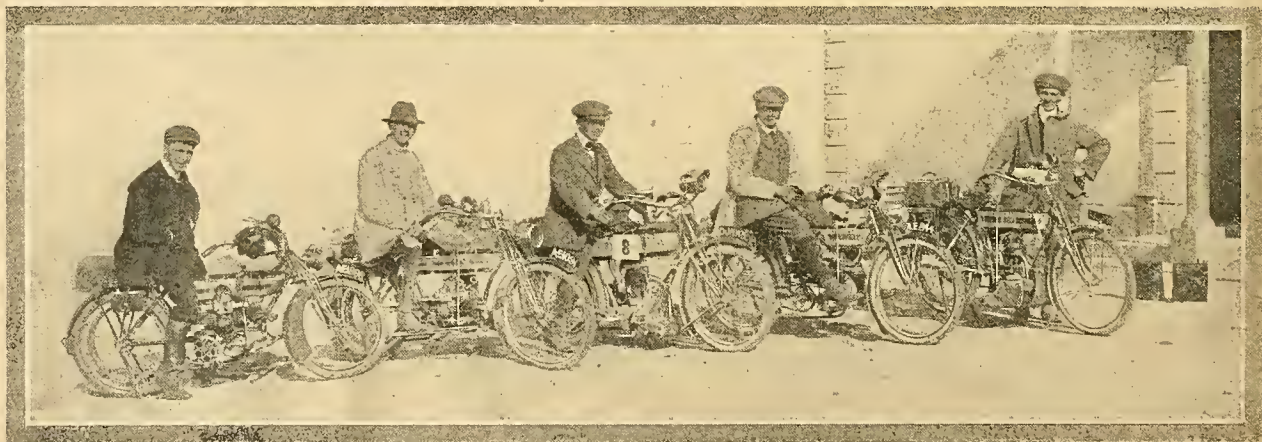
The outward route was *via* Ashby, Nottingham, and Newark, whilst the return had to be made *via* Nottingham, Derby, and Burton to Birmingham, a total distance of 173 miles. Miss N. Hough pluckily drove her $3\frac{1}{2}$ h.p. Alldays and sidecar over the whole distance, though she had trouble with her compression tap blowing off, and later ran out of petrol, which necessitated her and her passenger pushing the combination some distance. She completed the double journey, however, in just under the schedule time.

The following competitors completed the journey within nine and a quarter hours, excluding the one and a quarter hours lunch stop, and, therefore, qualify for bronze medals:

H. Ball (Triumph), Seymour Smith ($3\frac{1}{2}$ h.p. Norton), F. E. Hill ($3\frac{1}{2}$ h.p. Zenith), S. Wright ($3\frac{1}{2}$ h.p. Humber), S. K. Jones ($3\frac{1}{2}$ h.p. L.M.C.), A. Young ($3\frac{1}{2}$ h.p. Abingdon), V. Underhill ($3\frac{1}{2}$ h.p. Norton), W. H. Egginton (5 h.p. Zenith and sidecar), Miss Hough ($3\frac{1}{2}$ h.p. Alldays and sidecar), R. W. Duke ($3\frac{1}{2}$ h.p. Zenith), K. Clarke ($3\frac{1}{2}$ h.p. Corah), R. N. Corah ($3\frac{1}{2}$ h.p. Corah), J. Pollock ($3\frac{1}{2}$ h.p. James), S. A. Rowlandson (Rudge), and S. C. Perryman ($3\frac{1}{2}$ h.p. Ariel).

Herts County A.C. (Motor Cycle Section).

More entries have been received for the Kendal run than was the case last year when the tour was most popular. The Sunday portion of the tour does not form part of the competition, but a most interesting and varied "go as you please" run has been mapped out through Windermere, Grasmere, Thirlmere, Keswick, Troutbeck, Ullswater, Patterdale (a look at Kirkstone Pass), Penrith, Appleby, Brough, and Barnard Castle. The tour affords a good opportunity for those who are contemplating entering for the six days' trial, as a large mileage of the actual Six Days' Trial route will be covered. The entries closed yesterday, but they will be received by wire up to this (Thursday) evening by Mr. C. C. Cooke, North Mimms, Hatfield.



Bristol M.C.C. Run to Land's End and back last week-end. A group of competitors at Land's End. (See page 808).



A. W. Brittain, of Cambridge and Buxton, who recently made two plucky attempts to capture the six days' record. In the second attempt, which commenced on Wednesday midnight, he covered approximately a thousand miles in two days, but had to give up on Friday evening owing to a bad attack of cramp. His mount is a Rudge.

Derby and District M.C.C.

The proposed timed reliability run to Torquay has been dropped in favour of a speed-judging and reliability competition on August 7th, for which an interested gentleman has offered a ten guinea silver challenge bowl and a gold medal. The events arranged for August are: 5th, Speed trials, Kulland Ward; 7th, reliability trial; 19th, hill-climb (Cross-o'-the-Hands); 30th, two miles speed event at Hilton.

Chesterfield and District M.C.C.

There were thirty-eight entries for the hill-climb held on July 19th, and awards were made as follows:

Sidecar and passenger.—W. H. Ward (3½ h.p. Triumph and sidecar).

Novices' climb.—W. Waddington (3 h.p. N.S.U.).

Members' hill-climb.—W. H. Wood (3½ h.p. Triumph).

Flexibility trial.—E. Stacey (Roc).

There will be open speed trials in Hardwick Park on August 16th, and the hon. sec., Mr. L. Smith, of "Rose-mont," Chesterfield, will be pleased to hear from any motor cyclists desiring to compete.

Worcestershire M.C.C.

The Land's End and back reliability trial on August 26th, 27th, and 28th will be open to all motor cyclists in Worcestershire; entrance fee, 2s. 6d., and 2s. will be charged non-members for one day's membership. Particulars on receipt of entry fee. Hon. sec., E. H. D. Cook, Foregate Press, Worcester.

Streatham and District M.C.C.

Full particulars of the Members' Hill-climb to be held on the 5th August can be obtained from Mr. E. B. Ware, 38, Rainbow Street, Camberwell, S.E. The venue of the hill will be published the day before on the club notice boards at the Crown and Sceptre Hotel, Streatham Hill, and the Clayton Arms, Godstone. Competitors will be divided into six classes, including lightweights, single and multi-cylinder touring machines, machines up to 500 and up to 1,000 c.c., and passenger motor cycles. Prizes in Classes 1, 2, 3, and 6 will be awarded on formula, and in 4 and 5 on time.

On August Bank Holiday there will be a social run to Selsey Bill leaving headquarters at 7 a.m.

Scottish Border M.C.C.

The hill-climbing test on Gladswood Hill and Redpath Rig, near Melrose, on July 22nd, resulted as below:

CLASS I.—Single-cylinders.

	Points.
1. J. Laing (Triumph)	123.0
2. W. Kirkpatrick (Triumph)	119.0
3. W. P. Gaylor (Calthorpe)	116.0

CLASS II.—Lightweights

1. Tom Gillies (Douglas)	106.0
2. G. Pringle (Enfield)	78.0
3. Alex. Longmuir (Douglas)	76.4

CLASS III.—Multi-cylinders.

1. A. J. C. Lindsay (Matchless)	109.8
2. J. Burns (Indian)	102.4
3. T. Scott (Roc)	79.7

All the winners used Ross petrol.

Cork and District M.C.C.

A race meeting was held on the sands at Ganyoe on Saturday last, which provided some very interesting contests. The venue is not altogether a suitable one, as the tide does not go out far enough to give much room for turning, and further, owing to the hot weather, the sands dried very quickly, and were loose in consequence. Nevertheless the racing was exciting and was witnessed by a big crowd of spectators.

The results of the three events were as follows:

Flying Half-mile.—1, P. A. Egan (3½ h.p. Triumph), 35½s.; 2, G. Goode (5 h.p. V.S.), 38½s.; 3, M. J. Chambers (2½ h.p. F.N.), 40s.

Two Miles Handicap.—1, M. J. Chambers (2½ h.p. F.N.); 2, P. H. James (3½ h.p. Triumph); 3, W. G. Hosking (3½ h.p. Triumph).

Four Miles Handicap.—1, W. J. Hosking (3½ h.p. Triumph); 2, M. J. Chambers (2½ h.p. F.N.); 3, P. H. James (3½ h.p. Triumph).

Special prize presented by the hon. sec., R. S. Russell for the best performance by a novice, was won by P. H. James.



The start of the Bradford M.C.C. Reliability Trial to Dunbar and back.

A big crowd assembled to see the competitors start on their long ride.

Catalogues Wanted.

Messrs. Severo Dantas and Co., Rua 7 de Setembro 41, Rio de Janeiro, will be glad to receive catalogues of motor cycles and accessories.

U.H. Magnetos.

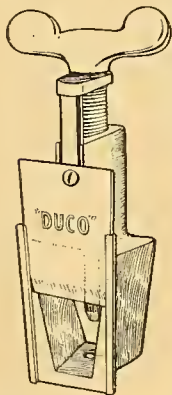
Messrs. S. Wolf and Co., of 115, Southwark Street, London, S.E., announce that they have taken up the agency for U.H. magnetos, starting from August 1st.

Second-hand Bargains.

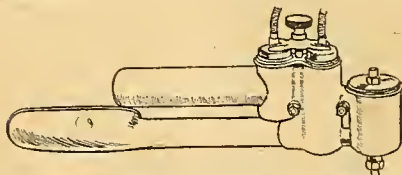
For a firm of dealers in second-hand machines to satisfy everybody is by no means an easy matter, and when such a happy state of affairs exists, it reflects no little credit on the principals concerned. That being so, we desire to place on record the fact that several readers have written us lately testifying to the fair square dealing that they have received at the hands of the Hitchen Motor Exchange Co., Ltd., Euston Road, Morecambe.

A Combined Belt Punch and Cutter.

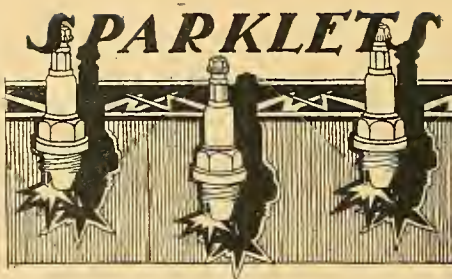
The Duco combined belt punch and cutter is a particularly handy tool for motor cyclists, and reduces the number of accessories carried. An important point which might be overlooked in connection with this tool is that it obviates the necessity of cutting the belt after punching, which frequently results in the fastener pulling through very quickly. We find that in using the tool the wing screw is difficult to turn when the cutter comes in contact with the belt. It would be much easier were the cutter diagonal in shape. The article is sold by Brown Bros., Ltd., Great Eastern Street, E.C.

**A Reliable Rubber-studded Cover.**

A month or two ago we fitted a Midland rubber-studded cover to the front wheel of one of our $3\frac{1}{2}$ h.p. machines, and covered 2,100 miles without experiencing a single puncture. At this distance the cover was removed, as the owner of the machine was about to start a tour, but there is no sign of a cut or gash in the cover. It would certainly last many hundreds of miles yet in its present condition, but we consider that retreading the tyre will at least double its life. Round about Easter time we had excellent opportunities of proving the efficacy of the Midland cover as a non-skid.



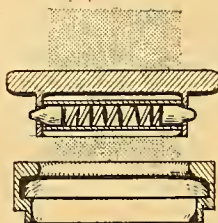
Auxiliary air chimney, as fitted to T.T. Douglas motor cycles. It is surprising how this little fakement is being adopted on different makes of competition machines.

**An All-weather Saddle Protector.**

V. W. Hart Johnson, Fakenham, sends particulars of an all-weather saddle protector which he has patented. Briefly the device consists of a waterproof covering carried in the metal case just below the saddle cantle. The covering works on a spring roller. When required the cover is unrolled, passed over the peak of the saddle, and fastened to a hook on the saddle pin.

Irish Motor Directory.

The latest edition of the Irish Motor Directory has just been published by W. Tempest, printer, Dundalk. The book has grown considerably since we first knew it, and is now a volume of no mean dimensions. It gives special articles on automobile affairs for the past year in Ireland, aviation, motor cycling, automobile law, and a motor directory, which is most useful to those who are seeking for small registration numbers of which a few may still be obtained in Ireland.

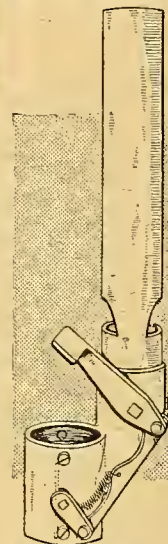


A novel petrol tank filler-cap designed by Mr. White, of Coventry. As may be seen this cap is not screwed on but affixed by means of a small spring.

those who are seeking for small registration numbers of which a few may still be obtained in Ireland

A Useful Series of Maps.

We are in receipt of the latest R.A.C. map, edited under the direction of the Royal Automobile Club by George Philip and Son. The particular section referred to is Sheet 5, which deals with Carnarvon, Denbigh, and Anglesey. These maps are noted for their clearness and accuracy, and with each is given a list of hotels and repairers and the various golf courses in the neighbourhood.



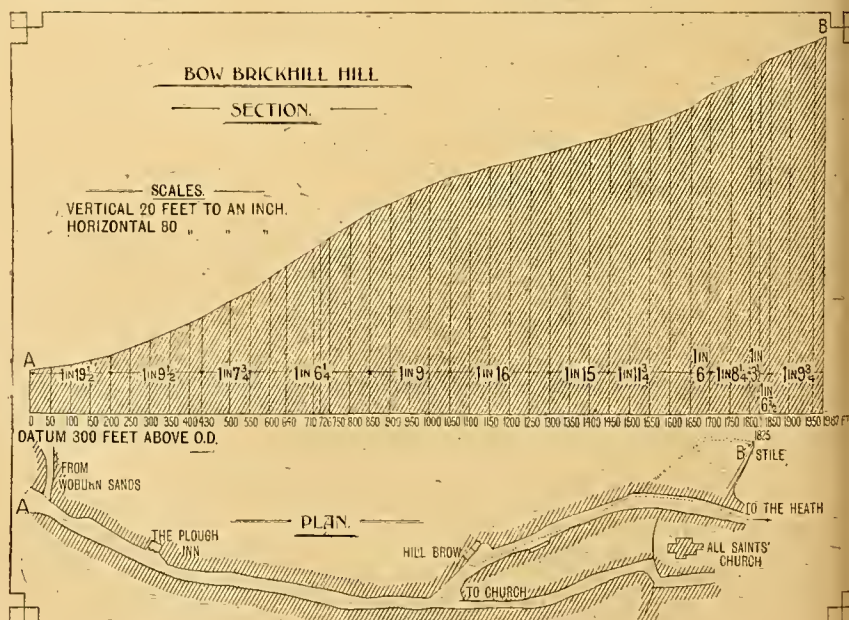
Rey exhaust whistle.

The Rey Exhaust Whistle.

Still another pattern of exhaust whistle is the one illustrated on this page and brought out by A. P. Rey, of Heath Street, Hampstead, N.W. It is specially designed for use on free engine Triumphs, and is made of brass throughout. This whistle is claimed to give a note at very low speeds and also with the exhaust valve lifted for running down hills. Its construction will be grasped from the accompanying sketch.

A Fine Climb.

Chas. S. Lake, the well-known mechanical engineer and motor cycle expert, has just witnessed the climbing of Bow Brickhill Hill, Buckinghamshire, by Mr. Mellor Jameson, on a $3\frac{1}{2}$ h.p. Zenith Gradua. In addition to Mr. Lake there were four other witnesses. It will be seen from the accompanying contour that there is a small section of 1 in $3\frac{1}{2}$ near the summit, and it is interesting to note that the surface consists of three inches of loose sand, unbroken metal, and other obstructions.



The "100%" A. J. S.



The Two A. J. S. Machines which secured First Class Certificates in the Northern Centre Quarterly Trial.

The competing machines were absolutely Standard Models, exactly as sold to the Public.

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In the A.C.U. Summer Quarterly Trial (Northern Centre Event) which took place on July 22nd,

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Thus repeating the previous unprecedented performance of the A. J. S. Team in the Spring Quarterly Trials (Yorkshire Centre Event).

If you want a machine on which you can rely under all circumstances, which is easy to handle and will climb any ordinary hill, let us send you particulars of the 2½ A. J. S.

A. J. STEVENS & CO., Ltd.,
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Success of the RICH in the London & Edinburgh and Six Days Record

ONCE

USED

ONE OF THE THOUSAND OPINIONS.

I am pleased to tell you that in preparing for the London and Edinburgh run, I fitted one of your Covers and Tubes to my motor cycle, along with a tyre and tube of another make. Am pleased to say that your tyre gave me no trouble at all, I had not even to use the pump, and gained highest award. Have done about a thousand miles on it now, and it appears none the worse for wear. I am fitting another of your tyres on the other wheel, as I am riding a six days' record next week.

Yours faithfully, HEDLEY V. SWIFT.

Sheffield, 21st June.

I am pleased to let you know that in my ride of Six Days, covering in all 2,025 miles, I had no trouble at all with my tyres, excepting one puncture. This trouble was soon overcome by taking out the punctured tube and fitting a new one. I did not on any other occasion put a pump on either valve, clearly proving that your system of Detachable Tube is excellent. I was on some very bad roads, and am delighted to say I can find not even a small cut in either tyre. This speaks well for your tyres, because those long rides are just the kind to test their worth. You may use this letter to any purpose you desire.

Yours faithfully, HEDLEY V. SWIFT.

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HEAVY.		EXTRA HEAVY.	
26in.	28in.	26in.	28in.
1½ .. 12/-	.. 13/-	2½ .. 23/-	.. 25/-
2 .. 16/-	.. 17/6	2½ .. 26/-	.. 29/-
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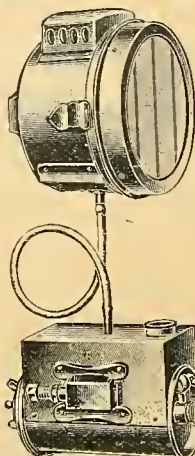
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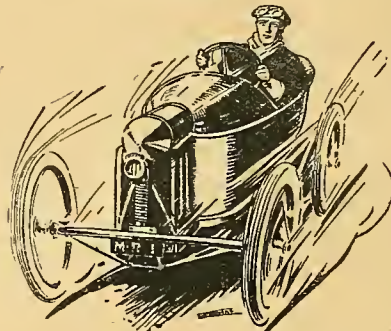
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Every Motor Cyclist who uses a Camera will find these books instructive and interesting.

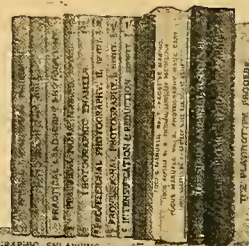
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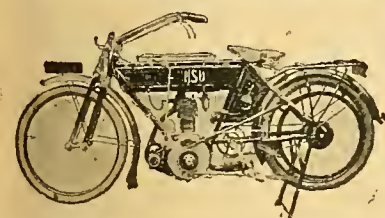


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A £48 Machine for £36.

By purchasing one of these N.S.U.'s you save £12. This is a tremendous discount. If you wish to secure one of these Special Sidecar Machines apply now. To-morrow may be too late.

THE N.S.U. 4h.p. MODEL DE LUXE



Brand new 1910 models fitted with 1911 spring forks. Frame extra low. Back stay ends allow back wheel to be easily detached. Engine M.O.V., double row of ball bearings, bore 82 mm., stroke 105 mm. Magneto ignition, gear driven. Carburettor N.S.U. improved model, handle-bar control, with special air regulator. Foot brake and internal expansion brake. Toolcase. Stand. Carrier. Footrests and number-plates fitted.

£36 each. Two-speed Gear, £5 15s. extra.

Exchanges entertained. £3 allowed for push cycle.

Special prices to cash buyers.

5 h.p. REX DE LUXE, 1910, two speeds	£42 10
5 h.p. REX Twin, 1910	£29 10
3½ h.p. REX Tourist, 1910	£29 10
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3½ h.p. REX, 1909, two speeds	£32 10
6 h.p. Twin N.S.U., 2 speeds, spring forks	£29 10
5 h.p. N.S.U. Twin, two speeds	£27 10
3½ h.p. N.S.U., two speeds, 1908	£20 0
3½ h.p. N.S.U., 1908, magneto	£17 10
3½ h.p. N.S.U., 1908, magneto	£16 10
3½ h.p. HUMBER two-speed, 1909	£23 10
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2 h.p. CLEMENT-GARRARD Lightweight	£7 10
2 h.p. KERRY, 26in. wheels	£9 10
2 h.p. HOBART, low build	£8 10
3 h.p. MITCHELL, spray	£6 10
3 h.p. NOBLE, vertical engine	£7 10
3 h.p. F.N., 1910, two-speed model	£28 10
5-6 h.p. F.N., four-cylinder	£20 10
5 h.p. N.S.U., M.O.V.	£12 10
2 h.p. MINERVA, M.O.V., h.b. control	£7 10
5 h.p. Twin REX, with forcerc	£12 10
3 h.p. ROVER, chain drive, P. & M. gear, complete with Sidecar	£18 10

TRICARS AND CARS.

9 h.p. DARRACQ Car, three speeds	£19 10
16 h.p. EAGLE Four-cylinder, five-seater	£32 10
4 h.p. STEVENS' Tri-car, Roc two-speed	£17 10
5 h.p. REX Twin, Hit-all two speeds	£17 10
4 h.p. PHENIX, magneto, two speeds	£17 10
5 h.p. REX, open frame, two speeds	£18 10

MISCELLANEOUS.

Carburettors—Longuemare and F.N.	4/6
B. & B. or Amac	5/6
Long Handle bars, drop ends	5/6 and 6/6
Coronet Sidecars, up to 5 h.p.	3/3 and 4/8
XLALL Spring Forks	9/8
Gripkin Belting: ¾ in. 9d., ¾ in. 10d., 1 in. 11d.	
Mabon free engine clutch	25/-

Booth's Motories,

Keighley Mills, Bedford Street North, Halifax.
Tel. 1062.

MOTOR BICYCLES FOR SALE.

LATE 1910 Triumph Motor Cycle, with spares and accessories, as new; £37/10; perfect.

3½ h.p. N.S.U., magneto, just overhauled, very fast; 2 a sacrifice, £15.

3½ h.p. Minerva, magneto, perfect running order and lovely condition; £15/10.—Loynds, Duckworth St., Darwen.

V.S., 5h.p. Roc 2-speed gear, just re-enamelled, plated, and overhauled, very fast; £32.—Below.

REX, 1908; 5h.p., just overhauled and in splendid condition, smart machine; cheap, £25.—Below.

PREMIER, 1911, 3½ h.p., not been used much, in perfect condition, with several fittings; £40.—Stanley Motor Garage, Westbrook St., Bolton.

1907 Triumph, magneto, h.b.c., Watawata belt, lamp, etc., complete, excellent condition; £22.—Below.

N.S.U. 2½ h.p. Lightweight, 1911; brand new, under-gear pulley, magneto; £36.—Below.

1910 Singer Moto-Velo, 2h.p., lightweight, magneto, new tyres, two new belts; £25.—Below.

1907 Triumph, magneto, new cylinder, piston, carburettor, h.b.c., just back from makers; £24.—Below.

1911 B.S.A., Rover, and Triumph, free engine models, from stock.—Hartley Clegg, Ltd., Burnley.

5 h.p. Indiana, 1910, green, excellent condition; £37; exchange for P.M.—18, Louis St., Leeds.

1911 Triumph, free engine; 1911 Bradbury, can deliver immediately.—Lord, agent, Rochdale.

1911 T.T. Triumph, as new, will top 60 m.p.h.—Box No. 8,000, The Motor Cycle Offices, Coventry.

1909 3½ h.p. Standard Triumph, in excellent condition; £29, bargain.—7a, Bradford St. West, Bolton.

ENFIELD Lightweight—Sole agents for Manchester and district, Newton's, Blackfriars St., Manchester.

MOTO-REVE, 1910, 2h.p. twin, perfect order, spares; trial; £25.—Holmes, Wellington Mills, Huddersfield.

ON Sale, N.S.U., 2-speed gear, overhauled Feb., splendid condition; £3.10.—19, Mayfair Gardens, Rochdale.

2½ h.p. Lloyd Lightweight, new tyres, re-bushed, excellent condition; £12/10.—68, Wellington Rd. Stockport.

1911 Standard Triumph, owner going abroad; £42, or nearest offer.—Dr. Septimus, County Asylum, Lancaster.

1911 Bradbury, 2-speed model, brand new; £49; reason for selling, bought car.—35, Market St., Shaw, Oldham.

N.S.U., 1908, magneto, 3½ h.p., splendid running order; £14.—J. Smith, seen at H. Burrell, cycle engineer, York Rd., Leeds.

MOTOSACOCHE, late 1910, perfect order, absolutely reliable; £18, bargain.—2,069, The Motor Cycle Offices, Coventry.

SINGER Motor Cycle, with the engine in back wheel, magneto ignition, perfect running order; £6.—F. Packard, Settle.

A.J.S., single gear, belt driven, or 2-speed, chain driven; both in stock.—Sole Manchester district agents, Keys, 162, Deansgate.

MATCHLESS, world-renowned, twins and singles in stock, at Manchester district agents, Keys, 162, Deansgate.

1908 Rex, Bosch, Triumph carburettor, Advance, Continentals, new belt; £17, nearest.—Lee, 158, Sefton St., Southport.

5 h.p. Twin Rex, spring forks, footboards, horn, good condition, easy start; £16.—Hen-law, wheelwright, Stockport.

N.S.U., 1911, 5½ h.p., model de luxe, 2-speed and free engine and Roc 2-speed gear, Bosch magneto, B. St. Annen-on-Sea.

7-9 h.p. Peugeot, very low, powerful sidecar machine, perfect; £18, or exchange for lightweight.—8, Lanrel Grove, Southport.

LIVERPOOL Agents for Motosacoches, R.S.A., Phelon and Moore, and F.N. motor cycles.—British Cycle Co., 1 and 3, Berry St.

MOTOSACOCHE, 1910, magneto, first rate condition, just overhauled, Whittle and h.b.c.; £22.—Muir, 42, Deansgate, Manchester.

HUMBER, 3½ h.p., 1909, 2-speed, free engine, and sidecar, new belt, Palmer; £30, or sell separately.—Gregory, Bridge St., Sheffield.

BRADBURY, magneto, new, B. and B., belt, handlebars, tank, tyres, excellent accessories; £16/10.—Balmforth, Park Rd., Ormskirk.

5-6 h.p. Dot-Jap, magneto, Druids, h.b.c., Palmer tyres, in splendid condition; £21.—Auto Machine Products Co., Lane End, Eccles, Lancs.

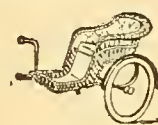
INVINCIBLE Bradburys, N.S.U.'s spring frame, and lightweights in stock; lists free.—Merrick's Stores, 174, Listerhills, Bradford. Tel.: 2439.

ARIEL, 1911, free engine, variable gear, spares, new land, auctioneer, Dinnington, Rotherham.

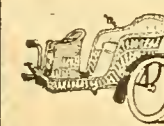
CORONET SIDE CARS



MODEL C.—£7 2s. 6d.



MODEL A.—£5 5s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest car pattern mudguards. Wicker, cane, or coach-built bodies. Child's reversible seat. Excellent upholstery.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURY'S, etc. Discounts to Agents.

TEE BEE SEAT-PILLAR.



5/-
each.

TYRES. TYRES. TYRES.

Dunlops, 28x8 or 2½, headed, 14x9; wired	10/8
Clipper Reflex, 24x2 or 2½	8/6
26x2½ Tubes 6/9; 28x2, 6/9; Butted	7/9
Covers, best make, 2½ in., 17/6; zin.	15/6

GENUINE MICHELIN TYRES.

26x2	14/8	28x2	16/9	headed
26x2½	17/-	28x2½	18/3	"
26x2½	21/-	28x2½	22/6	"
26x2	12/3	28x2	13/-	wired
26x2½	14/-	26x2½	16/-	"

R.O.M.'s, SHAMROCKS, PALMERS, etc.

Old covers taken in part payment.

ENGINES:

4 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
5 h.p. DALMAN, brand new, water-cooled, boat or stationary, M.O.V.	£11 15
3½ h.p. N.S.U., M.O.V., with gear-driven magneto, brand new from makers	£11 10
5½ h.p. N.S.U., accumulator ignition	£7 5
4½ h.p. DE DION, genuine, water-cooled	£7 15
3½ h.p. BROWN, M.O.V., with magneto	£7 10
1½ h.p. Water-cooled boat engine	£2 10
3½ h.p. AUTOMOTO £2 0 | 2 CYCLONE, m.o.v.	£1 15
1½ h.p. MINERVA £1 8 | 3½ h.p. BROWN	£5 15
3 h.p. QUADRANT £3 0 | 3 h.p. ANTOINE	£2 0
2½ h.p. TRENT £1 18 | 2 h.p. ANTOINE	£1 8
2½ h.p. DE DION £2 5 | 3 h.p. ZEDEL	£3 15

Exchanges entertained.

MAGNETOS. MAGNETOS. MAGNETOS.

We have a large stock of the best makes from 59/6. Your old coil and acc. taken in exchange.

NEW CARBURETTORS FOR OLD.

22/- and your carb. secures a new 1911 B. and B. with h.b. control.

20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control.

Delivery per return.

BOOTH'S MOTORIES,

KEIGHLEY MILLS, BEDFORD ST. NORTH

(off Pellon Lane), HALIFAX. Tel.: 1062.

SPECIAL SALE.Usual Price. **ALL PRICES REDUCED.** Sale Price.

INDIAN, 5 h.p., 1910 model, green finish, tyres as new, just been overhauled.	£36	Guaranteed	£30
BAT, 8 h.p., 1911 latest T.T. model, grey finish, overhead valves. Guaranteed	£52		£45
P. and M., latest 1910 model, 3½ h.p., two speeds, been very carefully used, complete with Portland £6 6s. sidcar. Guaranteed	£58		£52
P. and M., 1909 model, two speeds, Bosch magneto, very fine order. Guaranteed	£36		£30
T.A.C. (Wilkinson), four-cylinder, three speeds, sprung all wheels, handle starting, complete with T.A.C. special sprung sidcar, 1911 throughout. Guaranteed	£68		£60
N.S.U., 6 h.p., two speeds, 1910 model, Bosch magneto, spring forks, M.O.V., complete with Chater-Lea sidcar. Guaranteed	£40		£33
REX, 5 h.p., 1909 model, spring forks, Bosch magneto, very fast. Guaranteed	£32		£28
MOTO-REVE, 2½ h.p., practically new, 1910 model, grey finish, low, magneto, twin model. Guaranteed	£30		£25
MOTOSACOCHE, 2½ h.p., latest 1911 model, M.O.V., Whittle belt, free-engine model, not done 900 miles, and as new. Guaranteed	£32		£26
PEUGEOT, 3½ h.p., Chater-Lea fittings, Bosch magneto, very low built. Guaranteed	£28		£22
PEUGEOT, 5-6 h.p., twin, Chater frame, Bosch magneto, very fine order and condition, exceptionally low. Guaranteed	£30		£24
TRIUMPH, 3½ h.p., 1909 model, footboards, spring forks, Bosch magneto, very good order. Guaranteed	£37		£29
REX, 5 h.p., free engine, spring forks, very low built and fast. Guaranteed	£21		£15
ARIEL, 3½ h.p., magneto, low built, footboards, 1910 model. Guaranteed	£35		£28
INDIAN, 5 h.p., clutch model, latest 1911, blue finish, perfect order. Guaranteed	£55		£50
QUADRANT, 3½ h.p., 1911 model, magneto, had very little usage. Guaranteed	£38		£30
QUADRANT, 3½ h.p., two speeds, Bosch magneto, spring forks, very fine sidcar machine. Guaranteed	£25		£16
ROC, 4 h.p., two speeds, Bosch magneto, handle starting	£29		£25

HALIFAX STOCK.

F.N., 4½ h.p., practically new engine, low built, shaft drive. Guaranteed	£29		£22
QUADRANT, 3½ h.p., new 1911 model, never been on road, spring forks, Bosch magneto. Guaranteed	£48		£42
N.S.U., 2½ h.p., twin, spring forks, free engine, 1910 model, Bosch magneto, perfect. Guaranteed	£26		£20
REX, 5 h.p., Speed King, 1909½, just been thoroughly overhauled and rebushed, like new throughout	£32		£28
SCOTT, two speeds, water-cooled, Bosch magneto, just been overhauled. Guaranteed	£37		£33
HUMBER, 3½ h.p., 1909½ model, two speeds, very low, Bosch magneto, very fast, complete with sidcar. Guaranteed	£37		£32

TRICARS AND CARS.

REXETTE, 5½ h.p., water-cooled, open frame, two speeds, handle starting, very good order	£24		£20
HUMBER, 4½ h.p., two speeds, wheel steering, open frame, coach built, handle starting	£26		£17
STAR Car, 9 h.p., two-seater, three speeds and reverse, handle starting, tyres like new, a bargain	£40		£20

50/- deposit secures under-mentioned:

2½ h.p. Antoine	£8	2 h.p. Rex	£8
* 3 h.p. L.C.	£10	3 h.p. De Dion	£11
* 3½ h.p. Antoine	£10	2½ h.p. F.N.	£12
* 3 h.p. Lloyd's	£11	2 h.p. Quadrant	£7
2½ h.p. Quadrant	£8	2 h.p. Chase	£8
2 h.p. Singer	£5	2½ h.p. Barter	£8
* 2 h.p. Brown	£6	2 h.p. Minerva	£7

ENGINES.

*AUTO-MOTA, 3 h.p., very powerful	£3
SAROLEA, 2 h.p., brand new, complete with Bosch magneto, plug, silencer, etc.	£8
SAROLEA, 2 h.p., as above, but with contact breaker, new and guaranteed	£6

Sidcar Combinations Wanted for Cash.

MAUDES' MOTOR MART, 136, GREAT PORTLAND ST., LONDON, W. Telephone 552 Mayfair. Telegrams: "Abdicato, London."	
20, POWELL STREET, HALIFAX. Telephone 433 National. Telegrams: "Petrol, Halifax." (LISTS POST FREE.)	

MOTOR BICYCLES FOR SALE

1910 Triumph, Jones speedometer, exhaust whistle, watch, lamp, horn, spare belt, etc., excellent machine; £38.—39, Sitwell Rd., Sheffield.

LIVERPOOL Agents for Triumph, Douglas, Matchless, Singer, and A.J.S. motors—Hitchings, Ltd., 74, Bold St. Cower speedometers in stock.

SINGER Clutch Models in stock; immediate delivery: crated and carriage paid to your door from Hitchings, Ltd., 74, Bold St. Liverpool, official agents.

1910 6 h.p. N.S.U. speeds, Millford sidcar; £40, or exchange small car.—Packer, Cromer St., York

8 h.p. Chater-Lea No. 7, brand new, heavy Kempshall voltinette covers, J.A.P. engine; cost £86, offers wanted.—A. H. Burnell, 26, Aire St., Castleford.

ZENITH, 3 h.p., brand new condition, guaranteed not run 200 miles; £51: first cheque secures.—Emburo Cycle and Motor Co., 191, Holderness Rd., Hull.

1910 Rex, new last September, in good condition, with all spares, including lamp, belt, tube, etc.; £35.—Sugden, 6, Bolton St., Low Moor, Bradford.

NEW Special B.S.A. fier, latest variable jet, R. and B. carburetter; cost £52/10 last week; done 70 miles; £45/10; bought car.—Lord, Mountfield, Prestwich

MOTOR Cycle, N.S.U., 6 h.p., 2-speed gear, free engine, spring forks, equal to new; £30.—William Rothwell, 5, Heywood St., Great Harwood, near Blackburn.

PHOENIX-MINERVA Motor Cycle, £2; flexible leather belting, 3 9d., 2 1/-, 1 1/3, 1 1/6 per foot.—H. Jowett, Upper Spen Terrace, Gomersal, Yorkshire.

1907 Triumph, perfect condition, h.b.c., new Davison tank, front tyre, tubes, and belt at Whiteside, spare valves, tube, belt; £23.—Haigh, King St., Huddersfield.

31 h.p. Rex (June, 1909), new Shamrock studded back

32 new Michelin front, Anap, h.b.c., new Lyso belt, spare valve and Riches tube; £23.—Taylor, 20, Briggate, Knaresborough.

51 h.p. N.S.U., twin-cylinder, 2-speed gear and free engine, take sidcar anywhere, too powerful for owner; what offers?—Parker, c/o Bentley, 61, Bolton St., Chorley, Lancs.

PHOENIX and Moore Motor Cycle; 1910, splendid condition, just thoroughly overhauled by makers, 1911 improvements; seen by appointment; price £49/10; no offers.—Dr. Sproule, Mirfield.

1910 Enfield Lightweight (August), lamp, spares, absolute new condition throughout; £28 cash; give above and cash for sidcar machine, Phelon-Moore preferred.—Dossier, Slingsby, Yorks.

MOTO-REVE, 2 h.p., lightweight, new condition throughout, touring trim; private owner; only wants seeing; £20: ride 50 miles to prospective purchaser.—Laird, Horbury, Wakefield.

MINERVA Twin, 4 h.p., equal to new, magneto, Mabon clutch, new Continental studded, complete; real bargain, £25, or near offer.—Mossley Motor and Engineering Co., near Manchester.

8 h.p. Bat-Jap, August, 1909, Mabon clutch, export model, Whittle and Dunlop belts, many spares, excellent sidcar machine; any trial; nearest £37.—Scott, 95, Caledonian Rd., Leeds.

NEARLY New 1911 P. and M., fitted with chain cover, tube case, etc., tyres unmarked; ill-health cause of selling; lowest £54/10.—Local agents, Emburo Cycle and Motor Co., 191, Holderness Rd., Hull.

1911 Premier, 5 h.p., free engine, h.b.c., auxiliary exhaust, lamp, generator, horn, ridden 400 miles; £45 cash; owner buying motor car.—Apply, "Premier," c/o Gymnasium, Duke St., St. Helens.

T.T. Model Twin Dot-Jap, overhead valves, 85x58, chain drive, P. and M. 2-speed gear, B. and B. or J.A.P. carburetter, very fast machine, condition as new; £50.—Percy Butler, 3, St. Peter's Sq., Manchester.

TO Sell, 3½ h.p. 1911 Humber motor cycle, 2 speed and free engine, and several accessories, including one butt-end inner tube, not ridden 500 miles, only used two months; nett £46.—Whitfield, Ramsden St., Huddersfield.

1911 Scott, in perfect condition, as received from makers, only been used a few weeks, unspratched, and with bear expert examination; what offers? owner buying car.—8,064, c/o The Motor Cycle Offices, Coventry.

BAT-JAP, 7-8 h.p., 1910, and sidcar, or sell separate, guaranteed perfect, as new, fully equipped, plenty of spares; £50.—J. H. Kearns, Carlton Villa, 57, Northumberland Rd., Old Trafford, Manchester.

3 h.p. Chater-Lea-Minerva, new condition, long bars, low, 13 stones on pedal, excellent condition; £15, or exchange for powerful twin.—Radcliffe, Lee Bridge, Halifax.

REX, 1909, 3 h.p., 2-speed, free engine, magneto, Cower, front Palmer cord, back Rom steel studded, spare Continental, lamp, spares, excellent condition; bargain; full particulars; £26 cash.—N. Slater, Tennyson Rd., Mill, Preston.

1906 Rex Tourist, 3 h.p., m.o.v., spring forks, Lyett's spring saddle, h.b.c., 1911 B. and B. lamp, tools, spares, excellent condition; sacrifice, £15/10; bought monocoar.—Allsopp, 461, Mill St., Bradford, Manchester.

Clearance of Accessories

If it's not in the air, and it's not in the engine, it's in this List. Q.E.D.

Below occurs a special opportunity of procuring some indispensable article at pounds or shillings under cost price. All goods on appro., and new where stated. Subject to being unsold.

BOSCH Magneto, high tension, twin-cylinder, brand new	D.A.V. 45°	£3 15
Ditto ditto ditto	50°	£3 15
Ditto ditto ditto	45°	£3 15
Ditto ditto ditto	50°	£3 15
FEIN Magneto, single-cylinder, high tension brand new		£2 15
MILLFORD "Gloria" Coach-built Sidecars, Dunlop tyres, brand new, never been used. List price, £18 18s. Our price		£12 12
SAROLEA Engines, 2 h.p., brand new, and guaranteed. List price £16. With new Bosch magneto		£7 15
SAROLEA Engines, for coil and accumulator, brand new		£4 0
BELT CASES, brand new, take any size, each		3/6
F.R.S. Lamp, back door opening, latest 36/6 1911 model, with plated carrier, only once used		27/6
F.R.S. Lamp, back door opening, Mangin lens, with plated carrier		20/-
F.R.S. Lamp, slightly dented, otherwise perfect, with hood and carrier		15/6
F.R.S. Patent Generator, slightly dented		6/-
PRINCE OF WALES Lamp, complete with generator, divided glasses		7/6
Electric Lamp, 4-volt, complete with lamp		4/6
GLARE Car Electric Head Lamps, brand new. List price £3 10s. each. Clear at		35/-
GLARE Electric Car Sidelights, new. List price 6/6. Clear at		30/-
G. and A. Automatic Carburetter, like new		8/6
LONGUEMARE MINERVA, extra air and throttle		5/-
LONGUEMARE, twin outlet air and throttle B. and B., brand new latest 1911 handle-bar controlled models. List price 30/-. Our price		25/-
B. and B., extra air and throttle, good order		8/6
HUMBER, aluminium body, good order		3/-
TRIUMPH Toolbag, fits carrier		3/6
ACCUMULATOR Bag, brand new		4/-
Several PANNIER Bags	6/- to 15/-	
TOOL ROLLS, less tools		1/3
Fuller Accumulators, 4-volts, all brand new and perfect, 20 amps		9/-
Ditto ditto ditto	16 amps	8/6
Ditto ditto ditto	12 amps	8/3
Ditto ditto ditto	10 amps	7/-
Special C.A.V. Coils, high speed tremblers, guaranteed twelve months		13/3
Tubular Carriers, complete with straps		4/-
Contour Books, under license from Gall and Inglis, each		4/-
Red Sidcar Aprons. Clear at		5/9
Sidcar bodys, new		12/-
STEWART Speedometer, good order		42/6
COWEY Speedometer, mileage recorder		62/6
VEEDER Distance Recorder		4/6
Handle-bar MIRRORS, perfect		2/11
EXHAUST Whistles, new and perfect		3/1
Wrist MIRRORS		-6/-
N.S.U. TWO-SPEED Gear, perfect order		£3 0
Inner Tubes, all sizes, second-hand, but good condition		5/-

26 x 2 ROM Combination Covers, brand new.

List price 52/- Clear at

28 x 2 ROM Combination Covers, brand new.

List price 54/- Clear at

26 x 2 Continental-F.N. Studded pattern, to suit F.N.'s, only used once, perfect

21 x 2 Peter Union, retread, never since used, extra heavy

24 x 2 Peter Union Steel-studded, brand new

24 x 2 Shamrock-Excelsior, extra heavy, studded, brand new

26 x 2 Kempshall Anti-skid, brand new

26 x 2 Shamrock Special Studded Wired Cover, new

26 x 2 ditto ditto ditto

NOTE.—Above-mentioned tyres are not clearance

lines, but all genuine.

Other goods too numerous to mention. Send us your requirements.

SUCH OPPORTUNITIES MAY NEVER OCCUR AGAIN.

MAUDES' MOTOR MART,

136, Great Portland St., LONDON, W.

Also Powell Street, HALIFAX.

'Grams': "Abdicato, London" 'Phone: 552 Mayfair.

SATISFACTION—

the cheapest form of

ADVERTISEMENT!

We are seeking to give you satisfaction. Our UNIQUE system of business makes it impossible for you to be dissatisfied in dealing with us, as if you order anything from us that does not suit you, you are at liberty to return it at once and have your **MONEY BACK**. We do this whether the amount is 1/5 for a pair of goggles or £45 for a motor cycle. You get it immediately the goods are returned to us. If you have not TRIED US, do so. REMEMBER, we are the ONLY FIRM in the whole world who do this. **DEAL WITH THE MONEY-BACK FIRM.**

NOTE.—It is not a question of crediting you with this, that, or the other; it is not a question of exchanging the goods, but when an article does not suit you, you have the **MONEY YOU PAID RETURNED AT ONCE, WITHOUT DEDUCTIONS**, as with others.

NOTE the following **SPECIAL CUT PRICES FOR CASH**. At these prices we cannot swap.

MOTOSACOCHE	£14 0
N.S.U., 1 1/2 h.p.	£13 0
MOTOSACOCHE, 1910, free engine	£24 0
F.N., 1910, 2-speed	£21 0
F.N., 1 1/2 h.p.	£12 0
DOUGLAS, 1909	£21 0
DOUGLAS, 1909, fine order	£22 10
DOUGLAS, 1910, fine order	£29 0
SIMMS, 1 1/2 h.p.	£12 0
ENFIELD, 2-speed, 1911, as new	£36 0
ENFIELD, 1910	£28 0
DOUGLAS, 1910	£28 0
F.N., 2 1/2 h.p., 1910, 2-speed	£19 0

SIDECAR MACHINES.

GREEN INDIAN, 1910	£36 0
REX, 5 h.p., fine order	£29 0
J.A.P.-CHATER-LEA, 8 h.p.	£39 0
ROC, 4 h.p., 2-speed	£25 0
BAT, 1911, 3 1/2 h.p.	£35 0
PHANOMEN, 2-speed, 5 h.p.	£21 0
RED INDIAN, 5 h.p., 1910	£37 10
V.S., 2-speed, 5 h.p.	£39 0
P. and M., 1909, strong puller	£34 0
HUMBER, 1910, 2-speed	£30 0
P. and M., 1909	£33 0
BAT, 1910, 5 h.p., good order	£39 0
N.S.U., 1910, 2-speed, 4 h.p.	£31 0
PEUGEOT-CHATER-LEA, 5 h.p., 2-speed	£40 0
VINCE SPECIAL, 5 h.p., 2-speed	£25 0
N.S.U., 2-speed, 4 h.p., 1911	£35 0
N.S.U., 2-speed, 5 h.p.	£25 0

NEW 1911 MODELS READY FOR IMMEDIATE DELIVERY.

MOTOSACOCHE, 1911, free engine	£38 0
ROYAL ENFIELD, 2-speed, 1911	£45 0
CLYNO, 5 h.p., 1911	£64 0
SCOTT, 1911	£65 0
ZENITH-GRADUA, 5 h.p., 1911	£69 6
ZENITH-GRADUA, 3 1/2 h.p., 1911	£54 12
HUMBER, 1911, 2-speed	£50 0
DOUGLAS, 1911	£38 18
DOUGLAS, 1911, 2-speed	£48 0
BAT-J.A.P. 8 h.p., 1911	£60 0
BAT-J.A.P., 1911, 3 1/2 h.p.	£40 10
BAT-J.A.P., 1911, 5 h.p.	£58 0
RUDGE-WHITWORTH, 1911	£48 0
BRADBURY, 1911, 2-speed	£55 0
BRADBURY, 1911, single-speed	£48 0

HIGH-CLASS SOLO MACHINES.

TRIUMPH, 1909, Roc conversion	£36 0
TRIUMPH, 1909, Mabon variable gear	£35 0
BRADBURY, 1911, as new	£45 0
F.N., 4-cylinder	£118 10
N.S.U., 3 1/2 h.p.	£23 0
N.S.U., 3 h.p.	£17 0
TRIUMPH, 1909	£28 0
TRIUMPH, 1910, free engine	£40 0
TRIUMPH, 1910, Mabon clutch	£39 0
QUADRANT, 3 1/2 h.p., strong puller	£19 0
SIMMS, 3 1/2 h.p.	£14 0
ARNO, 3 1/2 h.p., as new	£30 0
SIMMS, 2 1/2 h.p., magneto ignition	£10 10
TRIUMPH, 1909, fine order	£34 0
TRIUMPH, 1909, fine order	£32 0

MOTOR BICYCLES FOR SALE.

GOING Ahead.—6h.p. twin 1910 Chater-Lea Sarolea, unscratched, perfect; first cheque £36.—Morley, 18, Wainwright St., Nottingham.

MOTOR Cycle, 4h.p., sidecar machine, lamp, horn, stand, etc., Palmer tries, good condition; £12.—26, Old Allesley Rd., Coventry.

TRIUMPH, 1908, in perfect condition, used very little; can be seen and overhauled by mechanic; £25.—Vicar, All Saint's Vicarage, Coventry.

QUADRANT, 3 1/2 h.p., thoroughly overhauled and re-bushed, good tyres, new belt, accumulator; £10, or nearest offer.—Comley, Burges, Coventry.

1911 2h.p. Humber Lightweight, 2 months old, Palmer tyres, no fault; £33, or nearest offer.—Box No. 7,749, The Motor Cycle Offices, Coventry.

1911 Bradbury, fixed gear, new March, all spares, spare belt, grand sidecar bike; owner buying A.C.; £44.—Maddock, Hatton Park, Wellingborough.

HUMBER Lightweight, guaranteed not ridden 200 miles; cost £37, will accept £30 immediate cash, great bargain.—Richardson, Newlands, Northampton.

TWIN Rex, 5h.p., 1911 B. and B. carburettor, perfect condition, powerful; £18/10, or exchange for a 3 1/2 h.p. machine.—W. H. Warr, Ducombe St., Grimsby.

ARIEL, late 1910, 3 1/2 h.p., White and Poppe engine, Roc 2-speed gear, B. and B. carburettor, sidecar fitted; sell £36/10.—Brown's, 12, Bull Ring, Birmingham.

DOUGLAS, 1911 2 1/2 h.p. twin, spring forks, only used few times, equal new; £33/10.—Brown's, 12, Bull Ring, Birmingham.

LIGHTWEIGHT F.N., 2 1/2 h.p., Bosch magneto, spring forks, h.b.c., good order; £19.—Brown's, 12, Bull Ring, Birmingham.

MOTO-REVE, 2h.p., magneto ignition, Druid spring forks, h.b.c., good order; £19.—Brown's, 12, Bull Ring, Birmingham.

3h.p. R. and P., Bosch magneto, B. and B. h.b.c. carburettor; sell great bargain, £17/10.—Brown's, 12, Bull Ring, Birmingham.

ARNO, 3 1/2 h.p., 1911, magneto, Druid spring forks, Amie, h.b.c., full accessories, equal new; £32.—Brown's, 12, Bull Ring, Birmingham.

N.S.U., 2 1/2 h.p., lightweight, twin, 1910 model, magneto, spring forks, h.b.c., carburettor as new; £23/10.—Brown's, 12, Bull Ring, Birmingham.

1910 Twin Rex de Luxe 5-6h.p., Roc 2-speed gear, Bosch magneto, spring forks, fitted with handsome sidecar; £45/15.—Brown's, 12, Bull Ring, Birmingham.

1910 Rex Tourist, 3 1/2 h.p., m.o.v., Bosch magneto, B. and B. carburettor, grand order; bargain, £29.—Brown's, 12, Bull Ring, Birmingham.

WOLF, 2h.p., Stevens engine, magneto, very light; bargain, £14/10.—Brown's, 12, Bull Ring, Birmingham.

ROYAL Enfield, late 1910, excellent condition, with Broadbent lamp and horn; must sell, bought higher power and sidecar; 21 guineas.—7, Dover St., Leicester.

J.A.P., 4h.p. (85x95), Chater-Lea, Druid forks, free engine, Palmer cord and Clapham tyres, powerful sidecar machine, a run 2,000 miles; £22.—Curtis, Hill St., Birmingham.

5 1/2 h.p. N.S.U. 2-speed and F.E., magneto, Whittle, 2 Continental, recently overhauled, excellent condition, Montgomery sidecar; bargain, £25.—Brookdene, Park St., Grimsby.

FN., 2 1/2 h.p., belt, accumulator, perfect condition, including tyres; worth £12; best cash offer, or exchange 3-speed cycle, or jewellery and cash.—37, Harcourt St., Newark.

ARIEL, late 1910, free engine, variable gear, spring seat, latest patent decompressor, not ridden 500 miles; any trial freely; 35 guineas, cash.—77, Birchfield Rd., Northampton.

REX de Luxe, 5-6h.p., 2 speeds, handle starting, lin. Whittle belt, splendid sidecar machine, spares; bargain, 40 guineas, take single in part exchange.—56, Sutton Rd., Aston Manor.

HUMBER Birmingham Depot, 78, New St. Tel. Central 7298. T.A.: Dependable, Birmingham. All models now in stock, including special French grey and All Black, 2-speed, 3 1/2 h.p.

HUMBER, T.T., twin lightweight.—We are now booking orders for this marvellous solo machine; delivery end of August.

HUMBER, 3 1/2 h.p., 2-speed, free engine model, ideal and economical for sidecar work; £50; trials and exchanges arranged.

HUMBER Depot.—We have a few bargains to offer.—1911 2-speed Humber, condition as new, £40; 1911 lightweight demonstration machine, £31; 1910 twin Norton, 5h.p., 2 speeds, free engine, £35.

CALTHORPE-PRECISION, practically new, £39; Humber, 1909, just overhauled, brought up to date, and re-camelled at works, £30.

HUMBER Repairs executed on the premises. 'Phone, call, or write to 78, New St.

ACCUMULATOR MACHINES.

REX, 3 h.p., poor condition of enamel	£6 10
BRADBURY, 3 h.p., strong machine	£9 10
HUMBER, 3 1/2 h.p.	£9 10
WERNER, 2 1/2 h.p.	£8 10
ARIEL, 3 1/2 h.p.	£9 10
MINERVA, 2 1/2 h.p., good machine	£9 0
MINERVA, 1 1/2 h.p.	£7 10
HUMBER, 2 1/2 h.p.	£9 0
KERRY, 2 1/2 h.p., useful model	£7 10

CLEARANCE TYRE LIST.

5 DUNLOPS, 28x2, B.E.	17/6
5 DUNLOPS, 28x2 1/2, W.O.	11/6
3 GORTONS, 28x2 1/2	19/6
1 GORTON 28x2	14/3
1 GORTON, 26x2 1/2	13/-
4 REFLEX, 28x2 1/2	15/-
3 MICHELINS, 26x2, W.O.	13/-
1 MICHELIN, 26x2 1/2, W.O.	15/11 1/2
5 CONTINENTALS, 26x2, W.O.	15/11 1/2
5 WINBORNES, 26x2 1/2, B.E.	16/-
3 Special Ribbed, 28x2 1/2, B.E.	17/11 1/2
1 SEVERN, 26x2 1/2, B.E.	15/11 1/2
1 Special Ribbed, 28x2 1/2	15/11 1/2
1 REFLEX, 24x2 1/2	14/11 1/2
1 A WON, 28x2 1/2	15/11 1/2
Special AJAC Steel and Rubber, extra heavy, for sidecar machines, 26x2 1/2	35/-
MORECAMBE Studded, old pattern	14/11 1/2
MORECAMBE Studded, new pattern	19/11 1/2
Heavy MORECAMBE Studded, osw pat.	23/11 1/2

Note.—These are **CASH PRICES**, and we cannot entertain allowances for old covers off same.

SPECIAL LINES.

Mabon 1911 Free Engine	£2 15
Large Side Bags	5/11 1/2
Swan-neck Seat-pillar	2/9
Special Strong Carrier	4/5 1/2
Any make Rubber Belting, 1in. per foot	1/10 1/2
Handle-bar Watch and Holder	3/11 1/2
Batted Tubes, all sizes, brand new	12/6
Triumph Pattern Handle-bars	5/6
Long Handle-bars	4/11 1/2
Large Triumph Pattern Horn	4/11 1/2
Exhaust Cut-outs	2/11 1/2
Handle-bar Mirrors	2/9
Large size ditto	3/11 1/2
Parker Self-contained Lamp	15/11 1/2
Special Bracket Separate Generator Lamp	23/6
F.E.N. Magnets	£3 4 1/2
B. and B. Carburettors, h.b.c., 1911	£1 3
Tube and Belt Cases	5/11 1/2
Belts, 7 1/2 x 1	6/11 1/2
Special H.B. Watch Holders	1/11 1/2
New Self-contained Lamp, large size, and	13/11 1/2
Special Twist Horn	3/11 1/2
New F.R.S. Generators	7/-
Rubber Goggles	1/5 1/2
Brass Exhaust Whistles	2/11 1/2
Tubes, 26 and 28 x 2, brand new	4/11 1/2
Leather and Steel-studded Bands	19/9
S.H. Lucas Lamps, complete	30/-
S.H. F.R.S. Lamps, complete	35/-
Garner's Whistles, post free	12/6
Trembler Coils	6/11 1/2
Non-trembler Coils	6/9
S.H. Bosch Plugs	1/7 1/2
Carbide Carriers	1/10 1/2
Lamp Brackets, all patterns	1/11 1/2
Horn Grips	2/4 1/2
Longueumare Carburettors, h.b.c.	12/6
T.B. Handle Starter	12/-
Cantilever Spring Seat-pillar, Triumph	7/8
S.H. P. and H. Generators, complete	7/6
S.H. Parker's Generators, complete	6/9
New Generators	4/11 1/2
Holland Motor Cycle Suits	9/11 1/2
Long Holland Coats	7/11 1/2
Waterproof Leggings	4/11 1/2
Ditto ditto with fronts	10/11 1/2
Ditto Suits	19/11 1/2
Tan Gloves, with gauntlets	4/6
S.H. Whittle Belts from 1/- per foot.	
Belt Fasteners, post free	-/6 1/2
Vulcan Belt Fasteners	-/10 1/2
Magneto Cut-outs	1/11 1/2
Dark Goggle Glasses, per pair	-/6 1/2
Unito Couplers	8/6

New Specification List now ready, post free.

Hitchen's Motor Exchange Co., Ltd.,
Euston Rd., MORECAMBE.
Telephone 112. Wires: "Motor."

MOTOR BICYCLES FOR SALE.

ZENITH Gradua, 3½ h.p., 1910, just overhauled, splendid condition. Rom back tyre, Whittle belt, new Stanley belt, unused, spares, and tools; £35.—Laxton, postmaster, Rippingale, Bourne.

ROYAL Enfield Motor Cycle, 2½ h.p., magneto, in perfect running order, with all accessories, very reliable, new last July; no time to use; price £24 cash.—Carlin, Redland Grove, Carlton, Nottingham.

P. J. EVANS, 358, Stratford Rd., Sparkhill, Birmingham, has one of the finest selections of motor cycles in the Midlands, both new and second-hand; look down my half-column advert for bargains.

TRIUMPH, 1910½, clutch, done 2,000 miles only, plate, enamel as new, Whittle, Kempshall back, lamp, horn, all spares, Palford castor sidecar; £45, or sell separately.—Down, 132, St. Luke's Rd., Birmingham.

TRIUMPH H.3, delivery from stock; T.T. model, £50; standard model, £48/15; also one free engine model, fitted with a sidecar, for a special order; order dropped through; combination for sale.—The Colmore Depot, 31, Colmore Row, Birmingham.

REX, 3½ h.p., 1911, new April, fast, perfect condition, enamel as new, with Serpentine horn, Cowey speedometer, Anticouple and generator, spare Continental and 2 spare tubes, new Hutchinson back cover; £39; trial allowed.—S. Whittle, Great Glen, Leicester.

3½ h.p. REX, renovated and engine renewed last year, latest Dunlop 26x2 rear and Silvertown front tyres, E.I.C. accumulator and B.M. coil, h.b.c., first-class running order, and good for sidecar or trailer work in this country; £14/10; photo.—Apply, Gladwin, Woodhall Spa.

1911 5 h.p. Twin Rex de Luxe and coach-built sidecar, extra spring seat, 26x2½ Continental non-skid tyres, King of the Road lamp, spare belt and tubes, and tools; cost £75, will take £65, or offer; giving up riding.—J. Tyler, 153, Pershore Rd., Catheridge, King's Norton, Birmingham.

1911 8-10 h.p. J.A.P. overhead valves, Bosch, 2½ in. Dunlops, adjustable pulley, Cowey, registering 100 m.p.h., luxurious mount, exceptionally fast, run 450 miles, lamp, carrier, tools, etc.; cost £70, 42 guineas; going abroad.—A Mackenzie Cott, Ashby Magna Vicarage, Lutterworth.

THE Osborne Motor Cycle, J.A.P. engine, 4-speed and free engine, no belt slip, patent eccentric spring forks, takes sidecar and climbs steep hills; trials by appointment; testimonials from delighted customers; only trial required to prove its great advantages.—Write, Osborne, Princess Works, Lincoln.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

NEW Triumph, free engine, new Bradbury, new Humber, 2-speed, in stock.—Lambert, Thetford.

TRIUMPH, motor cycle, new November, 1910, good condition; £45.—Crawley, St. Mary's, Bedford.

3½ h.p. Brown, h.b.c., spring forks, new belt, in perfect order; £15.—J. Gamble, Loke Rd., King's Lynn.

2½ h.p. Alldays, 1910, magneto, h.b. control, as new; £23, or exchange 3½ h.p.—Francis, cycle works, Marham, Norfolk.

IN Stock, Triumph and Bradbury, F.E. models, new; Bradbury standard, nearly new, £44.—F. Wilder, spin, High St., Chatteris.

1911 Standard Triumph, perfect order, not done 1,000 miles, new lamp, etc.; best offer over £40.—E. Meech, 11, Wheeler St., Cambridge.

2½ h.p. F.N., magneto, B.B. belt, tyres, everything in perfect condition; £15/10; will take sidecar part.—H. Ward, Crown Hotel, Wrexham, Stoke Ferry, Norfolk.

THE Big Douglas, Model D, 2½ h.p., in stock, carriage paid anywhere. Agents note.—Sole district agent for the renowned Motosacoche. Easy terms arranged.—Albert List, Ipswich.

THE Big Douglas, Model D, 2½ h.p., in stock, carriage paid anywhere. Agents note.—Sole district agent for the renowned Motosacoche. Easy terms arranged.—Albert List, Ipswich.

1911 (late) 5 h.p. Vindee Special, in perfect order, little used, too powerful for owner, fitted with Mabon clutch, and spare complete 2-speed wheel; £35.—Fred Flanders, 11, Regent Rd., Great Yarmouth.

TRIUMPH, 1910½, in perfect condition and ready to go anywhere, new Dunlop studded cover to back wheel, spare belt and button tube, etc.; a bargain, £35.—Jos. Wilkinson, 61, Harrington Rd., Wokington.

1910 2½ h.p. Enfield Lightweight, good condition, excellent, £24/10, easy terms if necessary; 1910 4 h.p. Quadrant, Albion free engine, also fixed pulley, new tyre on rear, just overhauled, all new parts required fitted, £35.—Parker and Son, St. Ives, Hunts.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

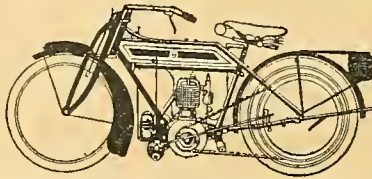
2½ h.p. Minerva, Whittle belt, low, in excellent condition; bargain quick sale, £10.—Hall, Ryelands Rd., Leominster.

£12 0 0 SAVED.

MAKERS' PRICE £48.

OUR PRICE, £36.

Brand new 1910 3½ Tourist Rex.



SPECIFICATION.—8½ bore, 89 stroke, spring forks, very low dropped frame, cantilever seat, ball bearings to engine-shaft, Bosch magneto, handle-bar control, foot and hand brakes, 6 in. Lyett's Lyso belt, 26 x 2½ in. Continental rubber non-skid tyres, footrests, number-plates, tools, toolbag, stand, and carrier.

Note.—Reduced price, £36. Two speeds, £5 15s. extra.

NEW MACHINES ON HAND.

1911 3½ h.p. PREMIER Tourist	£47 10
1911 3½ h.p. Tourist TRIUMPH	£48 15
1911 3½ h.p. Magneto RUDGE-WORTH	£48 5
1910½ 3½ h.p. Magneto REX, 1911 forks	36 Gns
Special 3½ h.p. Magneto REX, with pedalling gear	£32 0
1910½ Twin REX DE LUXE, 1911 forks and fittings	£24 10
1910½ 3½ h.p. Magneto REX, 1911 forks, Continental non-skids	36 Gns
Special 3½ h.p. Magneto REX, Continentals, fitted with pedals	£32 0
1911 3½ h.p. BRADBURY	£48 0
1910 5 h.p. Twin Tourist REX, Cantilever seat, non-skids	42 Gns
1910½ 5 h.p. REX DE LUXE, 2½ in. non-skids, 1911 fittings, cylinders, mechanical inlet valves	£54 10
1910 5 h.p. REX, grey finish	£38 10

EASY PAYMENTS.

DEPOSITS from £3 3s. upwards. Write us!

2½ h.p. J.A.P. accumulator ignition	£9 10
QUADRANT, 3½ h.p., magneto, spring forks	£24 10
F.N. Lightweight, magneto, spring forks	£19 10
REX Twin, 5½ h.p., spring forks, fast	£19 10
QUADRANT Trike, low, good	£6 6
BRADBURY, 2½ h.p., good value	£9 10
QUADRANT, 3½ h.p., good condition	£12 15
SINGER, 3½ h.p., magneto, 26 in. wheels	£17 10
Twin Magneto WERNER, spring forks	£16 10
6 h.p. Twin Magneto J.A.P.	£23 10
5½ h.p. N.S.U. free engine and sidecar	£33 10
REX, 3½ h.p., 8½ x 80, BRAND NEW	£35 0
HUMBER, 3½ h.p., two-speed, etc.	£32 10
REX, 1910, 3½ h.p., "hot stuff"	£23 10
QUADRANT, 3½ h.p., magneto, h.b.c.	£24 10
REX TOURIST, 1910, 3½ h.p., very fine order	£35 10
F.N. Lightweight, good order	£9 10
F.N. Lightweight, magneto, spring forks	£19 10
Two-speed Water-cooled 3½ h.p. REXEITE	£25 0
Two-cylinder DAIMLER, running order	£16 0

A CALL WILL REPAY YOU.

COLLIER'S "SUPERBE"

SIDECAR, £6-6-0

Complete.



SPECIFICATION.—Frame best quality weldless steel tube, with our latest design of quick detachable fittings, splendid C springs, wheel with rustless spokes, 2½ beaded tyre of best make, large mudguard securely fastened. Body finest wicker, well upholstered blue or green, large apron to match, with loops, studs, and storm flap.

Other Models from £3 15s. to £7 15s.

ALL QUICK DETACHABLE FITTINGS.

Send for Illustrated List. FREE!

Collier's Motories,
WESTGATE, HALIFAX,
ENGLAND.

MOTOR BICYCLES FOR SALE.

JAMES, standard, £48; also sidecars from stock; Quadrant, 3½ h.p., accumulator, excellent condition, £12.—Garage Company, Cowbridge.

TWIN Rex, free engine, Roe clutch, h.b.c., accessories, run 900, perfect condition; £27/10.—Mercedill, 6, Dixon's Green, Dudley, Worcestershire.

3½ h.p. V.S., 2-speed, free engine, new Shamrock belt, 32 and Rich tube, only done 5,000 miles, perfect condition; £23.—Wood, Morlais St., Dowlaish.

BRADBURY, new 1911, F.E. model, specially selected engine; in stock; £54; delivered any distance; first cheque secures; exchanges entertained.—Glover, Pershore.

MATCHLESS, 3½ h.p., 1911, practically new, specially adapted for racing or touring, perfect; 38 guineas; offers?—"Matchless," c/o Hayes, Clevedale, Malvern.

8 h.p. Bat, P. and M. 2-speed gear, Bat sidecar, ridden 500 miles, 2 months old, extra heavy Kempshall tyres; £70.—Thomas, 13, Dainton St., Milford Aven.

MOTO-REVE 2½ h.p. Twin, bought May, 1910, splendid condition, complete, all spares; illness cause of selling; a great bargain, £19, cost £36.—Box No. 3,963, The Motor Cycle Offices, 20, Tudor St., E.C.

TRIUMPH, 1908, all worn parts renewed, F.R.S. lamp, carrier, and generator, magneto shield, N.A.B. seat-pillar, Miller mud-shield on back, new belt, tyres excellent, Cowey speedometer; £32.—A. Dore, The Kestel, Kinderminster.

REX de Luxe, 1910, twin-cyl., 5-6 h.p., m.o.v., free engine and Roe 2-speed gear, Bosch magneto, B. and B. h.b.c. carburettor spring forks, cantilever seat, complete with sidecar; £45.—Lancaster, 103, Healey Rd., Selly Oak, Worcs.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants, and Channel Islands.

3½ h.p. B.S.A., in stock, new; offers?

2½ h.p. Twin, in stock, new; offers?

5-6 h.p. Roe Twin, 1910 model, 2-speed, new Ron treads on Dunlops, new condition; offers?

5-6 h.p. Indian, in perfect order, 1910 model; offers?

2½ h.p. Singer Moto-Velo, 1910 model, excellent condition; offers?—Randall, Andover.

LAYTON—N.S.U., 3½ h.p., 1908, 2-speed, spring forks; £17/10.

N.S.U., 3½ h.p., accumulator ignition, 24 in. wheel, very sound condition; £12/15.

N.S.U., 2½ h.p., 1910 twin, magneto, free engine, gear, pulley, spring forks, and spring seat-pillar, very fine specimen; £22.—Layton's, Bicester, Oxon.

B.S.A. Motor Cycles from stock.—Trinder and Osborne 2a and 3, Broad St., Banbury.

3½ h.p. Humber, h.b.c., fitted with 1911 improvements £110.—Dunster, 253, Market St., Eastleigh.

IMMEDIATE delivery B.S.A. and Premier motor cycles.—Eyles and Eyles, St. Aldates, Oxford.

IMMEDIATE delivery of free engine Singers and B.S.A. cars for same.—Gibson and Co., Atingdon, Berks.

BRADBURY—1911 Bradburies in stock; immediate delivery; trade supplied.—Ginger Motors, Banbury.

3½ h.p. Minerva, low, powerful, climb anything, just overhauled; £13.—Hobbs, Jun., Park St., Bristol.

£5/10, rare bargain.—Motor cycle, Minerva engine, 2 h.p., runs splendidly.—C. 45, Bartholomew St., Newbury.

3½ h.p. Triumph, 1911, April, as new, £43; 2-speed Humber, 1911, March, £40.—Watts, Raseomon, Lydney.

RUDGE-WORTH Motor Cycles from stock, standard model, £48/15.—Balfour's Motor Wks, Banbury.

BROWN Lightweight, new, 2½ h.p., cost £36, accept £30; 2½ h.p. F.N., perfect, new tyres, £12.—Rackie 4, Corn St., Witney.

ARIEL, 3 h.p., Drais forks, Whittle belt, 26 in. wheels any trial here; £10.—Williams, Brookside, De borough Park Rd., High Wycombe.

1908 Triumph, re-enamelled and overhauled, guaranteed perfect condition, tyres excellent; £25, real bargain.—Moore and Sons, Andover.

DOUGLAS, late 1909, cost 38 guineas, engine at tyres condition exceptional; price £25, or new offer.—52, Whiteladies Rd., Bristol.

TRIUMPH, 1910, in splendid condition, new Continental tyres, spare Dunlop and belt, £34; new sidecar to fit; £24/10.—Roberts, Basingstoke.

2½ h.p. Lightweight Bradbury, in splendid running order, h.b.c. tyres, belt, two accumulators, almost new; £8/10.—Taylor's Farm, Chesham, Bucks.

MOTOSACOCHÉ, 1911, 2½ h.p., new 9 weeks ago, magneto, Whittle, large saddle, splendid condition sacrifice £26; bought car.—Philpott, 172, Newfoundlan Rd., Bristol.

MOTOR BICYCLES FOR SALE.

5 h.p. Rex Speed King, 1910, as new, scarcely used, all accessories, fullest particulars given; bargain, £32.—Box No. 13,991, *The Motor Cycle Office*, 20, Tudor St., E.C.

5 h.p. Twin N.S.U., Amac carburetter, 2-speed gear, free engine, magneto, lamp, and spares, tyres good; any trial or examination; £50, or near offer.—*Harris's Garage*, Slough.

6 h.p. 1910 N.S.U., 2-speed gear, just been rebushed and new rings fitted, new tyre on back wheel, new belt, etc., in splendid condition; £35, with sidecar £40.—*Golf Club*, Cirencester.

REX, 5 h.p. twin, de luxe model, Bosch magneto, free engine, 2 speeds, new tyres, Palmer cord and Continental, just overhauled by manufacturers, with sidecar; price £37/10.—Owner, 44, St. Giles, Oxford.

THE Speedy Singer in stock, free engine; reliable Premier in stock, £37/10; several second-hand machines to be cleared at low prices; exchanges entertained.—*Martin*, Station Hill, Chippingham.

24 h.p. Minerva, m.o.v., Brown-Barlow, h.b.c., Clyno adjustable pulley, Lyett's Lyco, new belt rim, practically new engine, 2 accumulators, plain coil, frame out down, long handles, L.A.C. spring forks; £10.—*Winfred*, 493, Oxford Rd., Reading.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

WILTON Cycle Co.

VICTORIA, S.W.—See bargains below; all best makes in stock.

WILTON.—Bradbury in stock, free engine, £54/10; 2-speed, £55.

WILTON.—Clyno; sole S.W. agents; trial by appointment; early delivery.

WILTON.—Matchless; sole S.W. agency; early deliveries.

WILTON.—1911 Kerry-Abingdon, 3½ h.p.; £45.

WILTON.—1911 Moto-Reve, 2½ h.p.; £45.

WILTON.—New Enfield; £36.

WILTON.—Bradbury, 3 weeks old, 1910 standard model, all accessories, as new; £35.

WILTON.—F.N., 4-cyl., 4½ h.p., good order; £25.

WILTON.—Humber, 3½ h.p., 1910 standard, accessories; £25.

WILTON.—Exchanges and instalments, reasonable terms.

WILTON.—1910 Moto-Reve, 2½ h.p., with accessories; £25.

WILTON.—7 h.p. Brown, twin, Bosch magneto, B. and B. carburetter, just overhauled; £32.

WILTON.—1909 5 h.p. Sarolen, Chater-Lea, 4 speeds, new Druid forks, B. and B. carburetter, Bosch magneto, new Rom on back; £30, bargain.

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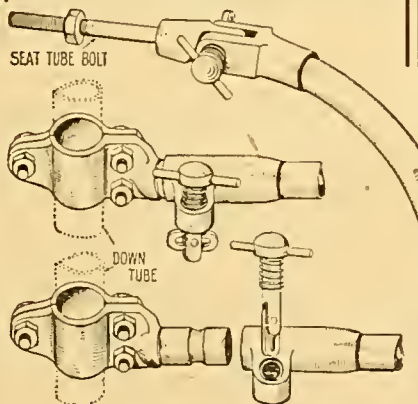
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TENHAM—Rex, 3½hp., single-cyl., 1909, magneto, grand machine; £25.—Below.

TENHAM—1910 Motosacoche, just overhauled by makers; £25.—Below.

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gate Circus.

FAFNIR, 3½hp., 1911 B. and B. carburettor, Davison
tank, Whittle belt, Dunlop and Palmer cord tyres,
splendid condition; only wants seeing.—Apply, 11,
Horsey Rise.

DOUGLAS, 1910, perfect condition, all accessories,
complete spares, Brooks B105P saddle, Rom tyres
(unpunctured), motor seat; £30.—29, St. Peter's Sq.,
Hammersmith.

3½hp. Triumph, late 1909, Michelin studded tyres
32" new; £30; also 4-cyl. P.N., nearly new, £24;
also Minerva, 3½hp., magneto, £18.—Taylor, 112, New
King's Rd., Fulham.

2½hp. M.M.C., engine in good condition, low, top
tube 3½in. from ground, good tyres and enamel;
£6; Guildford.—Box L3,992, The Motor Cycle Office,
20, Tudor St., E.C.

4hp. J.A.P. and sidecar, new tyres, good condition,
£25; also sidecar, 35/-; 2 ladies' motor cycles, 3½
hp. Minerva cylinder and piston, trailer wanted.—C.
West, Woking Village.

4½hp. Twin N.S.U. Motor Cycle, in good condition,
magneto, nearly new 2-speed gear, N.S.U. pat-
tern, Watawata belt, and accessories; 20 guineas.—
Willett, Sloane Sq., S.W.

MAGNETO Lightweight 2½hp., nearly new, perfect,
low and smart, Chater fittings, Bosch, Amac;
best offer over £25; consider exchange.—Wicks, 41,
Baddow Rd., Chelmsford.

SYDENHAM—5hp., Vinco, 1909, Bosch, Mabou ad-
justable pulley clutch, Rom tyre back, new front,
beautifully fitted up throughout, splendid sidecar ma-
chine; £28; exchange arranged.

SYDENHAM—3½hp. 2-speed Premier, 1910, Bosch,
Solar headlight, Lyso belt; exceptional price,
£36; ideal sidecar machine.

SYDENHAM—2½hp. Moto-Reve, 1909, Bosch, Whittle
belt, tyres fine; sacrifice £19.

SYDENHAM—3½hp. Rex, entirely re-built, Amac,
h.b.c., Rom tyres recently fitted; accept £6/10.

SYDENHAM Antocar Co., 153, Sydenham Rd., Syden-
ham, S.E. Tel.: Sydenham 435.

DOUGLAS, 1911, 2-speed, open frame, ridden 10
miles, £40; Premier, 3½hp., 1911, brand new,
£37/10; Enfield, 2½hp., 2-speed, shop-soiled, cheap.—
Batchelor, Clarence St., Kingston.

1½hp. Motosacoche, splendid machine, h.b.c., Druids,
Brosks, round and Whittle belts, Rom back,
Climber front, lamp, horn, all spares; trial; £15/15.—
Singleton, 1, Besley St., Streatham.

2½hp. Griffon, Bosch magneto, B. and B. carburettor,
24" h.b.c. in perfect running order; £15; seen any
time by appointment.—A. C. Stephens, High St., Wood-
ford Green, 'Phone, Woodford 169.

3½hp. P. and M., 1909, and sidecar, just been thor-
oughly overhauled, splendid condition; only
reason for selling, owner buying 2-seater car; price £35.
—Particulars, L. 7, Bedford Ave., Barnet.

WIN-TECISION Motor Cycles: immediate delivery
1911 model, gradual payments, £2 monthly, cash
£45/10; particulars on application.—De Nevers Auto-
mobile Agency, Empire House, Piccadilly, W.

3½hp. Clyde, free engine, H.T. magneto, 1911 Amac,
32" h.b.c., tyres, plating and enamel perfect, just
overhauled and rebushed; ready to ride away; £16/10.—
Mears, 43, West India Dock Rd., Limehouse.

FOR Sale, 1910 late 2½hp. Douglas, new Palmer on
back, Continental front lamp, horn, and acces-
sories; £28, or nearest offer.—T. J. Ross, 156 of Warlt,
Wanwick St., Deptford Kent. Tel.: New X1317.

3½hp. Kerry, low, fast, powerful, takes sidecar any-
where, 26in. wheels, tyres, engine, everything
splendid condition, Lonsware, all accessories; trial;
bargain, £9/10.—17, Bedford Sq., Rutland St., E.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

1911 F.N., 4-cyl. like new, with F.N. sidecar and Jones 25 speedometer, plated beaded edge rims, cost over £70, accept £40; no offers; owner is buying car.—Write to C. Reinhard, Becklands, Streatham.

1911 Triumph like new, very little used, all necessary spares, owner has no use for same, bought F.N. model for sidecar work; £43.—Apply by letter, Weaver, Upperhouse Court, Shamley Green, Surrey.

HUMBER, 1910, 3 1/2-hp., 2-speed, Mills-Pulford 214/14, spring wheel sidecar, Cowey speedometer, Whittle belt, 2 lamps, toolbox, condition new; would separate; £45.—W.P., 21, Manor Gardens, Holloway, N.

1911 Rudge, slightly soiled only, otherwise exactly as new, 3 1/2-hp., free engine, variable pulley, with all tools, bags, stands for each wheel, Brooks B104 saddle; a bargain at £45.—Keene, 301, Goldhawk Rd., Shepherd's Bush.

MOTOSACOCHE, 1 1/2-hp., Whittle, spring forks; acromulator, 26 wheels; £12.—Above.

5-hp. Sarolea, very low and fast, dry cell ignition, spring forks, variable 1st. Amag, new adjustable pulley, Shamrock belt, and R.S. Clincher, splendid condition all spares; bargain, £19/10.—35, St. Stephen's Rd., Bow, E.

V.S., late 1910, 7-hp., 2-speed, and Millford sidecar, Peter-Union tyres, steel studded on back, Whittle belt, speedometer, many spares, including new Lyso belt excellent condition; low price.—Apply, 244, Clapham Rd., S.W.

1911 3 1/2-hp. Premier, delivered July 12, Armstrong 3-speed gear, Dunlop butted tubes, Lucas lamp perfect and unscratched; cost £61, reasonable offers only.—Owner, St. John's, Cloudesty Rd., St. Leonards-on-Sea.

3-hp. Lightweight, Bosch magneto, h.b.c., B. and B., just fitted new rings and rebushed, fine running order, lamp, horn; £10; cash or deferred payment arranged.—Taylor's Motories, 237, Hereford Rd., Edmonton.

TRIUMPH, 1910, free engine, 40 guineas; Palmer studded, Michelin butt-ended tubes, almost new, 25/-; lamp, spare belt in case, mirror, 2 horns, everything brilliant condition, hardly used.—168, Fulham Rd., London.

7-hp. Bat-Jap, 1911 P.M. 2-speed, Mills-Pulford 15 guinea sidecar, Kempshalls, Cowey speedometer, Rushmore lamp and generator, extra tyres, and all spares; cost over £100 last March; sacrifice £75.—269, City Rd., London, E.C.

3 1/2-hp. Motor Bicycle, perfect condition, climb any 22 things, £12/10; twin magneto lightweight, nice order, £15; with running well, h.b.c., etc.; sacrifice one, most sell, trial, seen any time.—Thomson, 77, Handcroft Rd., West Croydon.

1909 (late) Minerva Twin, 4 1/2-hp., condition perfect, just changed 700 cc. handlebars, rammed, new cord and belt, F.R.S. lamp, and long footboards; any trial by appointment; no exchanges; 30 guineas.—Meeton, West St., Dorking.

MOTO-REVE, 2 1/2-hp., twin-cyl., 1910 model, very little used, spring forks, magneto, Kempshall non-skid, lamp, horn, tools, etc., French grey, beautiful condition, fast, and splendid climber; sacrifice £21.—11, Thornsett Rd., Anerley, S.E.

1911 Bradbury T.T. roadster, 3 1/2-hp., low built, very fast, do 60, and climb anything, Rom tyres, many spares, valves, rings, etc., 2 spare tyres, lamp, tools, etc., new from makers April this year; sacrifice for quick sale, £38.—11, Thornsett Rd., Anerley, S.E.

1910 Scott, in absolutely new condition, enamel and plating unscratched, engine and gears just overhauled by Scott people, F.R.S. lamp complete, Trinito horn, both tyres new uncut, guaranteed perfect; 30 guineas; seen any time.—186, South Lambeth Rd.

1911 7-hp. Rex de Luxe, m.o.v., 11 guinea Millford spring wheel sidecar, new chair, with reversible child's seat, 2 lamps, 2 generators, Cowey watch, mirror footboards, spare tyres and tube, valves, belts 2 Whitties perfect; 70 guineas.—Taylor, 67, High St., Hounslow.

3 1/2-hp. Triumph, late 1909, Millford castor wheel sidecar, Stanley Show model, wind screen, all recently stove-enamelled French grey and re-nickelled 2-speed gear, free engine, spring seat-pillar, lamp, horn, handle-bar watch, all accessories, etc.; £48.—Carr, 27, Manfield Rd., Huddersfield, Essex.

MOTOSACOCHE, 1911, 2 1/2-hp., magneto, free engine, Whittle belt, Druid spring forks, Palmer special tyres, complete with horn, foot bars, spares, etc., purchased a few weeks ago, beautiful machine; owner purchased sidecar; price £28.—Address, H.G.C., c/o 8,063, The Motor Cycle Office, Coventry.

BARGAINS which must be cleared.—12 1/2-hp. Bleriot, Minerva, magneto, B. and B., £10; 2-hp. Buchet, 27; 1 1/2-hp. Clement, 2-speed, £8; 1 1/2-hp. Valtor, B. and B., £8; 2-hp. Kerry, 27; 2 1/2-hp. Brown, £9; all above thoroughly overhauled and guaranteed in perfect working order.—Keto Motories, Smardens, Kent.

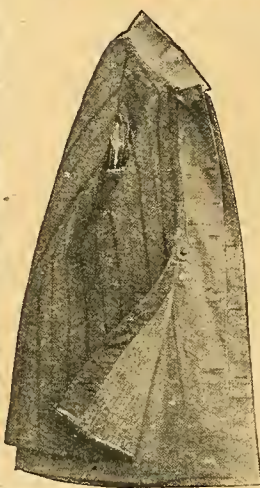
WIN Precision Motor Cycles—Immediate delivery of 1911 model: Druid forks, Bosch magneto, B. and B. carburettor, Dunlop tyres, £45/10; cash or gradual payments £2 monthly; trial by appointment, any reasonable distance.—Jennings, 268, Horseley Rd., near Public Baths, Holford, London.

1911—Immediate delivery 2-hp. lightweight, £1 435; 3-hp. model, £27/10; 3 1/2-hp. twin, £52/10; Premier free engine, £7/7 extra; 2 or 3-speed gear £10/10 extra; the best machine, and no waiting; a trial in your own district by arrangement.—The Premier Cycle Co., Ltd., 20, Holborn Viaduct, E.C. Agents everywhere.

.. ALBANY ..

Motor Cycle Clothing

and other Specialities.



A very desirable Coat for Touring.
Feels very comfortable and prevents catching cold.

"ALL-SEASON" JACKET.

In Grey-green Double-texture Cloth. Guaranteed absolutely waterproof. Double-breasted, deep storm collar, inside and outside wind cuffs and fitted with a warm Detachable Fleece Lining. As the name suggests, this Jacket can be used in all seasons. If weather is too hot, the lining can easily be taken out, being held only by patent fasteners. Beside being light and warm it is healthy Jacket, the moisture being absorbed by the woollen lining.

Price 25/-

ALBANY "STANDARD" SUIT.

Guaranteed absolutely waterproof. In Grey-green or Fawn Double-texture Cloths.

JACKETS only. Double-breasted, deep storm collar and special strap to exclude rain and dust. Inside and outside wind cuffs, etc. **18/-**
LEGGINGS only. Leather adjustable boot straps, V-shaped gussets and patent dome fasteners to keep out wind, rain, and dust. No tire-some buttons. Easily slipped on or off. **8/-**

Complete Suit 25/-

Albany 'Special' Leggings.

In Grey-green or Fawn Double Texture Waterproof Cloths. Made specially to protect the stomach from wind and rain. Leather Adjustable Boot Straps. V-shaped Gussets and Patent Dome Fasteners. These Leggings have every desirable improvement, including a special design to prevent tearing at the fork. Price, without Seat, **13/11**. With Seat, including special convenience, **15/11**.

For complete protection you cannot do better than secure a pair of these Trousers Waterproofs. Excellent shape and comfortable.

These Leggings, together with an "All-Season" Jacket, will protect you from the severest weather.



Motor Cycle Acetylene Gas Headlights.

"Rushmore" pattern. With separate Generator. Atmospheric Twin Burner. Best quality Reflector Lens, 4 1/2 ins. Divided Glass Face. Price, complete, **14/6**. End-to-end Model, as above, but with 6 in. Face and Hood, complete, with tubing and 6 in. Brackets, **21/-**. The Best Quality at the right price.

Terms net cash with order. Goods sent by return and if not approved of, money refunded. If articles returned within 5 days unaltered. Send exact measurement and length desired for jackets and leggings for measurement only for leggings.

Send now for Illustrated Catalogue and Patterns to

G. RAWES & SONS,
The Albany, Oldhall St., Liverpool.

MOTOR BICYCLES FOR SALE.

MATCHLESS, T.T., 8-hp. overhead J.A.P., order from makers, and £20 deposit paid, but still delivered; as unable to wait, been obliged purchase of make, and therefore prepared to forfeit £5 to any who will take delivery.—Owner, 6, Longfield Gardens, Romford.

NEW Hudson, 1911, fitted with Armstrong 3-speed gear and clutch, 2 1/2-hp. J.A.P. engine, quite a only ridden 150 miles, with accessories; lowest price £40, owner buying motor car; can be seen and at any time after 6 o'clock on Saturday 2 o'clock.—Fraser, "Hannock View," 470, Seven Sisters Rd., N. W. Park N.

REX, 3 1/2-hp., low built, spring forks, 1910 A carburettor (variable jets), Michelin tyres (studded back), new belt, automatic pulley, climb hill, in splendid condition; selling because of ill health; also nearly new portable house for above, £2. McKnight, Hatfield Lodge, Northside, Wandsworth Common, S.W.

HAZEL Lightweight Motors.—We are now in a position to give early delivery of our 2 1/2-hp. the lowest, shortest, and lightest machine of its position on the market, fitted with Jap engine, price 35 guineas, second-hand machines in part payment; many 2 second-hand machines in stock at reasonable prices.—Cripps Cycle and Motor Co., 24-28, Woodford, Forest Gate, London, E.

SPECIAL Dot, 1910, 7-9-hp. J.A.P., drip lubrication, magneto, free and 2-speed gear, Druid B. and B. adjustable pulley, extremely low, pretty machine, complete with coach-built sidecar, specially for ideal comfort, upboard, new Rom, Palmer, petrol better than new, carefully used fine week-ends, lamps, all spares; travelling, no time; accept £48.—G., 208, Gt. Portland St., W.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

1911 Rudge-Whitworth, 3 1/2-hp., fixed engine, in stock, £48/15.—Moffat, Yeovil.

3-hp. Excelsior, good condition, splendid climber; Williams, 5, Kingsley Rd., Mutley, Plymouth, Devon.

FRANK REYNOLDS, Broadway, Dorset. Tel.: 8, Upwey. Telegrams: Reynolds, Upwey. B.S.A. motor cycles for hire.

SECTION X.

Scotland.

TWIN-CYL. Rex, good running condition, if equipped, £12; or near.—Grant, Frickheim.

1911 Tourist Trophy Medalist 4-hp. Twin J.A.P. speeds; £48.—Linton, cycle agents, Kirkcaldy.

INDIAN, 5-hp. twin, 1911, done 120 miles.—Apply to No. 8,035, c/o The Motor Cycle Office, Coventry.

TRIUMPH, 1907, h.b.c., good tyres; owner buys higher power; offers.—Wilson, surveyor, Res, Berwickshire.

TWO 2-speed Model E Douglas, in stock, £48 each; free engine Triumph, delivery 10 days.—11, Ladybank, Fife.

MOTO-REVE, 1909, twin, magneto, 2-hp., little used, original tyres good, Watavuta, Perfecta, Druid; £19.—Stevenson, Lhanbryde, Elginshire.

LADY'S 2-hp. Twin Moto-Reve, 1910, guaranteed perfect, spares, etc.; cost £46, accept £25.—Apply, No. 13,981, The Motor Cycle Office, 20, T. St., London, E.C.

DUNDEE—Sole agents for Douglas, New Huddersfield, etc., second-hand machines always in stock; everything for the motor cyclist; repairs.—Dundee Motor Cycle Co., Netbergate, Dundee.

LATE 1910 3 1/2-hp. 2-speed Humber, as new, ridden 1,000 miles, newly fitted, Cowey speedometer, lamp, generator uncut; satisfactory reasons for disposal.—Offers to 8,034, The Motor Cycle Office, Coventry; approval, deposit.

SCOTLAND'S Largest Motor Cycling Firm.—If you wait for months on your new mount. We can immediate delivery of Indian, Premier, Douglas, Zen, B.S.A., Rex, N.S.U., and Lincoln Etc. Besides these stock P. and M., Roe, and Norton, and can supply 7 other make.—Alexander's Motor Exchange, Lothian, Edinburgh.

SECTION XI.

Ireland and Isle of Man.

TRIUMPHS, 1911 models; immediate delivery in stock; no waiting.—Higgins, agent, Athlone, Ireland.

TRICARS FOR SALE.

LUXURIOUS 9-hp. Riley Tricar, fast, strong, £235, cost £130.—Rickard, Nancop, Gunnedah, N.S.W.

8-hp. De Dion engine tricar, water-cooled, 2 sp. wheel steering, car tyres; £15.—Saunders, Boreham, Essex.

BARGAIN—5-hp. tricar, Dunlop tyres, chain drive, wheel steering; £12.—No. 111, Humberstone, Leicester.

8-hp. 2-cyl. Water-cooled Sociable Tricar, as new, 10 doors; photo; £30.—Thornton House, Friar Green, Surrey.

6-hp. Sarolea Tricar, 26 in. wheels, in splendid condition throughout; lowest cash £12/15.—426, St. Walthamstow.

4 1/2-hp. Humber Tricar, 3 speeds, chain drive, 2 did going order; £16/10.—Ayden Bros., 7, Blackstock Rd., Finsbury Park, N.

THE MOTOR CYCLE

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Subscription Rates: Home, 6s. 6d.; Canada, 8s. 8d.; Foreign, 13s. per annum.

Agents for Australia: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

ADDRESS: 20, TUDOR STREET, LONDON, E.C.

Standardisation.

THE brief announcement we made last week regarding the standardisation of motor cycle tyre rims was heartily welcome to all classes of motor cyclists, and is a distinct proof that the Manufacturers' Union does not intend to allow the grass to grow under its feet whenever the wishes of the general body of motor cyclists are unanimous on any question pertaining to their convenience. As we pointed out, the question of rim standardisation was first mooted in *The Motor Cycle* and never lost sight of.

This question of standardisation of such an important part of a motor cycle as the wheel rims leads one to think that it might reasonably be possible to bring manufacturers to agree to make many other important details of a modern machine more interchangeable than they are at present.

It is one of our duties to try a number of accessories from time to time on machines belonging to the staff, and we invariably find that such accessories as lamps, generators, and speedometers, to mention only three articles, usually require some alteration to the machine or the articles themselves before they will fit. Lamp irons require filing down to suit the bracket on the lamp, or the lamp fouls some portion of the spring fork or brakework, generators cannot be fitted without obstructing free access to tank filler caps, and numerous other petty annoyances which do not take long to overcome, but are irritating and cause inconvenience and delay.

We should not like to see every machine so stereotyped that choice no longer existed, but we are too far away from such a state of affairs, and it is only in the direction of what are indispensable accessories that we plead for more uniformity.

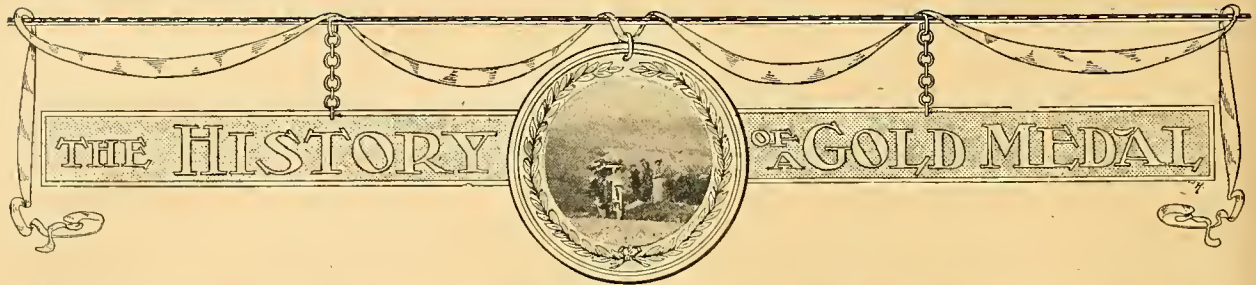
A Sidecar Suggestion.

LAST week our leaderette dealt with the old question of silence as applied to motor cycles, and although we know the designers' difficulty in making a quiet single-cylinder engine, we think the sidecarist who drives a standard single is perhaps the least to be blamed if he runs his machine almost continuously with an open cut-out.

A standard single-cylinder machine has all it can do to propel a sidecar, and unless the cut-out is open overheating soon occurs, due to the greater amount of gas passing through the engine and the load being often in excess of the gear and power. To make an engine really quiet requires a very large silencer, and it has occurred to us that sidecar owners might obtain a very much quieter running engine if a large silencer were fitted under the long tube of the sidecar, and so constructed that it could be coupled to the usual small motor bicycle silencer by a flexible metallic tube. We suggest a flexible connection with some form of bayonet joint to enable the pipe to be quickly detached and left *in situ* on the sidecar when the bicycle is used solo. There should be no difficulty in the way of manufacture, and the benefit of more silent running to passenger, driver, and public would be considerable.

Anyone who has driven a standard single-cylinder sidecar combination all day with the cut-out open and mostly on half throttle will admit that the noise gets on one's nerves after a few hours, and there is no reason—beyond that of extra weight—why a large silencer should not be carried on every sidecar.

The attachment of a large silencer across the front axle of a tri-car some years ago converted a Gatling gun of an engine into an approximation to a Silent Knight. Why should not a sidecar be similarly treated?



THE innocent reader of *The Motor Cycle* sees that Jones obtained a gold medal in a certain Six Days' Trial and that Jones lost no marks. He fondly imagines that Jones merely sat in the saddle for six days and gazed blandly at the beautiful scenery selected for the route by a considerate secretary. I believe there are gold medal Joneses who have enjoyed such an experience, but it has never fallen to my lot, for I have never yet got through a trial without bad trouble; if it has not been my machine, it has been my tyres or my belts, or losing my way, or so on, and I propose to recount my most recent experiences.

The goddess Fortune had already told me in unmistakable terms that she proposed to give me a dickens of a time with tyres this summer. Before July began my car had used up five covers and eight tubes, and I had also had some thirty punctures on motor bicycles, so for the Scottish Trials I fitted the thickest and fattest non-skid cover money could buy to the back wheel of my motor bicycle. I rode it 340 miles to Edinburgh for the start, and it got there unmarked. I patted it lovingly, and mused that whatever tortures might come my way, at least I should escape punctures.

We started off from Edinburgh at 8 a.m. on Monday, July 24. and before long things commenced to go swimmingly, by which I mean it rained "cats and dogs," and rub-

ber belts would not grip. However, as I had no trouble, a slipping belt contrived to get me into Arrochar for lunch up to time. After lunch eight miles of villainous road conducted us to the famous ascent of Rest and be Thankful, and as soon as the front wheel smelt the gradient in the downpour there was a sound as of 20,000 Jake de Rosiers finishing a record lap at Brooklands, and the machine stopped moving. Belt-slip, of course.

I fitted another belt while the air was blue with over-lubrication and language all round, for quite twenty men were stalled in the same way. Ere long my hot engine said, "Low gear, please!" in its most imperious accents, so I tried to give it, only to find that the special handle-bar control I was using on my N.S.U. gear would not work. So I held in the low gear with my left hand, which is the only hand I can ever steer with, and tried to curb the machine with my right hand.

What this meant up a twisty, rutty, boulder-strewn ascent of eight miles I leave the reader to imagine. I nearly went off the road at three corners, gave a football charge on another bend to a competitor who was shortening his belt, and finally scraped round the hairpin with my features contorted in agony.

Then followed a nightmare road into Aberfeldy — hills, ruts, grease, boulders, corners — in the midst of

SCENES IN THE SCOTTISH TRIALS.



(1) Filling up on Gairlock Hill.

(2) E. B. Ware (8 h.p. three-speed Chater-Hea and sidecar) on Gruinard Hill.

(3) B. H. Davies (3½ h.p. two-speed Ridge) rounding the bend on Gruinard Hill.

The History of a Gold Medal.—

which my carrier snapped, sat on the back tyre, and tore it down to the canvas all the way round. Luckily I reached the night control without a burst.

A writer in *The Glasgow Herald* reviled us for "riding through some of the finest scenery in Europe as if we were passing slag-heaps," but our eyes were necessarily glued to the roadway. The first difficulty was to keep the machine upright; the next was to average legal limit—no mean feat with such going to grapple with.

Tuesday was a very similar day, except that the going was better, barring the Edzell-Banchory stretch; more rain—roads under water in many places—more belt-slip.

After lunch came Cairn o' Mount, another bad dream indeed. A steep 1 in 4 pitch at the foot set my belt slipping, and a quarter of a mile up the engine was ready to seize. I shortened the erring belt, and spying a turfy patch on the moorside, pushed up

The next control was over thirty miles away, and I had less than an hour left; several others were in like case, and in Aberdeen the unwonted spectacle was seen of three usually decorous Englishmen "blinding" along between the tramlines at more than double legal limit, what time a pawky Scotchman on a big Bat passed them going still faster—no marks lost.

Wednesday was a picnic—flat roads, fine weather. We needed both.

Thursday was another day which caused the eyes to start from their sockets with fear. The roads were mostly unspeakably bad, the bad grades were stiffened by hurricanes blowing down them, while the grease was awful. We never knew what to expect on rounding a corner. A skewbridge and a short patch of 1 in 5 might be confidently reckoned upon. Possible additions were six inches of unrolled stones, one foot of mud, two feet of loose sand, or a motor char-à-banc blocking a five-foot "road." Nearly everybody

Luncheon interval at Gairloch Hotel.



Competitors being checked at Dundonnell.



E. B. Ware stops to change the tyre on the rear wheel of his Chater-Lea.



among the heather, and charged down off the moor on to the road at an angle. All went well till I came to the deep soft repaired bit of which Bischoff had warned us—200 yards of deep mire, with enough cover for a patrol of Boy Scouts in the ruts. A six-inch track bordered each side of this fearsome patch, hugging a precipice to the left, a ditch to the right; but both tracks were choked by pushing men. I took the centre, and for a time thought I was going to buck-jump clean over it, but alas! after 100 yards I struck a deep quagmire, sank in over the rims, and my machine was ignominiously extricated by three labourers.

Hill-climbing under Difficulties.

I pushed up till the road hardened, and essaying to get started again, seized my low gear. The engine would not pick up its load on a $4\frac{1}{4}$ to 1 gear, the grade being severe, and I pushed some more, till we came to an easy landing place; here all three belts slipped, and finally I pushed up a mile with an average grade of perhaps 1 in 9, kindly officials easing my struggles towards the top, where I was done to the world.

had several tumbles. Bostock and Fontaine taking fearful tosses. I got through pretty comfortably, except that my carrier broke its lashings (three harness straps, whipcord, and copper wire) and neatly slit my second back cover in half. Fortunately the last twenty miles for the day were good going, and getting near the night control twenty minutes ahead of time, I was able to take the back wheel out and fit cover number three.

Fifteen Miles in One Hour over Awful Roads.

The fifth day was "ghastly"—there is no other word for it. The grease and ruts were so bad that in the first hour after starting I did exactly fifteen miles, though I never once left the saddle. The good road on which I hoped to catch up time never came; and when at last I cast fear to the winds and opened the throttle, I left the official route owing to an unmarked turn (the marking was bad all through), and went miles out of the way, till the road got so bad that I knew it could not possibly form part of the Scottish Trials.

Reaching Fort Augustus no control could be found, till at last I learnt it was situated on a bleak hillside

The History of a Gold Medal.—

a mile from the town, where there was neither "pub," shelter, nor garage. Here we wasted two and a half hours for a timed hill-climb, as the result of which we had no food between breakfast at 7 a.m. and lunch at 3.30 p.m.

Worse was yet to come. The remaining sixty miles of road before lunch were perhaps the most trying of all the week; and along them I had two more punctures, tore out a tyre valve, had an inner tube go at the join, and finally broke my inflator connection, so that I had to average over 30 m.p.h. for a long distance over villainous roads with the back tyre partially deflated and the machine rolling like a tipsy sailor.

One Prolonged "T.T. Blind."

Here the weather saved my gold medal; for there had been no rain on the Grampians, and the last few miles into Newtonmore were dry and fast. One competitor had never been in a trial before; he said he had expected a sedate tour when he entered, but owing to the bad weather and the "long control" system favoured by the Scottish promoters, it degenerated into one prolonged "T.T. blind." Beautiful roads over the Grampian summit into Aberfeldy; no marks lost, but, alas, when just entering the night control I spotted a stone cut in my back tyre an inch long.

Next morning my hands were so sore with handling the tyres that I did the silliest thing of my life. The cut was just by the valve, and I thought the simplest thing would be to fit an inside gaiter. That cover was the tightest thing in covers ever seen, and after I had completely knocked myself up in the effort to get cover plus gaiter clinched in the rim, Thomson and MacGregor came to my rescue, and the three of us just got it on in time.

We went out to Amulree for another hill-climb, and

when we started away again a flint got wedged in the cut tyre, and ate through gaiter and tube in no time. I took no more risks, but tore the back wheel out, and slipped on my fourth cover of the trial. Scraping to recover lost time, I again missed my way at an unmarked turn, and lost several miles; but no further *contretemps* occurred, and after a busy and anxious week I trickled mildly into Edinburgh without having lost a mark. If such were the experiences of a gold medal winner, what must some of the "also rans" have passed through?

A Splendid Test of Men and Machines.

The pluckiest and most unfortunate man in the trial was J. Donaldson, whose crank case broke before lunch on the first day. Three times at three separate smithies he fixed it on with iron bands and huge plates, only to have it come hopelessly adrift when almost within sight of the finish; and between these herculean labours he sandwiched the most thrilling experiences.

Did not he and two others ride from Arrochar to Aberfeldy over ninety miles of most perilous roads on a pouring night with but one lamp between them? Rumour says Donaldson drove all three machines over Rest and be Thankful, twice returning on foot to the bottom with the precious lamp in his hand to drive up another machine.

At one point along this road I think a coach and four were buried in a rut last winter; at any rate, the surveyor was underlaying the road with new foundations, and had excavated half its width for this purpose just round a bad corner. I nearly fell into this pit in broad daylight, and how the gallant trio escaped this and other dangers in the dark I know not.

The Scottish Trials remain unrivalled as a test of men and of machines; but regarded as a picnic—well!

B.H.D.

Motor Cycle Racing in Russia.

THE annexed photograph shows how the pastime is being followed in Russia, where races for different types of motor cycles have just been held on the Nolkonka Road, St. Petersburg.

The first event was a lightweight race over 10 versts, and was won by Yourgins (1½ h.p. Wanderer) in 13m. 50s.

The second event was an open race over 5 versts, and was won by an Englishman named F. Holden.

(5 h.p. Indian), who accomplished a Russian record for the distance, viz., 4m. 7¾s.

There were twelve entries in the third event—a 10 versts handicap—the result being: First, Belling (7-9 h.p. Peugeot), from scratch, in 8m. 24¾s.; Holden on his Indian being second.

The fourth event was a 40 versts race, the result ending in a Triumph landing home first in 41m., followed by an N.S.U. in 42m. (A verst = ⅔ of a mile.)



A group of British and Russian riders and officials who took part in the races described in the accompanying letterpress.



How to Illuminate the Speedometer.



So many of the motor cyclists whom I met in the Isle of Man were kind enough to express some little admiration for a simple little home-made electric speedometer light which I had rigged up on my 7 h.p. Indian, that it struck me there might be others who, if they had it put before them, might avail themselves of the idea. As a matter of fact, several people have since written to me asking for directions how to make the little affair, whilst others have paid me the tacit compliment of "cribbing" the notion wholesale. The more who do this, however, the better shall I be pleased.

Truth to tell, there is little that is original about it, but it is so cheap and easy to rig up, so small, so handy, and so varied in its uses that I have quite decided never to be without it. It is not only useful in night riding, but in my opinion it lends an added interest to this kind of work, for it seems to me that if a speedometer is of any value by day, it is equally, if not more so, by night—when unfortunately nearly all motor cycle instruments are invisible.

When I first decided I must have a light for my speedometer, I had an idea that what I wanted was something capable of giving a dull glow just sufficient to illuminate the dial constantly, but on fixing up an arrangement to accomplish this end I speedily found that it was worse than useless. To begin with, it wasted current in such a prodigal manner

required either for noting the speed or for reading the trip mileage. The ability to do this at night is most valuable.

The business part of the apparatus is shown in the sketch (fig. 1), which indicates how I have fixed up the light to illuminate my Jones speedometer. The lamp and its holder are supported in a little bent brass strip bracket clipped under the head of the bolt which tightens

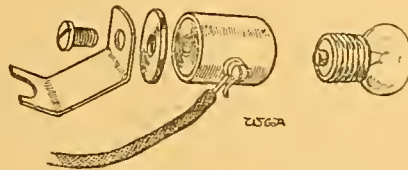


Fig. 2.—The component parts of the lamp and its fittings.

the handle-bar clip of the speed indicator. A carbon filament lamp is to be preferred to a metal filament, as it is cheaper, consumes less current, and gives more than sufficient light. A high efficiency lamp is apt to dazzle one's eyes. Indeed, unless one has a powerful head lamp, it is perhaps as well to reduce the illumination of the carbon filament by gumming a little thin tissue paper (a cigarette paper, for instance) over the bulb. This diffuses the light, and prevents one's eyes catching a reflection of the incandescent filament in the dial glass.

Fig. 2 illustrates the component parts of the lamp and its fittings. On the left is the bent brass bracket also shown in fig. 1; on the right is the lamp, which is of the kind used in the ordinary shilling four-volt pocket flash lamp; whilst in the middle is the insulated adapter, into which the bulb is screwed.

This adapter can be easily bought, but in any case should present little difficulty in manufacture, as it consists of a little piece of brass tube threaded to take the screwed shank of the bulb, and filled in at the back with a plug of insulating material, between which and the brass bracket is introduced a thin washer of fibre or indiarubber. Considering, however, that the price of the ready-made adapter complete with a little foot piece (which is not in this particular application required) is only twopence, it is perhaps easier bought than made. Through the side of the brass tube passes a small binding screw, which serves for the attachment of one of the battery wires. The other is earthed to some suitable point of the frame, and is thus in connection with the brass bracket. The latter, again, is in connection with the central stud of the glow lamp through the screw which holds the whole affair together.

Covering the glow lamp, adapter, and the terminal is a small piece of india-

rubber tube, which, in addition to forming, as shown in fig. 1, a cowl for the lamp, prevents the latter from shaking loose, and finally makes everything waterproof and of neat appearance.

The arrangement of the push switch is shown in fig. 3. The battery, which costs sixpence, and is of the kind used in pocket flash lamps—these small cells can be bought almost anywhere—is carried in the pannier tool-pouch, where it takes up very little room, measuring only 2½ in. high, 2 in. wide, and 2 in. thick. So long as it be used only for "flashing," which is all that is necessary, this type of battery has quite a long life, and in ordinary circumstances should last a whole season. The switch, which is connected up by ordinary house-wiring "flex," costs threepence, is a model of a bell-push, and is secured to the tank by a pat of shellac, which when dissolved in spirit comes away without leaving any mark behind. On my machine it is fitted close up to the saddle, the short earth wire being conducted, as shown, to one of the tank clips. If preferred, there need be only a single wire in the whole circuit, as the battery in the toolbox can be permanently earthed to the carrier, and the switch introduced in the return wire. On my machine there was no clip handy, and I therefore carried the earth wire to the tank. It is important to leave enough flex at the steering-head to take up the motion of the handle-bars.

My total cost for fitting was 1s. 11d.

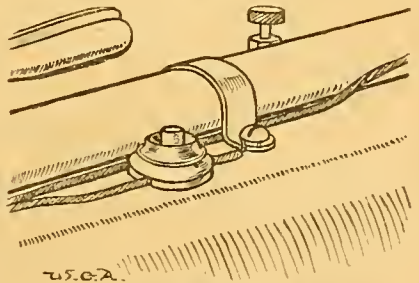


Fig. 3.—The arrangement of the push switch.

I use the little affair for the following additional nocturnal purposes. Ascertaining what petrol I have got, as I have no gauge. I unhook the lamp, and pop it inside the tank through the filler cap. The same applies to the oil supply. As I always extinguish the head lamp when filling up out of the spare petrol can, it comes in handy in this connection, the reflection from the dial being enough to steady one's aim for ascertaining the level of oil in the crank chamber sump. To detach the lamp it is only necessary to slack off the bolt of the speed indicator clip.—W.G.A.

OCCASIONAL COMMENTS

By "IXION"

The Life of a Patch.

Some weeks ago I described the present condition of two tubes which I patched over a year ago, relating how the rubber of both patch and tube had chafed and worn thin, and how the rubber beneath the patch had torn. That this is not true of all patches is plain from a tube sent me which sustained two very bad punctures while being ridden home from the A.C.U. trials last summer (1910). It was mended by the roadside with Surridge's patches, and its present condition is absolutely perfect. Neither patch evinces the slightest tendency to peel or lift, though the tube has been in constant use ever since, and the material, both of the patch and of the tube underlying them, is as sound and solid as if the patch and the tube were brand new.

Another correspondent reminds me that vulcanisation also has its drawbacks, as it is only in very few cases that a rubber tube will stand being "cooked" twice. For instance, if a tube be punctured, and the damage be repaired by vulcanisation, should a further puncture be made through the repaired part, or close to it, a second vulcanisation is not likely to be successful, for the second cooking may, and often does, ruin the nature of the rubber, and start its disintegration.

Beltslip.

I am told by some of my motor cycling friends that my belt experiences are rather unusual, especially in relation to the amount of slipping I get when the roads are awash with surface water, or when I am riding in a heavy storm. Some of my critics inform me that I try to get too big a mileage out of my belts, and that I ought always to use a new belt in bad weather, as a rubber belt never slips if it is the right length, and is not old enough to have lost its elasticity. However, I again return to the charge with some new evidence.

I have heard that in the Scottish trials most of the men had heart-breaking struggles to make their belts grip on the hills when the heavy downpours commenced, and that many of them were telegraphing to England for leather belts, with which they had little better success, for—as everybody knows—leather belts take some running in, and a new leather belt in rain is as bad as an old rubber belt.

Then, again, Mr. Catt complained after his six days' record that he had trouble with his rubber belt in the wet, and my own all-weather experience amply bears out these statements. Now that two-speed gears are becoming almost standard, the trouble in some cases is likely to be aggravated, for I find wet belts slip worse the faster they are run. I do not see how belts can be improved very materially, and I feel sure the all-weather rider of a belt-driven machine will continue to be at the mercy of this nuisance under exceptional conditions until we get protected belts or bigger belt pulleys, and larger contact area.

The "Long Control" System in Competitions.

I am very strongly of opinion that the plan of using "long controls" in a reliability trial which is not an absolute non-stop ought to be abandoned. The recent Scottish trials form an excellent example of my point, and especially if they are contrasted with the A.C.U. Six Days' Trial. In the Scottish event, the riders are not checked oftener than once in forty miles; in the English trials the length of the controls varies between extremes of eight and forty miles, but twenty miles is probably about the average.

Let us see how this works out. In the Scottish trials we will suppose a rider breaks a piston ring and has a puncture near the start of a forty miles control, for which his maximum time is 2h. 10m. He may take an hour or more to remove the broken ring and mend his tyre, and he is left with forty miles to do in an hour or a little more. He takes a sporting chance, "blinds along all out," and gets in without loss of marks.

On the short control system of the A.C.U. he could not possibly escape loss of marks. The English system is, therefore, better calculated to exhibit the real performances of the machines, and to reduce public danger to the vanishing point. I fully sympathise with the wish underlying the Scottish policy, which is to enable men to catch up time after delay on the vile roads; but surely this desire could be better satisfied by using shorter controls and setting a lower speed for the villainous sections.

It is notorious that some of the medal winners in the Scottish trials encountered frightful trouble, but saved their marks by racing home over long control sections; this may be creditable to the riders in one sense, but it is highly undesirable in the public interests, and it is scarcely fair to those competitors who got through without any trouble at all.



The inter-club team race at Brooklands on the 29th ult. Prince Henry of Prussia, it will be noticed, is an interested spectator.

A SMART SIDECAR.

QUITE one of the smartest and most comfortable sidecars we have yet had the pleasure of inspecting is about to be placed upon the market by Mr. Graeme Fenton, whose address for the present is 219, Shaftesbury Avenue, London, W.C. As can be seen from the accompanying sketch 'of the complete car it is designed on quite original lines, yet there will, we think, be few to deny that, if only on the score of appearance, it possesses great advantages over the more generally accepted type. Following, as it does, upon the lines of a flush-sided torpedo motor car body, it is remarkably roomy and comfortable, and the position and arrangement of the seat gives the maximum

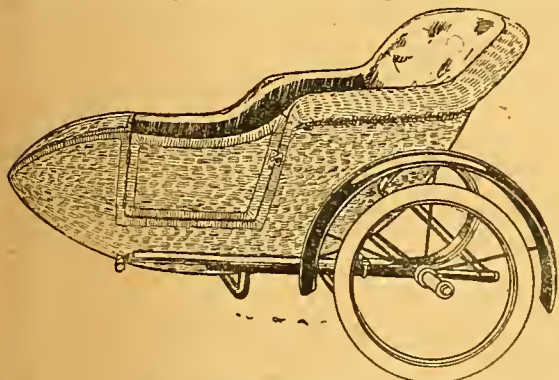


Fig. 1.—A newly-designed sidecar possessing several novel and useful features.

of freedom to the passenger. The car is made of cane, and has a door on the open side only, the other fixed side serving as an excellent means of excluding draughts, and preventing the likelihood of the basketwork "sagging"—as with hard use most basketwork does.

Another very admirable feature is that the passenger need not use a waterproof apron, as he, or she, is so largely protected by the roomy scuttle-shaped footpiece and the high side pieces. The apron is accordingly quite small, forming, as it were, only the lid of the basket, and this being so it can be attached and detached by the passenger himself. This point will be appreciated by users of sidecars in which it is necessary at every stop to get down and fumble with the apron straps below the basket in order to release the passenger. Still another point is that the apron is furnished with fasteners, so that when the storm-extension is not in

use it can be clipped down and thus prevented from flapping about in the wind.

The apron is also provided with a very large pocket. The whole of the interior of the basket is nicely upholstered.

It will be readily seen that the easy curving line of the basket bottom is a point which makes for the greatest reduction in wind resistance, and at the same time it should be particularly good in

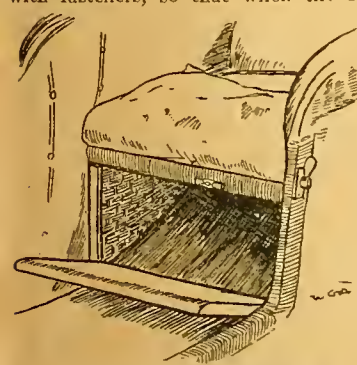


Fig. 2.—The conveniently arranged cupboard fitted to the Wolbrook sidecar.

the prevention of dust raising. There is, however, an additional advantage, namely, that by using this shape a very convenient cupboard space is automatically provided beneath the passenger's seat, and is of sufficient size to stow away everything that is likely to be wanted. The cupboard is well out of the way, and being sprung there is no tendency for the spares, etc., to rattle. A sketch showing the accessibility of the cupboard is given in fig. 2.

As will be seen from fig. 1, the framework of the undercarriage is somewhat unusual, but we understand that baskets of the above type can be modified to fit existing undercarriages.

There is one point in the design of this sidecar which may have escaped notice, and that is the protection of the forepart against the percolation of water when driving in rain or snow. In the case of the ordinary sidecar the forepart is protected by a waterproof apron buttoning right over the front. The extremity, therefore, of the footpiece should, we think, be rendered waterproof so as to keep the feet of the passenger dry, and also to allow rain easily to run off.

The design is, like all other good things, the result of much thought and careful consideration and experiment. Without committing ourselves to too strong an opinion we must say that the "Wolbrook" (for that is its name) seems to have an excellent future.

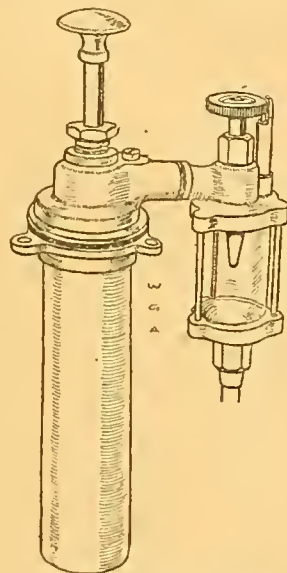
A NEW DRIP FEED LUBRICATOR.

WE recently had the pleasure of examining a new drip feed lubricator which has just been placed upon the market by Best and Lloyd, Ltd., Cambay Works, Handsworth, Birmingham.

The device, a sketch of which is given alongside, is quite small, but thoroughly complete in every way, and we should say that it would meet with quite a good demand. It consists of two parts. The first on the left-hand side is a plain pump barrel of considerable diameter, which fits into the ordinary oil tank and is secured thereto in the usual manner. At the bottom of the pump is a filter through which the oil is drawn by the plunger when the handle is lifted. The plunger is backed by a strong spring, which forces the oil through the horizontal delivery pipe at the top end of the pump to the screw-down needle valve which controls its egress through the visible drip feed and thence to the engine.

The needle valve is operated by a milled thumbscrew, on the lower face of which is a ring of holes, which, with a small spring plunger, allows very small adjustments to be made and maintained. The drip-feed is open to sight all round so that its operation can very easily be observed. The needle valve with the drip-feed body is screwed to the pump body so that in the event of the latter being inclined, as it generally is, the drip-feed can still be arranged vertically. The feed can be adjusted in extremely small stages at anything between a few drops of oil a minute and a straight through flow. Thus, should the necessity arise for giving the engine a sudden large dose of oil, all that is required is to turn the needle valve thumbscrew a complete revolution when the oil jet will be opened to its fullest. Afterwards the screw can be turned back to the point at which it was previously adjusted.

Messrs. Best and Lloyd are also making a drip-feed lubricator for use with pumps that are placed outside the tank.



The new drip-feed lubricator, showing on the left the pump barrel, and on the right the needle valve.

TEAM PRIZE IN THE SIX DAYS' TRIALS

In connection with the Team Prize, to be awarded to a team of three machines entered or nominated by a trade representative in the A.C.U. Six Days' Trials, we are requested to point out that a manufacturer may nominate one private owner of his make of machine to complete his team. A private owner so nominated may, therefore, be eligible to compete for both team prizes; that is to say, he may be nominated by the manufacturer of his machine, and he may still be eligible to compete for his club in the team prize offered for the best performance by a team of three private owners nominated by an affiliated club.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Dripping Petrol.

? When I flood my carburetter the petrol immediately begins to drip very fast from underneath the vaporising chamber and I waste such a lot of petrol. Can it be that I have not put the vaporising chamber high enough or too high?—G.E.P.

The leak in question is entirely caused by petrol flowing out of the jet when you flood, owing to the increased height of the petrol level. So long as the petrol does not run out whilst the machine is running you are not wasting any more than any other machine does. In the event of it dripping out whilst you are running it would be well to examine the little fibre washers fitted to the actual jet itself and replace these in case of damage.

A Miscellany.

? (1.) How far can one drive a motor cycle on the level without stopping to cool engine?

(2.) I am about to leave my motor cycle unused for a couple of months. Should I inject some engine oil into compression taps before leaving? (3.) When coasting down a slight hill with exhaust lever raised, should I close throttle? (4.) Oil gets on my belt. It seems to come from the gear box. How should I prevent it? My machine is a two-speed Douglas.—E.J.D.

(1.) The distance a motor cycle can be driven on the level without stopping to cool the engine depends entirely on the design of the cylinder, the speed at which it is driven, and the conditions under which it is driven. Taking the average English day, it would be possible to drive the average $3\frac{1}{2}$ h.p. single-cylinder until the petrol ran out without the slightest signs of overheating, at a speed of not more than thirty miles an hour. (2.) There is no need to inject oil into the compression taps when leaving the machine, but all outside bright parts should be vaselined. (3.) It would be well to keep the throttle open when coasting downhill, as the engine can then get a certain quantity of cool air, which will help considerably in the internal cooling. (4.) With regard to the oil, it would be possible to have some sort of cover to protect the belt, but we should advise you to examine the gear box in question and see that it is not worn or that the outside cap has not become loose.

Running with Throttle Lever Closed.

? My machine is a 1911 standard $3\frac{1}{2}$ h.p. Singer with B. and B. carburetter and Bosch magneto. Once started I can entirely close gas lever, and even then can open air lever to its fullest extent, and with magneto lever midway I can travel between fifteen and twenty miles an hour on level. Coming through traffic it is almost impossible to travel at a slow speed, as I cannot throttle down at all, and if I retard the magneto more than a notch or two the machine stops. I invariably run on level with levers set as above, and yet petrol consumption is very high.—E.J.

We should imagine that the throttle connected to your handle-bar mechanism is either sticking or the wire has broken inside the casing. If this proves not to be the case, the jet is perhaps too large for the type of machine you are using. We do not think wrong timing would have very much to do with it, but if the inlet valve opens shortly after the

piston has started on its downward career and the exhaust valve closes exactly on the top of the exhaust stroke, all should be well in this direction.

Licences.

? I have applied for and received a new registration number, fee 5s., and have since then received a form for taking out a new licence. I thought the licence already taken out would do for the new motor cycle till December 31st. Will you inform me if this is the case, or must I pay another guinea this year?—A.B.

Unless you have already done so, you must cancel the registration for the machine you have sold, unless the number has been transferred either by you or the new owner. The local taxation licence (£1) entitles you to keep a motor cycle for twelve months from January 1st. It would be advisable for you to inform the local taxation authorities that you have either cancelled or transferred the registration of the old machine.



A group of competitors in the Scottish Trials at one of the controls.

Knocking.

? I shall be very grateful if you can explain the following: My $3\frac{1}{2}$ h.p. machine runs very well on the flat, but when it encounters a long pull or two steep hills in succession it always begins to knock badly, and no matter how I regulate the levers and spark the clanking increases until the engine stops dead. I believe the knocking is caused by overheating. The bicycle takes a good deal of air, and I always give it as much as it will take so that the mixture is not too rich. Do you think a fairly large jet would cause this overheating?—G.B.

We are of the opinion that the knocking in question is probably caused by your driving the machine up hill with an excessive amount of air. You will probably find that to close the air as the machine slows will have a beneficial effect on the hill-climbing powers. You do not say exactly what setting you have given to the ignition, but this should not be too much advanced, as you should have a certain range of retard beyond the extreme limit. It is also well to keep the plug points fairly close.

Collision with Push Bicycle.

? Recently, while riding down one of the main roads of Manchester on a twin Rex, with friend on carrier, on coming to a car crossing at Grey Mare Lane, there was a tramcar about to cross, and, sounding hooter, the driver pulled his car up. Just at that moment a push-cycle came round the car on the right-hand side of the car, and we collided, my machine knocking him down and damaging his machine, for which he asked 25s. 6d. for damage. Am I in fault?—T.A.

Our legal adviser writes: Your correspondent is not necessarily in fault or

liable to pay the damage, but it all depends upon the evidence the cyclist can prove against him. At what rate was your correspondent going? and at what rate was the cyclist going? Unless the cyclist can show that your correspondent was riding recklessly or negligently, no damages can be claimed. Of course, special care should have been taken under the circumstances, and unless your correspondent was going very slowly indeed, the judge would probably hold him liable.

LOST AND FOUND.

We receive many letters regarding accessories, etc., both "Lost and Found," which we are unable to find space for. As these particular matters are of interest to two persons only, viz., the finder and the loser, we have decided to keep a list of such articles, and all that are notified to us will be inserted in this list. Should we receive a letter from the finder which corresponds to the article lost, the two persons will be put into communication, but it must clearly be understood that we cannot enter into correspondence on the matter beyond this.

Hill-climbing with a Tricar.

? I have a tricar fitted with a M.M.C. engine (80 x 85), which I cannot get to take hills of any length or gradient, especially if the machine has been running five miles or more. New piston and rings have been fitted, and it has a good compression. Surface carburetter is used. Could I obtain more power with a jet carburetter, and if so could I combine the two, as I wish to retain the surface carburetter on account of its easy starting property?—J.A.B.

New pistons and rings are likely to give you less power until they have been run in, but undoubtedly you would obtain much greater satisfaction with a jet carburetter, so fitted and suitably tuned up to the size of the engine. The surface carburetter seldom gives a satisfactory mixture for any length of time, and is much inclined to vary with the weather conditions for all-round work. Starting with a jet carburetter is quite as easy; in fact, in some cases it is easier than with the surface carburetter. We should advise you also thoroughly to grind in both valves.

Overheating of a Tricar Engine.

? Early this year I bought a runabout chassis, to which I fitted a 6 h.p. J.A.P. twin a.i.v. engine, fitted with a Brown and Barlow carburetter and large Matchless silencer. It is a two-seater, has three wheels (weight of self and passenger 17 stones). It was fitted with a bonnet with an open front. The trouble from the very first was overheating, so I took off the bonnet; this slightly improved matters. I then thoroughly overhauled it, with no results. I then fitted a 12in. diameter fan, which very much improved matters. I can now get a fair turn of speed on the level, but cannot climb. When I get to a hill I go up half-way, turn round, run down with the exhaust open to cool the engine, and I can then roar up every hill I have come across. It is single-gear, and the higher I gear up the better it runs and the cooler it keeps. It is geared up 4 to 1, and at that will climb anything when cool. I have tried several makes of oil, have tried giving carburetter full air, half air, and no air, and it runs best with a little extra. Will you kindly advise me how to cure the trouble?—A.H.

You might perhaps get better results by using a particular type of lubricant which will stand exceptional heat, but, in any case, it looks as if the machine was considerably heavier than such an air-cooled engine of this size could be expected to pull up hills. A fan of the Sirocco type, together with a funnel through which to direct the air on to the exhaust port, would be almost certain greatly to improve the running. It would appear to be rather a question of overheating than of a new or altered carburetter. It would be as well to see that there is not too much clearance in the valve tappets, as this is a frequent cause of very bad overheating, and it would also be well to tune the carburetter up so that it takes considerably more air when running on the flat, and leave you a distinct range for hill-climbing. The compression might also be reduced as an experiment.

EXPERIENCES WANTED.

"A.J.M." (Walthamstow). 5.6 h.p. Clyno and sidecar; also 7 h.p. two-speed Indian and sidecar.

"F.K." (Carrickfergus). Fit-all two-speed gear on a Triumph. Does a gear fitted to engine shaft cause excessive wear of crank shaft bearing?

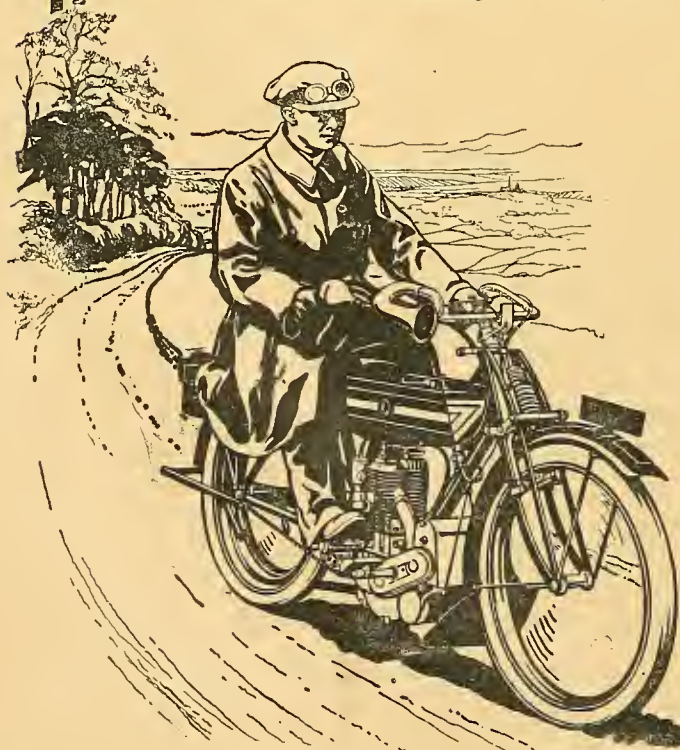
We should like to remind our readers that all queries must be accompanied by a stamped and addressed envelope.



Douglas rider coming up Gruinard Hill on the fourth day of the Scottish Trials.

Increasing Popularity of the **B.S.A.** Motor Bicycle

Now recognised as the most perfect machine on the road. Its distinctive finish, its silence, power, and smoothness of running are points that are fully appreciated by those who have ridden other makes. The many refinements and careful construction of the B.S.A. have made it not only the most comfortable and easiest-riding machine, but also the most reliable. Its chief constructional features include the aluminium Magneto Cover, special Spring Fork which is responsible for the absence of vibration on the handlebar, patent Gudgeon Pin to piston, B.S.A. Locking Screw to pedal, all of which are fully illustrated and described in the B.S.A. Catalogue, a copy of which will be sent free on request.



Mr. E. C. WAKE,
Polam Grange,
Darlington, writes:

"I have had several well-known makes of motor bicycles, but never one that satisfied me so much as the B.S.A. has done. The absence of vibration, and extreme flexibility of the machine has been the comment of many people who have seen it. It is a splendid hill climber and very fast. In fact, it is an ideal machine in every respect. I shall be glad to show it to anyone interested, and am sure if they want a really good machine, they cannot do better than buy a B.S.A."

WRITE FOR CATALOGUE NOW.
THE BIRMINGHAM SMALL
ARMS COMPANY LIMITED,
102, Small Heath,
Birmingham.



The Editor does not hold himself responsible for the opinions of his correspondents.

Letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Offset Cylinders.

[5788].—In your comments upon the Humber light-weight engine you mention that this is the only British built engine set *désaxé*. May we correct this, for our small engine (our lightweight, which through stress of orders for the 3½ h.p. model is not yet ready for the market) is set *désaxé*, and likewise the Scott. This latter, we think, is the earliest motor cycle engine to be offset, Mr. Scott evidently realising the advantage for motor cycle engines earlier than anyone else.

—THE NORTON MANFG. CO., LTD.,

JAS. L. NORTON.

A Wonderful Sidecar Performance.

[5789].—I am a rider of a 2½ h.p. two-speed F.N., and note the wonderful performance of Mr. R. O. Clark with a sidecar and 12 stones passenger (July 27th, page 786). I have wondered if this little machine could take a passenger, and this success prompts me to ask if there were any hills on the 200 miles trial, also if the machine is any worse for the severe test. Again, would Mr. Clark say what type of sidecar is suited to this machine, and if most of the running on inclines had to be done on the second speed?

I hope I am not troubling too much, but I would be very pleased if Mr. Clark would let me have some further particulars. The passenger I purpose carrying is 10½ stones, while my weight is rather under. Our hills in the North are fairly stiff, but I would be quite satisfied to get up 1 in 12 or 15 on slow speed. Any information will be gladly welcomed.

F. N. BARROW.

The Vicious Dog.

[5790].—Seeing from time to time letters complaining of dangerous dogs and their attacks on motor cyclists, I should like to describe a plan I always find successful in circumventing them.

Firstly, procure a fairly stout walking stick of oak or ash, remove the ferrule, and insert a U-shaped staple. Next buy a slender dog chain, and divide it into three portions. Fix these on to the staple, in equal lengths (about twelve inches long). Then get one of those devices sold by accessory dealers for holding a walking stick, etc.; by means of a clip on the handle-bar and a socket clamped on to the front forks. Carry this stick and chains always. It can be taken out of its holder absolutely instantaneously, and when the dog comes alongside he can be given such a painful blow with one or all of the three dangling chains that he will be never at all likely to repeat his assaults.

The horrified surprise and rapid rout of all the dogs I have applied this treatment to has been most satisfactory and unfailing, so far as my own experience has gone, in all parts of the United Kingdom, and it has the recommendation that it does not in any way permanently injure them. If I come across a vicious or mischievous terrier or collie, the lesson I give him is never forgotten, and as the chains splay out it is really impossible for even a duffer to help hitting the creature somewhere or other.

CAVE CANEM.

Unbusinesslike Methods.

[5791].—One so often sees in your columns letters from readers who "have no interest other than that of a satisfied user" that I think it only fair that you should sometimes show up the other side of the question.

Let me give you an example. In April this year I bought a sidecar from a very well-known maker in the Midlands.

After about 500 miles running one of the tubes started to give way, and I therefore, on the 13th June, sent the frame

up to the makers for repair under their guarantee—a job which might have occupied half an hour.

On the 14th the makers replied that they would repair the defect and return the frame to me "at the earliest possible moment."

Nearly seven weeks have elapsed, but not a sign of the frame.

The makers do not reply to my letters or prepaid telegrams. Indeed, I have requested them to return my frame unrepaired, or in whatever state it may be in, but still with no result.

Now can this sort of thing be termed "businesslike"? Further, what possible end could the makers hope to attain by treating one of their clients in such a manner, as the free advertisement they have let themselves in for cannot be calculated to do them any good?

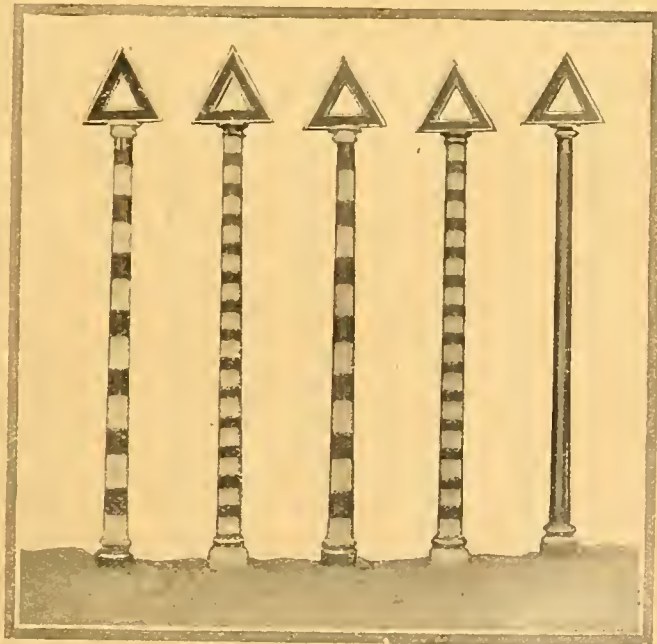
Perhaps if you would be so good as to publish this letter it might attract the makers' attention, as everything else has failed to do so.

BERNARD A. SUMNER.

R.I.A. and Warning Posts.

[5792].—With a view to obtaining the opinions of road users as to the comparative visibility by day and night of signposts painted in various ways, the Roads Improvement Association has erected five triangle posts (of which I enclose a photograph) at Tibbets Corner, at the top of West Hill, Wandsworth. Two of them are painted black and white, two red and white, and one entirely red. The secretary of the Association invites the opinions of motorists and others in the matter.

JOHN B. TWYXCROSS.



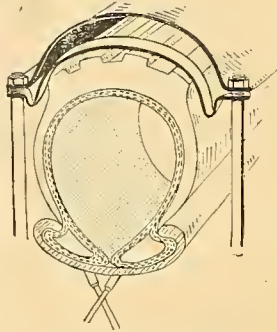
Five sample warning signs erected by the R.I.A. at Wandsworth. Motor cyclists who see them are requested to communicate with the R.I.A., Cexton House, Westminster, S.W., stating which they consider the easiest to discern by night and day.

Fitting Nail Catchers.

[5793.]-In reply to R. H. Adams, I have had nail catchers fitted to my machine for the last 4,000 miles, but have never found any damage done to my tyres through them. They are so effective in preventing punctures that it is surprising that all motor cyclists do not fit them.

Mine are made out of a pair of ordinary cyclists' trouser clips, heated and let cool to remove temper. They can then be bent to shape and placed between the mudguard and stays in the manner shown by rough sketch enclosed.

The cost of the clips at any cycle dealer's is 1½d., and they save many shillings in patches, besides time and trouble.



B. LEE SUTCLIFFE.

The Tune of the Lightweight.

[5794.]-In view of the suggestions recently made that the tune of a lightweight soon "falls off," it is interesting to note the "consistent lap" times made by the lightweight type in the Junior T.T. Race. As a rider of a Douglas (which, I am happy to say, does not give me any more trouble than my 3½ h.p.), it interested me much to note the consistent running of this make; although these little engines were obviously going all out (and a jolly good all out too) for the whole 150 miles, the variation in lap times was only a matter of seconds, and both riders who finished reported non-stop runs in respect of trouble.

Then there was Mr. Swift who made such a splendid six days' performance, taking different routes each day and looking after his own machine, not, as in the case of an effort made since, having a couple of assistants to do it. Beyond a belt fastener and new valve springs, oil and petrol bills, my machine has cost me nothing since I paid the makers on delivery, and I have just done 3,600 miles.

LAWRENCE H. REDDING.

Broken Piston Rings.

[5795.]-It would be interesting to know if any of the readers of *The Motor Cycle* have had similar experiences to mine. On removing the cylinder of my 4 h.p. engine lately I found all three piston rings broken, and the overlapping pieces of the step-cut ends had completely disappeared from each piston ring. The engine had been running well, and the cylinder was not scored nor was the piston injured. What I want to know is, where are the pieces? They cannot have got into the crank case, as there would not be room for them to pass down between the piston and cylinder; nor did the pieces fall down unnoticed while cylinder was being removed. The engine had run some 1,200 miles since the cylinder was last taken off. I might mention that the engine has done 2,800 miles without cleaning cylinder and piston, or touching the valves, and was quite free from any suspicion of knocking or overheating.

If anyone can suggest the fate of those six broken ends off the piston rings, I should be most interested.

S. H. CROW.

De Rosier's Parting Message.

[5796.]-I take great pleasure in writing a few lines to you before I depart for America.

In reference to the T.T. Race, I am not the kind of rider that generally makes excuses in regard to a race, because I do not believe in doing so; but since that event I have read in your journal accounts of the different excuses of the troubles experienced by some of the competitors, but it seemed to me that my real trouble was always left out.

The real reason for my not making such a good showing, and being amongst the "also rans," as someone puts it, was simply through my carelessness—which I admit—in not having my toolbag securely strapped up the way it should have been. On my first lap of the race you no doubt noticed that I was travelling pretty well amongst the leaders, but during that lap I lost all my spare parts

and tools out of my toolbag, which left me with nothing to repair the machine with.

When my trouble commenced, I could have fixed it in a very few seconds if I had had the parts and tools to do it with; but I was compelled to continue riding until I had my fall half a mile from Sulby Bridge, from where I was obliged to start on one cylinder and ride three miles into Ramsey. With my tools and an extra spark plug, I could have continued, and been amongst the leaders.

I noticed in an article in your paper some time ago one of your contributors described me as not much of a mechanic. It is pretty hard to be a mechanic in the position I was in with no tools. In order to continue in the race I had to borrow tools and spare parts at Ramsey to get my machine in running order. I did this after I knew that I was out of the winning position, and because I have never had the name of being a quitter. I knew very well that I was going to be disqualified.

I thank you very much for the way your paper has generally treated me since I have been in England, and I would like to say that the English motor cyclists are the best lot of sportsmen I have ever met.

JAKE DE ROSIER

Hill-climbing.

[5797.]-How is this for a hill, and this is only part of the sixteen miles?

W. C. Grange on his 500 c.c. Bradbury and self on a 3½ h.p. Matchless, single gears, are having great fun at the corners.

W. FAWCETT.



The Stelvio, a famous pass on the frontier of Austria and Italy mentioned in the letter from W. Fawcett. There are no less than eighty hairpin bends in a distance of seven miles. He does not say if he and his companion reached the summit.

The A.C.U. Six Days' Trials.

[5798.]-In your issue of the 3rd you omitted to asterisk my name in the list of entrants for the Six Days A.C.U. Trials, making me a trade rider, whereas I am a private owner. I am anxious for this to be corrected for obvious reasons.
R. C. OWEN-WELLS, B.A., Barrister.

Silence.

[5799.]-I was very interested in the latter part of Mr. H. G. Parke's letter *re* silencer and cut-out.

Personally, I dislike cut-outs, as their use brings discredit on motor cycles. Five years or so ago I had a cut-out (opening into the air) fitted to my 2½ h.p. Clément-Garrard. As a rule the machine climbed hills fairly well; with the cut-out open it would not look at an incline, much less a hill. An explanation as yet for this loss of power has not been forthcoming.
M.D., M.B.

The International Match—Special Racing Engines.

[5800.]-We have read with some interest Mr. Barnfather's letter in your issue of the 27th ult., relating to special racing engines. We feel we must, in reply, say that we have so far not considered it desirable or necessary to build a special racing engine.

It has been far more satisfactory to us, and, we believe, also to users of the J.A.P. engine, to see our standard productions used for all racing and competition work.

As soon as our standard engines are unable successfully to compete with special-engines of other makers, an exclusively racing engine will be forthcoming.

J. A. PRESTWICH AND CO.

The Six Days' Record.

[5801.]-You report in your issue of August 3rd further attempts at the six days' road record, and state that two riders maintained an average rate of 500 miles per day for two or three days.

Will no union or influential club make a public protest against this kind of thing? It is piteous in the extreme—the boys must be maniacs.
G.C.

[In cases of this kind all the governing body can do is to suspend the offenders if they are members, and if they are not, to refuse to allow them to compete in any competition held under the A.C.U. rules. This procedure is followed in every case.—Ed.]

Foreign Machines and British Riders.

[5802.]-Readers of your paper who have followed the correspondence on the above subject may be interested to know that the price of the T.T. Indian machine is alleged to be £200.

There must be something very far removed from standard about the machine to warrant the fixing of such a prohibitive price, and I am sure it would interest your readers generally if the makers could see their way to explain what it is.
CHAS. LAKE, A.M.I.Mech.E.

[Every manufacturer and dealer who enters a machine for the T.T. races must sign an undertaking to list and sell machines, conforming in every respect to a specification to be supplied to the A.C.U., for a period of six months following the date of the race. The T.T. Indian machines were originally priced at £200, but this was subsequently reduced to £90.—Ed.]

The Sidecar Record.

[5803.]-I notice in your issue of August 3rd, commenting on my recent sidecar record, that you state that I (Hugh Gibson) and my passenger, G. Wray, will probably be disqualified from taking part in the Six Days' Trial for exceeding the speed limit.

Now I could fill several columns of *The Motor Cycle* with arguments and reasons why I should not be suspended by the A.C.U., but as I know that space is precious, I will be brief, and will just repeat one or two paragraphs that I have taken from your columns. Reporting upon the Scottish Six Days' Trials, your correspondent says: "Here—for the first time in the trial—we had a chance to make up time, and 'Teetee-ing' was freely indulged in. I regret to say that more than one machine came near covering these fifteen miles in fifteen minutes. I even saw three riders with their heads down

doing a good forty-five miles per hour along the tramlines into the Aberdeen control. The secret history of many a gold medal for 'reliability' would be interesting reading, and a little T.T. experience comes in handy when one has pushed up a two miles hill."

Again: "... assembled crowd to a thrill, and tackling the hill at 40 m.p.h. hit a grid projecting 6in. from the roadway, over which his machine leapt a foot into the air, concluding with an S swerve, and a frightful conking under the very eyes of the Chief Constable."

And again: "... pin near Auchnasheen at high speed; he is badly cut about. Davies mended two punctures and took out his back wheel to fit his third cover since Monday, all without once being late."

I notice that one competitor, Mr. B. H. Davies, was dogged throughout the trial by tyre troubles. This rider was credited with mending numerous punctures and changing his back wheel and fitting three new covers without being once late at controls. As the schedule was worked out on a 20 m.p.h. basis, I leave readers to judge at what speed Mr. Davies (and other competitors) had to drive in order to reach the controls to time. Remember, there is the time lost in signing checking sheets, climbing (?) hills, taking in petrol, etc., in addition to roadside repairs, all of which has to be made up somehow.

Further on I note that Mr. B. H. Davies was awarded a gold medal. This is rather different treatment from what the A.C.U. is dealing out to Wray and myself.

Being barred from all A.C.U. events will not detract one iota from my pleasure in the sport of motor cycling. It is not the being suspended that I mind, so much as the inconsistent, Gilbertian attitude of the A.C.U. in suspending me for averaging 23 m.p.h. (or driving at 30 m.p.h. if you prefer to look at it in this way), when in the past (and certainly in the future) Six Days' Trials every competitor, and more particularly the official car and other observers, have driven, and will drive, most consistently at 30 m.p.h., and a bit over occasionally.

Of course, there is no A.C.U. fee attached to a record attempt, and probably this fact has more to do with the A.C.U.'s attitude than people think.

However, I must remember my promise to be brief, and in conclusion wish to say that I am not a spoil sport, and I sincerely wish the A.C.U. officials and competitors a jolly good time in Yorkshire—free from all police traps.

HUGH GIBSON.

Equipping the Sidecar.

[5804.]-We have read the article in the issue of August 3rd on the equipment of sidecars, and can fully endorse the writer's views with one exception.

In the first and second illustrations, wherein he suggests bending the telescopic arm, we would point out that this makes the arm considerably weaker, as not being in a straight line, it cannot carry a strain equal to that which an ordinary telescopic arm is capable of.

Regarding the position of the body. We beg to point out, that on our latest models we are now fitting dropped bearer bars, which give the body a drop of some 2in. to 5in. according to the type of bar which is used. Further, with the latest "C" springs, the front bearer is slightly raised, the two combining to give what, in our opinion, is the finest position a sidecar body can obtain.

We should also like to be permitted to point out, that we supply carriers, where desired, very similar to your illustration No. 5, with the exception that the opening is from the top and the box extends the full length of the vertical slope given to the body in this position.

MAUDE'S MOTOR MART.

SUMMARY OF CORRESPONDENCE.

Messrs. H. P. and V. C. Stafford-Badger wish to thank the unknown motor cyclists with the four-cylinder F.N. and sidecar who assisted them on the night of the 29th ult.

Will J. Seyfreid kindly note that he omitted to enclose his address when corresponding with Messrs. H. Taylor and Co., 21a, Store Street, Tottenham Court Road, W.?

G. Denham wishes to thank the unknown motor cyclist who rendered him assistance at King's Worthy, near Winchester, on the 20th ult.

[A number of letters are unavoidably held over until next week.—Ed.]

CURRENT CHAT

SPECIAL FEATURES.

HOLIDAY TOURS AND COMPETITIONS.
THE HISTORY OF A GOLD MEDAL.
THE SIX DAYS' RECORD.

Rear Reflex Lights.

It has been suggested that clubs associated to the R.A.C. and A.C.U. might arrange local demonstrations to show the practical utility of the rear reflex lights for the edification of county and local authorities, farmers' associations, and local cycling organisations, etc.

Reflex Lights Free to Cyclists.

Over 2,000 applications have been received by the A.A. and M.U. in response to the preliminary notice offering 10,000 reflex lights to cyclists. All future requests for these lights should be made to the A.A. and M.U., Central House, New Street, Birmingham. Notice will be given when the lights are ready for distribution.

Military Motor Cyclists.

The A.A. and M.U. is still open to receive applications from expert motor cyclists with first-class machines for duty in connection with the autumn manoeuvres. September 11th to 21st, as despatch riders to the 1st and 2nd Divisional Telegraph Companies Royal Engineers. Enquiries for the necessary application forms should be addressed to Mr. Alfred B. E. Cheeseman, Caxton House, Westminster, S.W.

Auto Cycle Union Notes.

T.T. CONDITIONS FOR 1912.—The question of engine sizes in the 1912 Tourist Trophy Race has been referred to a special Technical Sub-committee of the Auto Cycle Union.

SIX DAYS' TRIAL.—As was predicted in our issue of last week, the entries of Messrs. Hugh Gibson and G. Wray have been cancelled, in consequence of their contravention of the A.C.U. regulation governing unauthorised trials on the road in which the speed limit is exceeded.

The entries amount to eighty-one in all. Of these, thirty-four are from private owners and six are passenger machines. All or any of the following test hills may be observed, at the discretion of the officials: Monday—Wass Bank (morning) and Sutton Bank (afternoon). Tuesday—Arkengarth Dale (morning) and Scarth Nick (afternoon). Wednesday—Garrowby (morning) and Blue Bank (afternoon). Thursday—Greenhow (morning) and Kidstones Pass (afternoon). Friday—Heaton Woods (morning) and Brownstay Ridge (afternoon). Competitors will be given due notice as to the hills on which they will be observed. The offer of gold medals by *The Motor Cycle* for the best performances of private owners in the motor bicycle and passenger classes in the Six Days' Trials has been accepted with gratitude by the A.C.U.

The secretary has had to make two alterations in the list of luncheon places



in connection with the above trials. On Thursday lunch will be at the Commercial Hotel, Settle, and on Friday at Fell House Hotel, Burnsall.

THE MANUFACTURERS' UNION AND ENGINE SIZES.—The Motor Cycle Manufacturers' Union has written a letter to the A.C.U. asking that body to use its influence to limit the size of engines employed in competitions organised by affiliated clubs to 500 c.c. The A.C.U. considers that such a procedure would be inadvisable.

TIME TO LIGHT LAMPS.

August	10th	...	...	8.30 p.m.
"	12th	...	...	8.26 p.m.
"	14th	...	...	8.23 p.m.
"	16th	...	...	8.19 p.m.

NEXT YEAR'S T.T. REGULATIONS.—Immediately following our leaderette "Looking Ahead" on the T.T. races, comes the announcement that a joint meeting of the representatives of the Motor Cycle Manufacturers' Union and the Auto Cycle Union will shortly be called to discuss the sizes of engines to be used in next year's Tourist Trophy Race. The Standing Joint Committee will for this particular occasion be increased by three members a side. The extra names nominated by the A.C.U. are Messrs. Archibald Sharp, Otto Thomas, and W. G. McMinnies.

MEMBERSHIP.—One hundred and twenty members were elected at a recent meeting of the A.C.U. Committee.

AFFILIATION.—The Wolverhampton M.C.C. has become affiliated to the governing body.

The Mont Cenis Hill-climb.

The Mont Cenis Hill-climb, organised by the Società Sportiva di Torino, will take place on Sunday next. This year the maximum bore for lightweights has been extended to 290 c.c. In the second category for machines with a maximum capacity of 500 c.c. a maximum bore of 85 mm. has been fixed for single-cylinders.

N.W. LONDON TOUR IN FRANCE.



Some of the party at Neulchatel. Note the pave

A Motor Cyclist's Successful Action.

A motor cyclist of Castleford (Yorks) was, at the Leeds Assizes, successful in recovering £130 from the Castleford Urban District Council for personal injuries sustained through riding into a heap of manure left in the road at night and unlighted.

Passenger Carrying—A Warning.

At the Selly Oak Police Court, near Birmingham, on Wednesday last week, Wm. Locke, of 79, Heeley Road, Bournbrook, was summoned for not having a visible identification plate on the back of a motor cycle, as required by the Registration Order, 1903. Inspector Kitchen saw the defendant riding along the Bristol Road with a friend on the carrier, and noticed that the latter's coat hid all but the last two numbers of the identification plate. Defendant said it was not done intentionally, and there was a number plate on the front. Supt. Chare said it was the first prosecution for that class of offence, but it was becoming a common practice for people to ride on the back of motor cycles, and it was brought more as a warning to other persons. Defendant was ordered to pay the costs.

Round the World on Motor Bicycles.

The Globe-girdlers, William Streiff and James Esler, the former on a $3\frac{1}{2}$ h.p. N.S.U., and the latter on an Indian, called at our Coventry offices one day last week on their way to London via Stratford-on-Avon and Oxford. Mr. Streiff told us that he found the roads from Dublin to Cork were not at all good, and were particularly bad near Limerick. They experienced a considerable amount of rain in Ireland, and crossing from Cork to Liverpool they toured through the Lake District, and were further troubled by heavy rain showers. After making a stay of three or four days in London they left for the Continent early this week, travelling via Dover and Calais. Their total mileage in Great Britain was about 1,500, and they informed us that they had experienced no machine troubles except punctures. Our readers may expect to hear of Mr. Streiff and his N.S.U. again very shortly, as he has promised to send us brief notes of his journeys.

Inter-club Meet and Gala at Brooklands.

The J.A.P. engine machine on which H. Hunter won *The Motor Cycle* cup in the short distance handicap on the 29th ult. was a 5 h.p. Bat.

Mont Ventoux Hill-climb.

The results of the Mont Ventoux hill-climb are: Class 1—1st, Aurus. Class 2—1st, Loubier (Regence); 2nd, X (Regence tandem); 3rd, Astruc (Peugeot). The fastest motor cycle time was 33m. 38s. by Loubier; the fastest car time being 19m. 45 $\frac{1}{2}$ s., made on a Grand Prix racing car. The length of the climb is 13 $\frac{1}{2}$ miles, and the total rise 5,541 feet. The Mont Ventoux is in the Basse Alps, and 259 miles north-east of Avignon.

Open Record-breaking Meeting.

Following their very successful July race meeting when the Collier-de Rosier matches were run, the British Motor Cycle Racing Club has arranged a highly attractive programme for August 26th. The principal event will be a one hour race for all classes of motor bicycles, and to encourage owners of the fastest machines to give of their best, the club will give five pound notes for new records in any of the five classes. Riders who prefer a trophy may select a cup to the same value. The other event is the second 1911 time trials for one kilometre, one mile, and five miles. Mr. C. R. Collier has been elected to fill a vacancy on the committee.

**THE NORTH-WEST LONDON M.C.C.
TOUR TO LYONS.****Military Motor Cyclists.**

Thirteen motor cycles bearing the registration E are attached to the military camp at Elan Valley, North Wales. These machines are used for despatch carrying. There are three regiments in camp from Lichfield and other parts.

Another Attempt on the Hour Record.

Lieutenant R. N. Stewart made a further attempt on the hour record on Saturday last, but was again unsuccessful. On his first attempt he was pulled up with valve trouble after one and a half laps, on his second attempt the belt came off at the start, and on his third attempt the belt fastener broke after he had covered eleven laps. His best three laps were made at an average of 60.92 miles per hour, but the average speed as a whole was hardly fast enough. The weather was dull, it rained at times, and a strong southerly wind was blowing.

Racing at the Aston Track.

The results of the race meeting at the Aston Track on the 2nd inst. were:

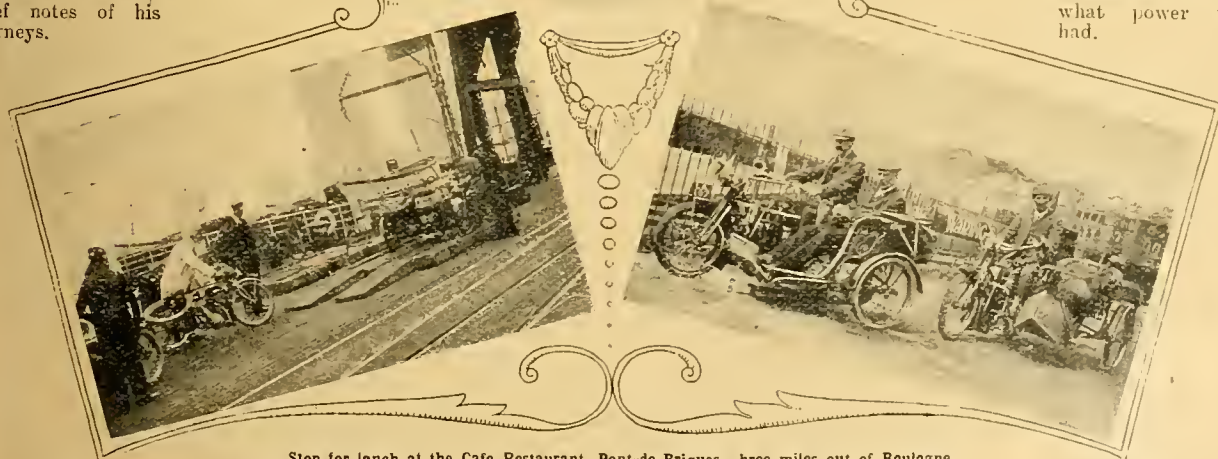
Event 1.—Two Miles Scratch Race: Heat 1: H. Colver ($2\frac{3}{4}$ h.p. Enfield). Heat 2: H. J. Woodgate ($2\frac{3}{4}$ h.p. Douglas). Heat 3: W. W. Douglas ($2\frac{3}{4}$ h.p. Douglas). Final: 1, H. Colver (gold medal); 2, W. W. Douglas (silver medal).

Event 2.—Half-hour Efficiency Race: 1, W. W. Douglas ($2\frac{3}{4}$ h.p. Douglas), special gold medal; 2, Jack Woodhouse ($2\frac{1}{2}$ h.p. Ivy-Precision), silver medal; 3, P. Brewster ($2\frac{3}{4}$ h.p. Forward).

Three Miles Handicap.—1, H. Colver ($2\frac{3}{4}$ h.p. Enfield), gold medal; 2, W. W. Douglas ($2\frac{3}{4}$ h.p. Douglas), silver medal.

Echo of the M.C.C. Team Trial.

At the quarterly meeting of the Oxfordshire County Council, Sir George Dashwood drew attention to a report in connection with motor cycle competitions on the public roads. On June 17th he pointed out that 116 motor bicycles started from Bicester and rode round a circuit four times. Alderman Colonel England said he thought that could hardly be called the legitimate use of the roads. Another enlightened member pointed out that it was equal to 600 motor cycles going over the roads. It was agreed to refer the matter to the Roads and Bridges Committee and see what power they had.



Stop for lunch at the Cafe Restaurant, Pont-de-Briques, hree miles out of Boulogne.

Machines being taken on board at Folkestone.

The two sidecar machines which went to Lyons in the N.W. London French tour about to embark at Folkestone

M.C.C. Standard Reliability, Hill-climbing, and Brake-testing Trials in Devon.

STARTING from the Bear Hotel, Hungerford, at eight o'clock on Saturday morning, the 5th inst., the above competition was successfully run off. Doubtless the novel nature of the competition and the exceedingly stiff course accounted for the small number of entrants, but this only gives greater credit to those who did compete. The entrants were:

1. E. Gwynne (7 Indian), single gear.
2. E. Pond (3½ Rudge), single gear.
3. W. Pratt (3½ P. and M.), two speeds.
4. Eli Clark (2½ Douglas), two speeds.
5. E. Kickham (2½ Douglas), two speeds.
6. H. A. Cooper (3½ T.T. Bradbury), single gear.
7. Stanley Webb (3½ Bradbury), single gear.
8. R. B. Clark (5 Indian), single gear.
9. P. H. Bentley (3½ Triumph), clutch.
10. C. T. Newsome (3½ Rover), three-speed gear.
11. Fred Taylor (7 Indian), clutch.
12. F. C. Wasley (2½ Douglas), two speeds.
13. Rex G. Mundy (3½ T.T. Triumph), single gear.
14. G. T. Gray (3½ Rudge), all-speed gear.
15. T. Silver (3½ Quadrant), single gear.
16. G. L. Fletcher (2½ Douglas), two speeds.
17. Frank Smith (5-6 Clyno and sc.), four speeds.

Of these, Newsome failed to start in consequence of non-delivery of his gear, and Silver was also an absentee.

The competition as originally formulated was to include timed hill-climbs on Porlock, Countisbury, and Barbrook Hills, but the timing on the two latter was abandoned in consequence of the bad surface. The brake tests were also left out on these two hills for the same reason. The standard performance, for which gold medals were awarded, consisted of completing the journey between Hungerford and Barnstaple in twelve hours, and the return journey in the same time, climbing all observed hills without dismounting, and coming through the brake test successfully.

The hill-climb was divided into three classes:

Class A. Bicycles with engines up to 340 c.c. and sidecars with engines up to 650 c.c. to climb the hill at a minimum speed of eight miles per hour.

Class B. Bicycles with engines (single-cylinder) up to 500 c.c. and (twin-cylinders) up to 650 c.c., and sidecar machines with engines above 650 c.c. to climb the hill at a minimum speed of twelve miles per hour.

Class C. Any other machine, to climb the hill at a minimum speed of 15 m.p.h.

How the Winner was Determined.

For the purpose of finding the winner of the first prize (sapphire and diamond tie pin presented by Mrs. Chas. Jarrott) and second prize (silver cup presented by Mr. H. E. Hull), marks were awarded in the hill-climb at the rate of five marks for every mile per hour in excess of the minimum. This gave each class of machine an equal chance of winning these prizes. Silver and bronze medals to be awarded at the discretion of the committee for all other riders outside the standard performance.

It should be noted that only six entrants used direct driven machines, and at least three of them are now sworn change-speed enthusiasts after their experience.

The quiet little town of Hungerford, on the Bath Road, was quite livened up by the arrival of a number of entrants in the early morning of Saturday, and quite a number turned out to see the competitors sent off at one minute intervals from eight o'clock onwards. Mr. R. H. Head (chairman of the committee) rode down from London in the early morning to act as starter.

All got away smartly, many doubtless thinking from the fine weather and the course that they were away on a pleasant holiday jaunt. That this was not so will be shown later. After leaving the Bath Road at Beckhampton for Devizes, a strong headwind was met, and this troubled some of the competitors, as they wished to save their engines for the hills. Dark clouds began to blow up, and near Radstock rain began, which continued all the way to Minehead. It was of such severity that nearly everyone was wet through. Bentley had the bad luck to get a front wheel

puncture near Radstock just as the rain started, and as he was not provided with overalls, got soaked through very soon. Later on Smith was strapping up a bad gash in the back tyre of his Clyno, and nearing Wells, Gwynne ran out of petrol. Karslake, who went through the run on a new 3½ h.p. Rover, to help the officials, provided him with the needful petrol. In Wells a number stopped for petrol, and Fletcher came in with Taylor on his carrier, who reported engine troubles with his Indian four miles outside, and at Barnstaple a telegram arrived to report that it was a broken piston. And then the rain came down in real earnest. Several competitors suffered misfiring, and Eli Clark skidded in some newly laid tar and got in a terrible mess. To add to his troubles the men with the tar brushes treated it as a huge joke, while several competitors scraped Clarke as clean as possible. Kickham and our photographer lost their way and went many miles off the course, arriving at Minehead very late. As an interval of one and three-quarter hours was allowed at Minehead, nearly all spent the time in drying their outer garments as the rain had stopped. Many altered their gears, and R. B. Clark changed the chain sprockets of his Indian to give a 6 to 1 gear. After luncheon a move was made for Porlock Hill, which is about six miles from Minehead. Several competitors had stops on the way there, evidently through imperfectly adjusted belts. Quite a number stopped in Porlock to have a final look over their machines and then proceeded to the start of the hill-climb in a farmyard near the bottom of the hill.

Porlock Hill-climb.

Mr. F. T. Bidlake was in charge of the timing at the foot and Mr. G. J. M. Walker at the top, two and a half miles distant. Porlock Hill does not call for much description, as it has been so often mentioned, but it is as well to remember that it is two and a half miles long, and rises over 1,200 feet in that distance. There are two very bad corners, with a quarter of a mile of 1 in 4½ between them, and several hundred yards of 1 in 5 to 1 in 7. To add to the difficulty of climbing the hill, the rain had made it greasy in places, and this was the cause of several failures. It is remarkable that only one of the competitors should succeed in making a clean ascent, and this honour fell to W. Pratt (3½ P. and M.) Gwynne, who was down as first to start, elected not to try, as he did not care to chance it with a single gear. Therefore Pond was first to start, and he ran alongside at the first corner, mounted later, and went out of sight round the second corner running again. Pratt came next, and, as previously stated, made a clean ascent. He was loudly applauded by the spectators on the first corner, and well deserved it, as he came round with excellent judgment, and went out of sight in a straight course. Eli Clark assisted from the first corner to the second, and then his machine sideslipped. He remounted and finished the hill. Kickham took the corner well, but had to dig with his feet to keep going. When last seen he was still doing so, and later reported a traffic stop from a restive horse some distance up. H. A. Cooper ran after rounding the first corner, and soon stopped. Stanley Webb stopped on the corner through getting into a rut. R. B. Clark on the Indian used his clutch on the corner, and stopped immediately afterwards. P. H. Bentley was coming up well when his clutch started slipping, and he came to a standstill just round the corner. Rex Mundy was the only rider with a single gear to remain in the saddle. His performance was very fine, and well deserving of the applause he got. He was also quite the fastest. Wasley pedalled round the corner, and failed one hundred yards higher up from misfiring. Gray on the six-speeder came up too fast, and fell on the corner. His performance was quite a sensational one, and had he not been travelling too fast would undoubtedly have scored a clean ascent, as he did so later on. Fletcher was the only one to take the outside at the corner. He got round all right, but had to run and mount in stretches, and so doing went out of sight. Smith on the Clyno travelled slowly, as his back wheel would not grip, but he put up a marvellous performance, and only pulled up after climbing the worst portion because his rear tyre refused to bite. He started again, however, and finished.

M.C.C. Reliability, Hill-climbing, and Brake-testing Trial.

Smith is said to be the first sidecarist to get beyond the first bend, and would undoubtedly have made a clean ascent at the first attempt on a dry day. Several of those who failed made the ascent in short stretches, while others preferred to use the toll road, which is longer, but much easier.

Descent of Barbrook Hill.

Passing on over Exmoor, through marvellously beautiful scenery, the precipitous descent into Lynmouth had to be taken, and as it was very muddy several competitors had quite an exciting time. The Watersmeet Road was then followed for about three miles, and over the ridge to the top of Barbrook Mill Hill. Practically no one rode down without assistance from a crowd of small boys, who netted a small fortune by hanging on to the back of the machines. Be it said that Karslake's Rover was the only machine to get down without assistance, but perhaps this was because he knew the hill. Many of the riders thought of having to ride up this acclivity on the Monday, but they were saved this, as will be shown later. After the hill, a left-hand turn is taken for Parracombe, and after climbing for a mile or more there is a sharp corner with a steep pitch of about 1 in 8. To show how competitors take a hill like this on the run, it is interesting to note that Bentley used his clutch after getting round the corner and stopped. He restarted and finished pedalling. Pond ran after rounding the corner and remounted. Cooper made a clean ascent, although somewhat slow, as did Stanley Webb. Wasley used his low gear and pedalled. Gwynne was slow on the corner, but finished fast. Mundy ran part way and remounted, but ran again near the top. The course then went down into Parracombe and on to Blackmore Gate, where the main road was left to go across to Barnstaple. The headquarters were at the Imperial Hotel, and with an excellent garage the competitors did remarkably well. The hotel people were very kind in drying our clothes and making us comfortable, and with a good hot dinner quickly served everyone was soon in the best of spirits. Many were the remarks about the vile condition of the roads. Several confessed they had thought of the run as a picnic, but lived to realise what real hills are. After a general exchange of opinions it was decided to hold a meeting on Sunday morning, as it was considered that Barbrook Hill was quite impracticable in its muddy condition. At the meeting an alternative route was suggested *via* Watersmeet, Brendon, and Oare, and so to the top of Porlock Hill, but a majority were for going straight down Lynmouth Hill and trying Countisbury Hill as an observed climb. They would then proceed to Porlock Hill for the brake test. It was also decided to alter the starting time from 8.30 to 8 o'clock, to allow more time for the twisty road to Parracombe. It should be clearly understood that it was impossible for the officials to foresee all the difficulties of the route, as it was over entirely new ground for competitions. Even with a liberal allowance of time many competitors were unable to keep to the schedule on the outward journey over the hills.

Observed Climb on Countisbury Hill.

On Monday morning the competitors were sent off by Mr. Gwynne, who followed afterwards. As the hill-climb on Barbrook Hill was cancelled, competitors rode past the foot and straight into Lynmouth for the observed climb of Countisbury. As the surface had dried somewhat it was quite rideable, and all but two made a clean ascent. Observations above the Tors Hotel Garage were that Pratt was quite fast on low gear. Eli Clark came up steadily, Bentley fast, and Pond ran and stopped. Karslake gave him a push off, and he got away all right. Pond now thinks a change-speed gear absolutely necessary for North Devon. H. A. Cooper was fairly fast, as was Stanley Webb. R. B. Clark was quite fast, but geared low. Kickham came up steadily, as did Wasley. Smith, on the Clyno, came up in his invincible style, looking quite pleased. Gray was going well on one of his low gears. Fletcher was very slow, as his belt had turned over and was slipping, and he stopped to tighten it after the steepest part. Mundy was not observed, as he arrived late in consequence of losing his way.

Competitors proceeded straight on to the top of Porlock Hill for the brake test, and here we found H. G. Bell, Southcomb May, and F. Russell to greet their fellow members. For the brake test a strip 20ft. wide was marked off with apes, and each man had to come to a standstill between

them. The gradient was 1 in 8. Gwynne and Pond came down slowly and stopped satisfactorily. Pratt was fast and made a very quick stop. Eli Clark and Kickham were slow and stopped. Cooper came at a fair speed and stopped. S. Webb and R. B. Clark were slow and stopped, and the latter's brakes squeaked. Bentley was slow and stopped, and was baulked by the Lorna Doone coach which met him in the test strip. Wasley skidded his back wheel and stopped, as did Mundy. Gray was very fast and skidded his back wheel, and only just stopped inside the tape. Fletcher was also fast, and skated into the measured piece from some distance. Smith was very slow and stopped satisfactorily.

It is curious to note that up till now, although the route was over most difficult country, only one competitor had dropped out. Proceeding to Minehead for lunch, the competitors left for the easy run to the finish at Hungerford. The lovely scenery was greatly enjoyed by all, and the weather conditions being ideal, there was every prospect of a successful termination to the trial. Porlock Hill was in ideal condition, and was in distinct contrast from Saturday, when it was so greasy in places. The only incident on the return to Hungerford was Gwynne breaking the inlet rocker of the front cylinder. All who started completed the trial, with the exception of Fred Taylor, whose retirement is recorded earlier. Although the course is over some of the roughest roads in England, it is remarkable that there was only one punctured tyre. A feature of the trial was the remarkable running of the little Douglasses. Several climbed Countisbury Hill without their riders pedalling or dismounting. The Clyno sidecar also put up a very fine performance, and is the first sidecar to make the ascent of Porlock Hill with a passenger. Smith had no trouble with the machine throughout, and climbed all hills with a reserve of power. It should be noted that this is the first competition in North Devon, and includes the first timed hill-climb on Porlock Hill.

The provisional result.

Subject to confirmation by the committee, W. Pratt wins the first prize, as he was the only one to qualify by making a clean ascent of Porlock Hill. He thinks the trial an excellent one, and of the kind which has been wanted for years. All the competitors would certainly go another year, but several single gear enthusiasts would now only go with a change-speed gear.

Thanks are due to Mr. Bordsall, of Exeter, for going to Barnstaple to check the men in, and also to Mr. J. K. Starley for the official car (12 h.p. Silent Knight Rover), ably driven by Mr. A. H. Marsh.



Flashlight photograph of the start of H. V. Swift's attempt to break the six days' long distance record for lightweight motor cycles. Our photograph was taken on Saturday midnight outside the General Post Office, Sheffield. His mount is a 2½ h.p. Douglas.

SIX DAYS' RECORD BEATEN.

J. Guzzwell, of Grimsby, averages 467 miles per day.

AS mentioned in our last issue, J. Guzzwell, of Grimsby, started on Saturday, July 29th, on an attempt to improve on the six days' figures set up by W. J. Clarke, of Doncaster. Guzzwell brought his machine to our offices previous to the start and asked us to seal the engine to the frame. Signed postcards were received daily at our offices, giving the distances registered by the Cowey speedometer. This instrument was new at the commencement of the ride, and had been tested for the occasion. The mileages were reckoned from Gall and Inglis's Contour Road Book. Each postcard, in addition to the above particulars, was signed with the name, and in nearly all cases with the name and address of the checker. A wire handed in at Grimsby on Friday morning last reads as follows: "Finished ride midnight, 2,801 miles.—Guzzwell." The



The new six days' record holder, J. Guzzwell (free engine Triumph), who rode the unprecedented distance of 2,801 miles.

previous best, viz., Clarke's ride, was 2,700 miles, accomplished between June 6th and 11th. Guzzwell's daily rides and distances are as follows:

July 29th.—Grimsby, Nottingham, Barton, Bourne, Lincoln, Brigg, Grimsby, Lincoln, Bourne, Barton, Sleaford, Brigg, and back to Grimsby. Distance by road book 553 miles, by speedometer 556 miles.

July 30th.—Grimsby, Nottingham, Barton, Bourne, Brigg, Bourne, Brigg, Grimsby. Distance by road book 411 miles, by speedometer 415 miles.

July 31st.—Grimsby, Nottingham, Brigg, Grimsby, Nottingham, Coventry, Newark, Grimsby. Distance by road book 404, by speedometer 405 miles.

August 1st.—Grimsby, Nottingham, Brigg, Bourne, Brigg, Bourne, Brigg, Nottingham, Lincoln. Distance by road book 469, by speedometer 472 miles.

August 2nd.—Lincoln, Nottingham, Lincoln, Nottingham, Grimsby, Brigg, Nottingham, Brigg, Lincoln, Brigg, Nottingham, Brigg, Lincoln, Brigg, Nottingham. Distance by road book 435½, by speedometer 423 miles.

August 3rd.—Nottingham, Brigg, Nottingham, Brigg, Lincoln, Brigg, Lincoln, Brigg, Lincoln, Brigg, Lincoln, Brigg, Grimsby, Brigg, Lincoln, Brigg, Lincoln, Brigg,

Lincoln, Grimsby. Distance by road book 529, by speedometer 530 miles.

The rider finished at 11.55 p.m. Guzzwell rode his 3½ h.p. 1910 Triumph fitted with Kempshall tyres, Stanley-Dermatine belt, L.M. plugs, Lucas lamp and generator, and XL'All pan seat. Pratt's spirit and Moberg oil were used.

From the reports received Guzzwell finished in excellent form, but was sunburnt and weatherbeaten. In addition to checking by means of the postcards sent to these offices, Guzzwell has duplicates of all the signatures obtained written in a book corresponding to the cards received by us. In taking the distance from the Contour Road Book odd furlongs have been omitted, which will account for the slight discrepancy between the road book distances and the distances registered by the speedometer.

In the course of an interview on the day following the completion of the ride, Guzzwell, who is of powerful physique, and showed little signs of exhaustion, said the only thing that had affected him was that he wondered why he could not hear the throb of the engine, and everything seemed strangely quiet.

He had two spills. On the Monday morning he buckled the back wheel; and, although able to ride from Lincoln to Grimsby, he had to have a new wheel of the fixed engine variety fitted until he could get to Coventry, where a free-engine wheel was replaced. He estimates that he lost from seven to nine hours owing to this, and that it spoilt what chance he may have had of making a 500 miles a day average.

On the Wednesday night, on the road to Grimsby from Lincoln, he was forced on to the kerb by a motor car, with the result that he had a spill, and bent the control rods of the free-engine clutch. This was put right, however, the same night at Lincoln.

On the Bishop Bridge Road, in the neighbourhood of Market Rasen, an extraordinary thing happened. Riding at night a number of hares and rabbits were attracted by the lamp, and a hare running under the engine just scraped the belt. Light as its touch must have been, it was sufficient to remove the belt.

The most trying part of the ride, however, was on the Thursday morning, when there was a good deal of rain. "I was an hour and a half doing the first twenty-four miles," said Guzzwell, "and I was wet through into the bargain on arriving at Lincoln. But I had to let my clothes dry on me, for I had no spare ones with me."

There were a good many police-traps, which he managed to dodge, and only once was he challenged by policemen, that being on the Newark Road from Lincoln. "Then," as he put it, "I was in too much of a hurry to stop."

Asked for some details as to how he managed about sleep, Guzzwell estimated that he only had eleven hours' rest in the six days. He rode practically continuously for forty-eight hours during the later stages of his run, and on no occasion did he rest more than four hours at one stretch.

With regard to food, "I took a meal when I had the chance," he said. "Generally speaking, meals were not ready when I wanted them, and I could not afford to lose the time to wait for them. During the last three days I existed chiefly on milk and Brand's meat extract lozenges, which I found quite sufficient, for I had no desire for a hearty meal. The only liquid refreshment I touched was milk, which was both food and drink."

A. W. Brittain Retires through Collision with a Dog.

A. W. Brittain did not retire at 1,205 miles on Tuesday of last week, although his telegram led us to believe that he had done so. He continued the ride, and on the 30th he had a very good day and touched absolutely nothing on the machine; but on the 31st he broke three belts in the first fifteen miles, and ran out of petrol near Fenstanton, but managed to get to a petrol store by using the spare petrol behind the dam in the Rudge tank. Subsequently he had trouble with the rear wheel spokes, had two punctures and five broken belts, and on the 1st inst. five punctures between Leicester and Cambridge, although he started on a brand new cover. The attempt was brought to an end by colliding with a dog when travelling at only eight miles an hour.

DE ROSIER'S LAST DAYS IN ENGLAND.

JAKE DE ROSIER succeeded in annexing two records before leaving England last Saturday. Starting in the early hours of Friday morning, and using his famous 7 h.p. No. 21 Indian, he covered the flying kilometre in 25½s., which equals a speed of 88.77 miles an hour, and thus beat the late M. Cissac's record, which he attained on a 12 h.p. Peugeot motor cycle at Blackpool in 1905, covering the distance in 25½s. The mile was covered in 40½s., which means 88.23 miles an hour, thus beating his attempt on July 8th on the occasion of the M.C.C. race meeting, when he covered the distance in 41½s., and beating his record at Los Angeles. It was a fine morning, with a side wind, and de Rosier elected to ride down the railway straight towards the members' bridge. He stated that he felt the bumps very much, and on one occasion he was thrown right off the saddle and came down with a crash, hurting himself severely, so that he wondered for the moment if he could steady himself again. Two tries were made for each event, the time-keepers being Messrs. A. V. Ebbelwhite and F. T. Bidlake.

On the same evening de Rosier was entertained at a farewell dinner at Frascati's restaurant by Mr. H. Collier, sen., at which were present Messrs. C. R. and H. A. Collier, Mr. Turner (Mr. Collier's partner), and Mr. E. M. P. Boileau (*The Motor Cycle*). This was an exceedingly sporting action on the part of Mr. Collier, which will be appreciated. De Rosier, who looked in much better health than when he first arrived in England, treasured most among his numerous trophies the M.C.C. special gold medal, which was awarded to him on the occasion of his victories of July 8th. C. R. Collier is anxious to go to America to try his luck, but has not made any definite arrangements, especially as interesting developments may be expected of Matchless Motors, Ltd., shortly. One thing has impressed itself on de Rosier, and that is that Englishmen are true sportsmen and play the game, and this is the greatest compliment he could pay us as a nation. De Rosier has proved himself to be a good exponent of a good machine during his sojourn in England, and it was with great regret we said good-bye to him.

GRUINARD HILL AND ITS CHARMING ENVIRONMENTS.



Some idea of the magnificent scenery passed through by the Scottish Trials competitors will be gathered from this illustration, showing H. V. Colver nearing the summit of Gruinard Hill on his two-speed Enfield.

THE SIX DAYS' LIGHTWEIGHT RECORD.

With the intention of reclaiming the lightweight six days' record H. V. Swift (2½ h.p. Douglas) started from Sheffield on Saturday at midnight, accompanied for the first part of his journey by J. Haslam, of the Sheffield and Hallamshire

M.C.C. His destination was Bangor to Sleaford, the total mileage for the first day being 500 miles. He is being checked by the officials of the Sheffield and Hallamshire M.C.C. (See page 829.)

BANK HOLIDAY RACING AT BROOKLANDS.

The last race meeting of the summer season has seldom provided such excellent sport as that which was seen last Monday. It is to be regretted that only one motor cycle event formed part of the programme, and that this event should have obtained only fifteen entries. However, an excellent race resulted in Stanhope Spencer (3½ h.p. Rudge) leading the field home, pursued by A. J. Spreston on a similar machine, and Haswell's Triumph finished third, well up to

the second man. Wasling, on an Enfield, received 2m. 8s. start, and although travelling well, was overtaken in the second lap, and had no chance at the finish. The Colliers' handicap prevented them from picking up the others in the 5½ miles, but during that time C. R. Collier had passed all but four of the field, and needed but another mile or so to have accomplished his object. Beyond the first four men the handicapping was excellent.

Herts. County A.C. Holiday Tour to the English Lakes.

THAT enterprising body, the Motor Cycle Section of the above club, held its second annual holiday tour and competition run to Kendal and back on August 5th to 7th. This tour is considered one of the most sporting and enjoyable runs of the year, and although the distance is, roughly, six hundred miles, it is not an arduous undertaking, there being no secret checks or irksome regulations.

The awards in connection with the run are unusually valuable, and great keenness is displayed by the competitors. Following is a list of the prizes: The Triumph Challenge Cup for single-cylinder machines; won last year by Bert Yates. The Indian Challenge Bowl for twin-cylinders; won

exercised on entering Biggleswade, where the roads had been taken up for drain laying.

After climbing Alconbury we encountered G. S. Carter struggling with his back tyre, and further on V. Wilberforce was in like distress. Hereafter the roads improved. At Stamford breakfast was provided, and as we were leaving the George Hotel W. W. Douglas arrived, and told us he had taken his back tube out no fewer than four times between Hertford and Stamford. (A curious point about this is before starting on the run W. W. mentioned in a casual way he had not suffered from punctures all the season.) Surely they must have all come together! Sympathising with him we proceeded along through the most uninteresting part of the run to Grantham, where Harwood was delayed again with a stretched exhaust valve, and Dixon who was complaining of a cracked valve seating on his Rudge. As this part of the route presents no terrors in the way of nasty twists or hills, they most instinctively opened their throttles. Approaching Newark, Cyril Patterson was passed repairing his front tyre.

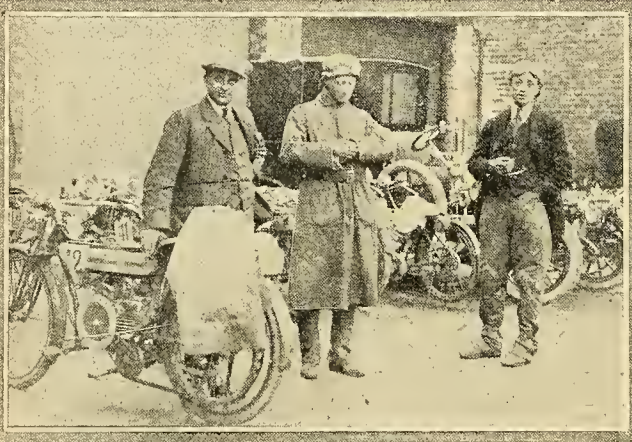
Whilst waiting to go into the Doncaster check, which was situated one mile from the racecourse garage, Down passed carrying the chain cover under his arm, and reported the sprocket chain wheel had come adrift some miles farther back. He was travelling splendidly, and the lovely purr of the Enfield brought forth much admiration from his fellow competitors.

Lunch was taken at the Earl of Doncaster Arms, and everyone had come through successfully so far. At Wetherby we encountered the first storm, and adjustment of belts ensued.

Harrogate check was in charge of H. W. Fortune, who is always ready to give a helping hand to the Herts County A.C. After a most excellent tea at the Clarendon Hotel, we wended our way to Blubberhouses Pass, where the first hill-climb took place. The timing arrangements were in the hands of Messrs. Fortune and Tindall, who worked most energetically throughout the climb.

The Hill-climb at Blubberhouses.

Taking into consideration the severity of the weather, which had by now become a regular cloud burst, "a characteristic of this range of hills," some wonderful times were observed. Stanley Carter (Matchless twin) came up well,



W. W. Douglas (Douglas), E. A. Colliver (Zenith), and R. M. Mariani (P. & M.), the first arrivals at Harrogate.

by G. S. Carter. The Douglas Lightweight Cup; first year. The Humber five-guinea gold medal for passenger machines; first year. A pair of Kempshall tyres, given by Kempshalls. Silver cups are given at discretion of committee, and bronze medals, for completion of both journeys within one hour of respective schedule times.

The list of Competitors.

The route taken followed the North Road to Wetherby, where the road veered to the left for Harrogate, then on to Blubberhouses Pass (where the first hill-climb took place), thence to Settle, Kirkby Lonsdale, and Oxenholme (where the second hill-climb was arranged), and lastly Kendal.

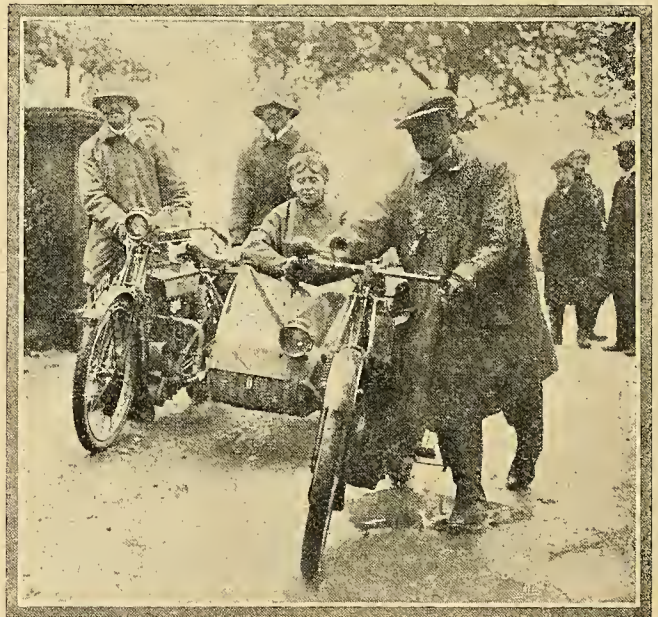
Below is a list of the starters:

C. C. Cooke (3½ T.T. Triumph)	A. Peppercorn (3½ Bradbury)
R. M. Mariani (2½ P. and M.)	W. Cooper (3½ Bradbury)
B. T. Rice Pyle (8 Bat-Jap and sc.)	Alan Hill (3½ Rudge and sc.)
C. M. Down (2½ Royal Enfield, two-speed).	E. A. Colliver (3½ Zenith)
A. N. Gutteridge (3½ Clutch-Triumph)	W. W. Douglas (2½ Douglas, two-speed)
G. S. Carter (5 Matchless)	A. J. Dixon (3½ Rudge)
J. S. Harwood (3½ Humber and sc.)	C. Patterson (7 Indian and sc.)
	V. Wilberforce (2½ N.L.G.)
	P. Phillips (2½ Douglas, two speed)

Soon after 5 a.m. on Saturday Gray's garage was the scene of great activity as the competitors arrived to be weighed and prepare for the start of their long journey.

The weather was somewhat dull and cloudy, but everyone was in good spirits.

A. J. Peppercorn (3½ h.p. Bradbury) was the first to stop, suffering with carburettor trouble, but was soon going again. Reaching the top of Digswell we were given a very hearty cheer by some members of the club who had ridden over to witness the start. After leaving Baldock J. S. Harwood was held up with a sooted plug. Continuing along this popular road, which is now very loose and dusty, great caution was



W. Cooper (3½ h.p. Bradbury) and J. S. Harwood (3½ h.p. two-speed Humber and sidecar) arriving at Harrogate in pouring rain.

Herts County A.C. Holiday Tours.

followed by C. C. Cooke (T.T. Triumph), who was tremendously fast, and in order to save himself was obliged to run over the grass right past the timekeepers. Others to make creditable ascents were E. A. Colliver (Zenith) and W. Cooper (Bradbury), who had great difficulty in starting owing to a slipping belt. Alan Hill (3½ h.p. Rudge and sidecar) came up well, and J. S. Harwood (3½ h.p. Humber and sidecar) made an excellent climb.

Proceeding after the climb, G. S. Carter was seen busily occupied in adjusting his magneto, and just as we were approaching Settle R. M. Marians (2½ h.p. lightweight P. and M.) was unfortunately in trouble with his magneto. The ever energetic and hard-working hon. secretary, C. C. Cooke, experienced a loose pulley hereabouts.

Kirkby Lonsdale was the scene of the second control, and several of the riders were caught napping.

The Second Hill-climb.

Leaving Kirkby Lonsdale, a beautifully graded surface was experienced to Oxenholme, where the second and final hill-climb was awaiting the arrival of competitors. Several of the riders went astray before the hill, and reached Kendal before time, and had to return to be timed up the test hill.

Every starter reached Kendal, where a great crowd was waiting our arrival. The arrangements at the Commercial Hotel were excellent, and the general comment of all was that this tour has been "the" tour and competition of the year.

Sunday opened with a deluge of rain, but, in spite of this, at 11 a.m. machines were out, and all started for Barnard Castle, the majority by Keswick and Penrith, and a few by Shap Fell. Before starting not a single oil-skin or sou'-wester could be obtained for gold, owing to the heavy down-pour. It was pleasing to note the happy feeling that existed amongst the competitors. The scenery to-day was the best so far—in fact, magnificent—and although the roads were in better condition after the rain, they were quite severe. The stiff gradients saw many of the riders "conk" out.

Tea was taken at the George Hotel, Penrith, and rain was still falling when we arrived. After drying several of our garments at the hotel fire, we proceeded to Barnard Castle. The only incidents of note to-day were that A. G. Peppercorn, after leaving Kendal, in trying to negotiate a twisty bend, struck the wall and came a bad cropper—a hard piece of luck. Another competitor, Cyril Patterson (7 h.p. Indian and sidecar), unfortunately broke a chain and suffered a few other minor mishaps. Considering he had never driven a sidecar before, and only took delivery two days previous to the run, he performed excellently.

	Doncaster checks.	Kirkby Lonsdale.
	Marks lost.	Marks lost.
C. C. Cooke ...	1	25
R. M. Marians ...	1	49
R. T. Rice Pyle ...	5	1
C. M. Down ...	3	2
A. N. Gutteridge ...	1	17
G. S. Carter ...	1	6
J. S. Harwood ...	1	2
A. G. Peppercorn ...	2	24
W. Cooper ...	1	13
Alan Hill ...	1	2
E. A. Colliver ...	1	1
W. W. Douglas ...	1	1
A. J. Dixon ...	1	1
C. Patterson ...	2	13
V. Wilberforce ...	6	24
P. Phillips ...	1	1

The Return Journey on Monday.

Everyone was astir by 5 a.m. getting machines ready for the return journey. The weather conditions were certainly much brighter than Sunday, although rather dull.

F. G. Carter despatched the hon. secretary first at 6 a.m., other competitors following at one minute intervals.

The roads were in a deplorable state as far as Scotch Corner and atrocious as far as Greta Bridge.

Approaching the toll-gate several nasty skids were noticed, Down missing the wall by inches. Alan Hill was passed tyre repairing.

Joining the Great North Road at Scotch Corner, a very strong wind had sprung up, catching us sideways. Ideal weather conditions now prevailed, the sun shining magnificently, and roads were perfect to Aberford. Light refreshment was taken here. While refreshing the inner man, several members of the Doncaster Motor Cycle Club passed. They were holding a reliability trial, and greetings were exchanged on to Ferrybridge. Hill had now run out of petrol, and called at a wayside cottage for paraffin, and ran to Doncaster before replenishing.



HERTS COUNTY A.C. TOUR TO THE LAKE DISTRICT—NEARING RETFORD.

In the photograph may be recognised W. Cooper (Bradbury), C. C. Cooke (Triumph), and E. A. Colliver (Zenith).

Several further mishaps have to be recorded. Near Bawtry W. W. Douglas met with engine troubles, and had to be towed to the station by a non-competitor, and later W. Cooper (Bradbury) had the magneto cradle break.

A Check at Newark and a Trap at Grantham.

The first check was two miles from Newark. Clinton Arms, Newark, was the stopping place for the midday meal. The absentees were Rice Pyle (Bat and sidecar), W. W. Douglas, and H. G. Cove, the official judge.

After lunch we were all advised to drive with great caution through the village of Long Bennington, where the famous four-mile trap was being worked. Cyril Patterson (7 h.p. Indian and sidecar) was the next unfortunate, being hung up with a seized gear box, but he got going again later. Several stayed at Norman's Cross for tea, and Dr. Moss Blundell had driven over from Huntingdon to meet the competitors.

The last check was two miles from Hatfield, and the majority were well prepared for it.

Among the lightweights, the P. and M., Enfield, and Phillips's Douglas have made excellent performances, and the same may be said of Cooke's Triumph, Colliver's Zenith, and Harwood's Humber.

The results are not yet available, but, judging by the running, Colliver should win the Triumph Cup, G. S. Carter the Indian Bowl, and Down or Phillips the Douglas Cup.

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GOLD MEDALS

in the following events:

- July 5th. Scarboro' Motor Cycle Club's Hill Climb.
- „ 13th. Doncaster & Dist. Motor Cycling Club's Hill Climb.
- „ 15th. Mersey Motor Club's 24-hour Reliability Trials.
- „ 17th. Western Dist. Motor Club (London) Hill Climb.

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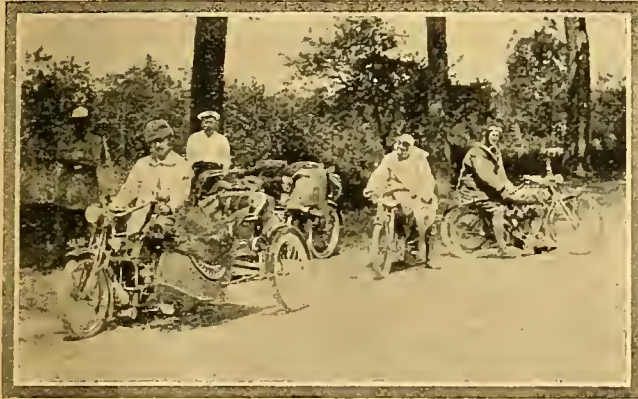
1070 Southampton.

In answering this advertisement it is desirable to mention "The Motor Cycle."

The N.W. London M.C.C. Tour to Lyons.

A British rider and machine win the 180 kilometres race.

THE party having closed up at Abbeville during the early morning of July 30th, we got away in group order on our journey South, the weather being perfect and the road, on the whole, first class. The approach to Neufchâtel, which lies in a valley, provided a splendid specimen of road engineering, the long climb out of the town being equally well graded and the scenery very good. Some of us took a breather here, and sipped the coffee, which is a revelation to the uninitiated, while *The Motor Cycle* photographer took a snap.



A party of N.W. London M.C.C. members during their tour to Lyons.

Beyond Neufchâtel to Rouen the road is not so good, and some of the *paré* brought on a general idea that one's machine might go to pieces at any moment. After a time, however, that feeling wore off, and confidence born of sitting over English workmanship returned. Careful diving over *paré* was, however, always necessary, especially with the sidecars.

A long drop into Rouen found us struggling with a big dose of *paré* and trams, the Seine being close on our right for some time, until we crossed it at Pont de l'Arche, where we found a fair in full swing. One found it difficult to realise that it was Sunday, and we stayed awhile watching the novel scene, and being instantly diagnosed as "les Anglais," before pushing our machines through the crowd and making, *via* Louviers, for Evreux, where we slept. Two miles outside the town I had trouble with my back tyre, which delayed me some time, but dinner in France seems to be always done to a turn whenever one arrives, so the set-back was soon forgotten.

Monday morning saw us off immediately after *petit déjeuner*, which to an Englishman is rather a poor apology for breakfast, and bowling along over a good level road, boulevarded, and often dead straight for many miles. So far we had met very little traffic outside the towns, and passing on the right was quite a simple matter.

Passing Dreux, which is a curious old-fashioned town of narrow streets, in which to lose the way is much simpler than to find it, we entered a long stretch of flat, dreary country, with scarce a tree in sight and a burning sun overhead. The monotony was broken temporarily at Chartres, only to be renewed as far as Artenay, where we lunched in the cool dungeon of a village inn dated 1642. Reaching Orleans, the country changed completely, and with frequent glimpses of the Loire on our right, we made good progress through Châteauneuf and Gien to Cosne, remaining there for the night.

Passing through Ponges les Eaux the next morning we found Hal Hill and "G.O.K." Thomas, who had been somewhat in front from Abbeville, the latter having taken a toss on a dusty bend downhill which necessitated resting for a few hours. Leaving them to follow we passed through Nevers, after which I struck puncture troubles which delayed me some hours, together with Ashworth, who stood by to lend a hand. Subsequently we were both caught in a thunderstorm and scurried for shelter as best we could, the

others having now practically reached Lyons. The storm having passed away, Wednesday morning seemed hotter than ever, but a high temperature is more bearable than at home owing to the dry atmosphere.

Entering the last stage of our journey of over 500 miles from Boulogne we proceeded *via* Moulins to La Palisse, striking some execrable surface *en route*, much of it resembling a miniature pebble beach.

Lunching at Roanne we thereafter passed through magnificent scenery for many miles, the road winding round the shoulder of hill after hill surrounding well wooded valleys dotted with delightful hamlets.

Reaching our journey's end, we were most hospitably received by the members of the Motor Cycle Club of Lyons, who left no stone unturned to make us feel thoroughly at home, and gave our men every opportunity to become well acquainted with the course of about thirty-seven miles, which had to be covered three times in the Circuit du Rhône on Sunday. Having made personal acquaintance with it, I can testify to its extreme severity. For the greater part the road is narrow and the surface bad. It abounds in hair-pin and S bends, and there is little or no flat travelling anywhere. The principal hill is five miles long, with sharp bends and corners in rapid succession, and rises some 1,500 feet. The shortest possible wheelbase is necessary to take the bends at anything like speed.

We shall none of us regret our visit or forget the kindness and hospitality which we have met, not only in Lyons, but throughout the whole journey through France.

Circuit du Rhone.

F. A. Rose (3½ h.p. Triumph) won the circuit of 180 kilometres (111½ miles) in 3h. 22m. 10s., beating the next best, a French rider of a 3 h.p. Magnat-Debon, by 4m. 54s. There were eighteen starters.

	H.	M.	S.
1. F. A. Rose (3½ Triumph)...	3	22	10
2. Escoffier (3 Magnat-Debon) ...	3	27	4
3. Yenne (3 Magnat-Debon) ...	3	32	18
4. Mazue (2½ Mazue) ...	3	37	22
5. Colomb (2½ Mazue) ...	3	54	20
6. Molinard; 7. Mermet; 8. Devaux; 9. Lorrin; 10. Rozand.			

Escoffier made the fastest lap, 59m.

The Hill-climb.

In the hill-climb on the Cote de Lucre, the Lyons Club won by 456 points against 473. The results are:

1. Debeaune (9 René Gillet) ...	0	4	4
2. Escoffier ...	0	4	49
3. F. A. Rose ...	0	5	29

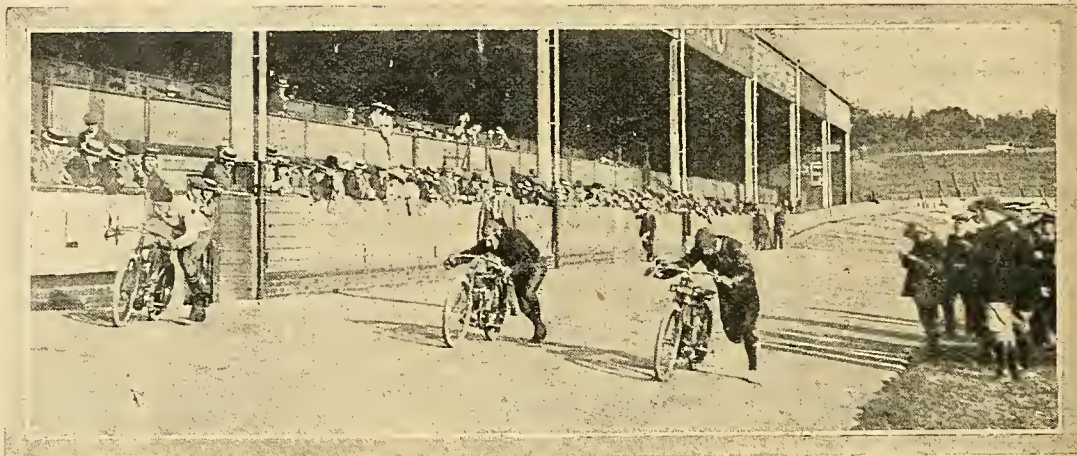
A banquet followed, and Mr. C. Williams, who has contributed the above report to *The Motor Cycle*, assured the Lyonnais that the N.W.L.M.C.C. would certainly compete again next year.



C. Williams has still more tyre trouble at the village of Moiry. The villagers are consoling him.

CLUB NEWS

Sutton Coldfield
M. C. C. Race
Meeting at Aston
Track. J. W.
Woodhouse (Ivy-
Precision), H. V.
Colver (Enfield),
and P. Brewster
(Forward) start-
ing in the first
race won by
Colver (see page
827).

**West Essex A.C.**

The following result of the 100 Miles Motor Cycle Cup Competition has been confirmed: 1, W. E. Gunnett ($3\frac{1}{2}$ h.p. Triumph), cup outright (third year); 2, W. M. Gunnett ($3\frac{1}{2}$ h.p. Triumph), medal.

Huddersfield and District A.C.

A reliability trial over a sealed course was held on August 2nd, for which there were ten starters. The prize was a silver rose bowl presented by Mr. J. Candy, and was won by W. A. Lockwood ($3\frac{1}{2}$ h.p. James), J. E. Wortley ($3\frac{1}{2}$ h.p. Triumph) being second.

North-eastern A.A. (Motor Cycle Section)

The hill-climb in conjunction with the Durham and District M.C.C. was held at Quarrington Hill on July 29th, and resulted as below:

SINGLE-CYLINDER CLASS.

Rider and machine.	Time.	Fig. of merit.
1. R. B. Smith ($3\frac{1}{2}$ standard Ariel) ...	60s. ...	68.20
2. C. W. Smith ($2\frac{1}{2}$ New Hudson) ...	77 $\frac{3}{4}$ s. ...	68.45
3. F. Turvey ($3\frac{1}{2}$ T.T. Triumph) ...	50 $\frac{3}{4}$ s. ...	71.60

TWIN-CYLINDER CLASS

1. F. Turvey ($2\frac{3}{4}$ Enfield) ...	70 $\frac{3}{4}$ s. ...	74.07
2. — Ellis (4 T.T. Matchless) ...	53 $\frac{3}{4}$ s. ...	79.60
3. W. Baxter ($2\frac{3}{4}$ Enfield) ...	63 $\frac{3}{4}$ s. ...	81.13

Middlesbrough and District M.C.C.

Result on formula of the fuel consumption trial held August 2nd:

Rider and machine.	Fuel.	Average m.p.g.
1. J. Dale ($3\frac{1}{2}$ Triumph) ...	Benzol ...	217.3
2. J. Gilchrist ($3\frac{1}{2}$ Zenith) ...	Benzol ...	154.5
3. J. Challans ($3\frac{1}{2}$ Premier) ...	Petrol ...	153.8

Scarborough and District M.C.

The results of the trial on the 30th ult. are:

	Points.
1. H. Frain ($3\frac{1}{2}$ Zenith) ...	100
2. { J. W. F. Tranmer ($3\frac{1}{2}$ Norton) ...	99
{ W. B. Atkinson ($3\frac{1}{2}$ Calthorpe) ...	99
{ C. P. Finn ($2\frac{1}{2}$ Enfield) ...	99

Dublin and District M.C.C.

The two days' open reliability trial for the club fifteen-guinea silver cup took place on Monday and Tuesday, and there were eighteen starters.

Precisely at six o'clock on Monday morning the first man, Healy, was sent away from Inchicore Bridge, a landmark just outside Dublin. Monday's route was from Dublin to Glengarriff, 212 miles. The return to Dublin took place on Tuesday *via* Kenmare, Killarney, and Mallow, 224 miles.

Twelve reached Glengarriff in schedule time. The roads were good except between Inchigeelagh and Glengarriff, where bad roads caused tyre troubles.



Scene at the start of the Manchester Motor Club's Reliability Trial (117 miles over Cheshire and Shropshire roads). W. J. Munro ($3\frac{1}{2}$ h.p. Rover) and C. Kettle ($3\frac{1}{2}$ h.p. James) starting from the control at Old Trafford.

Club News.—

Sarum and District M.C.C.

The results of the second hill-climbing competition promoted by the above club, on the 26th ult., are as follows: 1, Mr. King (3½ h.p. Triumph), 55s.; 2, Mr. Foster (3½ h.p. Triumph), 57s. Slow climbing test.—Mr. Edwards (3½ h.p. Premier).

Ilkley and District M.C.C.

In announcing the winner of the hill-climb for the Dawson trophy a mistake was made, and the amended result is as follows: 1, Chas. Thackray (3½ h.p. Contrast-Jap), winner of trophy, Triumph and the club gold medals; 2, J. H. Hoffman (3½ h.p. T.T. Triumph), silver medal; 3, J. N. Longfield (3½ h.p. T.T. Triumph), bronze medal.

Scottish Border M.C.C.

The result on time of the hill-climb (Class I.) on Redpath Rig was as follows:

	Time.
1. Mungall (3½ h.p. Rudge) ...	51½s.
2. Kirkpatrick (3½ h.p. Triumph) ...	56½s.
3. Laing (3½ h.p. Triumph) ...	57½s.

Wansbeck M.C.

In glorious weather on the 30th ult., numbers of the members of the Wansbeck, Morpeth, and the Alnwick Motor Clubs turned out for a combined series of hill-climbing competitions. The contests were held on the difficult Kirby Bank, between Longframlington and Alnwick, and much keenness was manifested and some excellent times recorded. Results:

Competitor and machine.	On time.	On formula.
G. Middleton, Newcastle-on-Tyne (3½ Triumph)	1	2
R. B. Smith, Newcastle-on-Tyne (3½ Ariel)	2	1
J. Charlton, Morpeth (3½ Bradbury)	3	5

Stockport and District M.C.C.

The club's second hill-climb was held on the 30th ult. at Castleton, Derbyshire (one of the worst hills in the district), in fine weather. The following are the results on time:

CLASS 1.—Lightweights.

Slower than X.

1. E. Woods (2¾ Levis) ...	52s.
2. H. Collier (2¼ Enfield) ...	69s.

CLASS 2.—Singles.

1. H. J. Scale (3¼ J.A.P.) ...	4¾s.
2. F. C. Coops (3¼ T.T. Triumph) ...	5¾s.
3. J. Whyte (3¼ T.T. Triumph) ...	10¾s.

CLASS 3.—Twins.

1. H. Marsden (5 Matchless) ...	X
---------------------------------	---

CLASS 4.—Sidecars.

1. J. Emerson (5 M.S.L.) ...	51¾s.
2. W. Bentley (5 M.S.L.) ...	108¾s.
3. A. Hibbert (5 Rex) ...	199¾s.

The results on formula will be published later.

North Staffordshire M.C.C.

The second reliability trial for the Ashton cup was held on the 16th ult. over a course of forty miles, which was covered three times. There were fifteen starters. Result: 1, H. Madeley (3½ h.p. Lincoln Elk), lost 1½ marks, gold medal; 2, H. Blair (7 h.p. Indian), lost 6 marks, silver medal; 3, T. Rodgers (3½ h.p. Rudge), lost 6½ marks.

Western District M.C.

The following are the results of the Williams Shield Reliability Trial held recently to Tetsworth and back, subject to confirmation by the committee: 1, H. Hughes (6 N.S.U. and sidecar), 13s. fast, non-stop; 2, W. F. Ritchie (5 N.S.U.), 16.8s. slow, non-stop; 3, H. Butler (9 J.A.P. and sidecar), 57.5s. slow, non-stop; 4, J. Babbage (2½ N.S.U.), 3m. 38s. slow, non-stop.

Mersey M.C.

A most successful twenty-four hours' reliability trial was recently held by the above club. Out of sixteen entries fourteen started, and eleven finished the course in schedule time and received gold medals. The prize winners were:

T. Henshaw (Victoria-Jap), W. C. Smith (Singer), J. Rimner (Matchless), A. J. Mason (N.S.U.), S. W. Phillpot (Humber), E. Birch (Bradbury), F. C. Jones (Bradbury), V. S. Horsman (Bradbury), J. Henshaw (Douglas), C. Lake (Scott), and S. W. Corty, Captain (N.S.U.).

Westmorland M.C.C.

The reliability run on the 23rd ult. over a course of 200 miles, viz., Kendal, Keswick, Carlisle, Dumfries, Moffat and back to Kendal, resulted as follows: 1, T. A. Armstrong (3½ h.p. Triumph); 2, J. M. Somervell (3½ h.p. Triumph); 3, A. Somervell (3½ h.p. Zenith).

Owing to a mistake in the weighing at the Orton hill-climb, L. Pierce is placed second and J. M. Somervell first.

Coventry and Warwickshire M.C.

At a committee meeting of the above club held last week, the arrangements for the forthcoming open hill-climb on September 2nd were discussed. It was decided to have six classes for the following types of machines: Tourist, light-weight, T.T., ladies', tourist twin, and variably geared machines. The ladies' class will doubtless attract considerable attention, now that so many ladies are riding motor cycles, and the committee hope to secure a representative entry for this event. Two prizes will be given in each event for the first on formula and the first on time, and in addition a special members' prize will be awarded in each class to members who have never previously won a prize in a hill-climbing competition. A team prize and a fastest time of the day prize will also be offered.

The committee hope that their liberality in regard to members' prizes will induce novices to come forward and try their luck, as every inducement will be offered to secure a large and representative entry.

Printed particulars will be ready shortly. The venue of the hill has not yet been decided.



Competitors and others who took part in the hill-climb promoted by the Sarum and District M.C.C.

Tyres in the Scottish Trials.

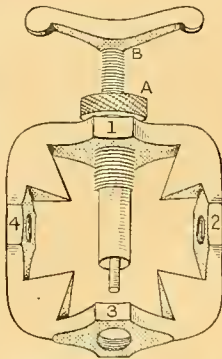
We hear that machines fitted with Kempshall tyres gained three gold, one silver, and two bronze medals in the Scottish Trials.

Bow Brickhill Hill.

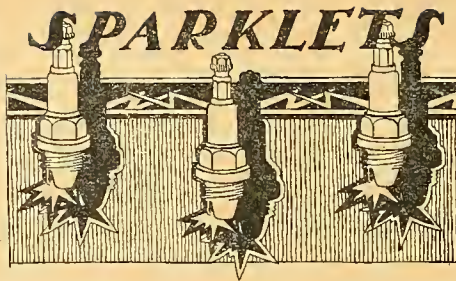
Several readers have asked us for the exact location of Bow Brickhill Hill. This hill lies to the right of the main London-Holyhead Road, one and a half miles on the London side of Fenny Stratford. After descending Little Brickhill on the main road the first turn to the right is taken, and then on sighting a pair of level crossing gates bear right, and in two minutes Bow Brickhill village is reached, and the hill starts in the centre of the village.

A Universal Belt Punch.

Quite a novel form of belt punch has been placed on the market by the Sphinx Mfg. Co., 240, Bradford Street, Birmingham. The cutter B screws into the sleeve A, which may be inserted into the different holes marked 1, 2, 3, and 4. These holes are suitable for belts of 1in., 1½in., 2in., and 2½in. The article is well made, and is manufactured of browned steel. The drawing renders the instrument self-explanatory.



The "Sphinx" Universal belt punch, of which we give a description on this page.



A Tyre Company Change.

We learn that Mr. George Neill, manager of the Charing Cross Road branch of the Margetts Sectional Tyre Company, has purchased the See Band and Tyre Co., of Denmark Street, W.C., and will carry on the business under the same title but as a private concern.

Tyre Strength and Sizes.

There is not the slightest doubt that the majority of sidecar users employ a rear tyre which is too small when subjected to the extra strain caused by the use of a passenger attachment. A correspondent who has experienced a lot of trouble with tyres which were too small for this purpose has had altogether a different result after fitting a 650 mm. by 65 mm. Rom. In all he has covered 4,000 miles with sidecar and passenger in a hilly North of Scotland district, and only had one puncture, the machine used being a 5 h.p. twin V.S.

We also hear that nearly twenty-five per cent. of the riders who completed the journey in the Scottish Six Days' Trials, and were entitled to awards, used these tyres.

The Sidecar Record.

Wakefield-Castrol oil was used by Hugh Gibson on his recent sidecar record. This brand of oil is marketed by C. C. Wakefield and Co., 27, Cannon Street, E.C.

Another Pierce Agency in England.

Donald B. Larke, Stoke Holly Cross, near Norwich, is sole agent for Norfolk and Suffolk for the Pierce four-cylinder and single-cylinder models.

Catalogues Received.

The Anglo-Saxon Stores, 31, Newgate Street, London, E.C., have forwarded us a brochure which contains much that is of interest to the motor cycle rider. This firm makes a speciality of repairs.

Novelties at John Piggott's.

Messrs. John Piggott, Ltd., Cheapside, E.C., are keeping thoroughly up to date as regards motor cycle clothing. Their new pattern overall breeches for wear in wet and muddy weather have been improved by the addition of a special flap to the seat through which the belt is threaded at the back. This protects the rider if the saddle should get wet. The firm has just issued a special catalogue for the convenience of motor cyclists, in which it will be seen that the various commodities are priced at a most moderate figure.



HINTS AND TIPS FOR MOTOR CYCLISTS.

By ROAD RIDER.

AN ADJUSTABLE PULLEY TIP.

360. If no adjustable belt fasteners are carried, a very simple device is to order a few extra feet of belting, and divide the belt in use into a long and a short section, the short section being, say, 1ft. in length. The extra bits can be cut up, say, into 13in., 14in., and 15in. lengths, each provided with a half fastener of the simplest and strongest type. Then, whenever the pulley is adjusted to a different gear ratio, the short length of belt is unhooked and a spare length inserted.

The plan has another advantage, in that whenever a belt requires shortening, one can choose which of four ends shall be cut, and select that which looks most like giving way, or that which has the screw loose, or fitted on the skew.

PREPARING A WATAWATA BELT.

361. The one bad point about the Watawata belt is the difficulty of punching out one of the burred over rivets when the belt has to be shortened. This is an easy job at home in the garage, with a big file, a vice, a hammer, and a proper punch available, but it is often a tricky business by the roadside, with only small and makeshift tools at hand. Before fitting a Watawata belt I always punch out the three or four rivets next the fastener bolt at each end, and substitute common wood screws, which are locked by means of the copper washers and a small square nut cut from leather.

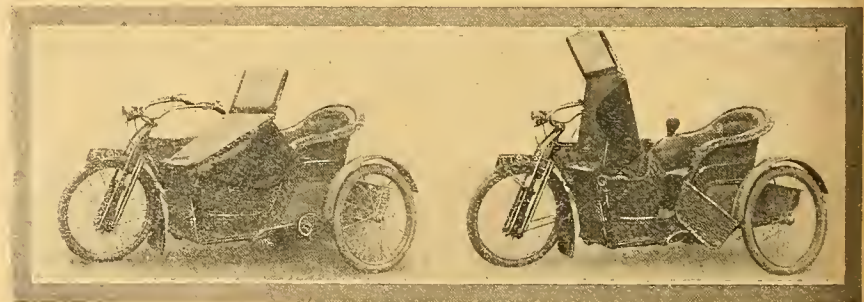
Then if the belt requires shortening on the road, no tool is needed except a screwdriver, and the job is performed in a few seconds.

VALVE GUIDES.

362. Few riders ever give a thought to their valve guides, a detail deserving close attention on any much-used engine. If the guide be badly worn two ill effects will follow. The stem will be a slack fit, which, in the case of the inlet valve, results in a weak mixture through air being drawn in between valve and guide, with loss of power and obstinacy in starting, and in the case of the exhaust

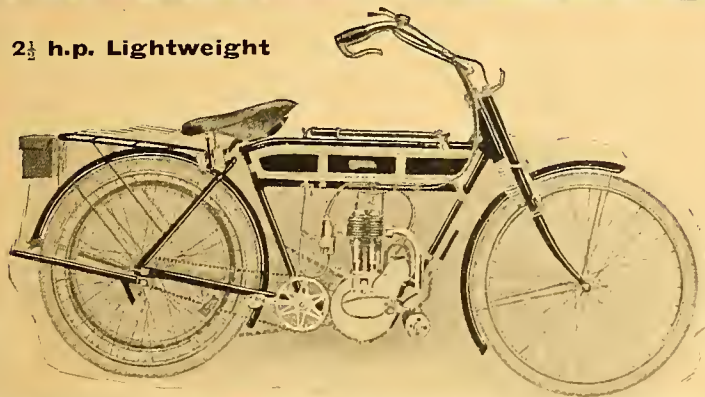
valve may be responsible for unnecessary noise. Or again, the valve may rock a little, the lift of the tappet often having a suspicion of side thrust in it, when the compression will be reduced.

On the other hand, a tight guide, full of burnt oil and accumulated filth, may cause a valve to work very stiffly (with consequent loss of power), or even to jam altogether, with disastrous effects on the timing gear. Therefore, whenever an engine is properly overhauled, the valve guides should be cleaned, and if very much worn, replaced by new ones. The guide usually screws in, and can be easily removed when the cylinder is dismantled.



The Garrard Maxfield Co., of Aston Road, Birmingham, have recently introduced a special wind screen and apron for sidecars, which we illustrate. The sidecar is a new model which the same firm will place on the market shortly.

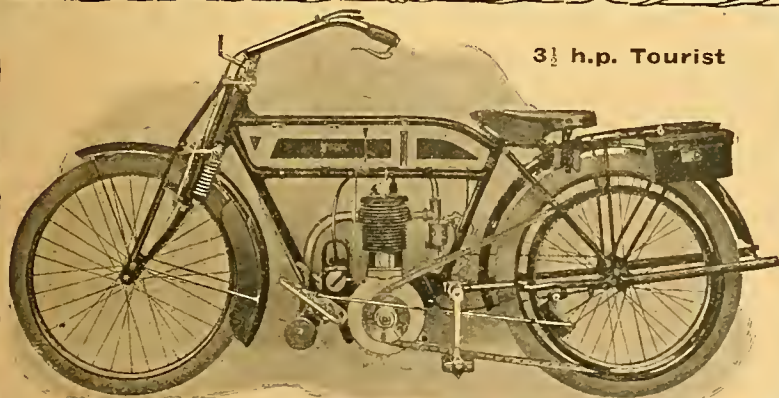
2½ h.p. Lightweight



**SINGER & CO.
(1909) LTD.,
COVENTRY**

London Showrooms:
**17, Holborn Viaduct,
E.C.**

3½ h.p. Tourist



Striking Successes of the Speedy Singers.

Emulating the success of the 3½
h.p. model, Mr. J. J. Woodgate,
riding the 2½ h.p.

SINGER LIGHTWEIGHT

at the Sutton Coldfield Speed Trials
on 10th July, succeeded in gaining

FIRST

place in Class I., and again in
the Unlimited Class he came in

FIRST

At the B.M.C.R.C. Meeting,
25th July, G. E. Stanley, rid-
ing the 3½ h.p. model, gained

FIRST

place in the Ten Laps Open
Scratch Race, covering the
27 miles in 27m. 5½s.

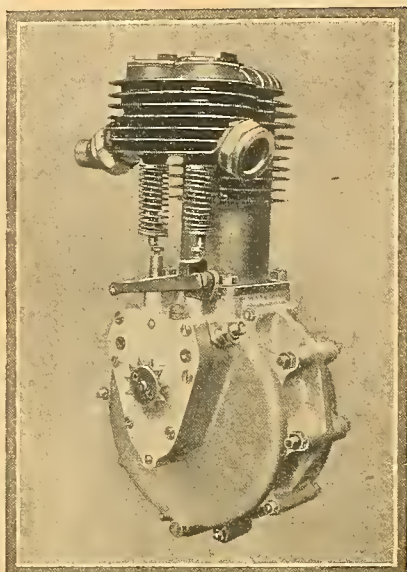
The 3½ h.p. Singer also holds the

50 MILES RECORD

accomplished at Brooklands, 21st June, in

48m. 37s.

All these Successes simply go to prove
that, besides being remarkably speedy
the Singer is also wonderfully reliable
and consistent in running. You can
prove this for yourself by writing for an
appointment to make a trial run on
one of these famous machines.



UP HILL
THE "BLUMFIELD"
3 $\frac{1}{2}$ LONG SINGLE
STROKE
DOESN'T "CONK,"

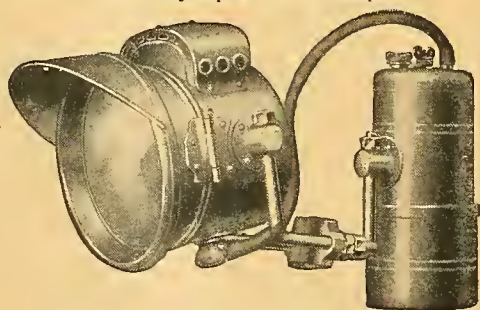
IT CONQUERS! **THERE ARE GOOD REASONS WHY.**

BLUMFIELD LD., 70, LOWER ESSEX ST., BIRMINGHAM.
 SAMPLE ENGINES AT SPECIAL PRICES TO THE TRADE ONLY.

Powell & Hanmer

Manufacturers

With thirty years' experience. You can therefore rely upon these lamps.



Complete with Generator,

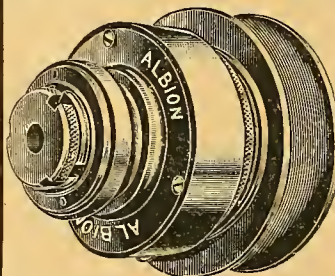
27/- each.

The best value in the market.
Every Lamp Guaranteed.

Write for our new list, we make several patterns.

Works: Chester St., Birmingham.

ALBION FREE ENGINE CLUTCH
ADJUSTABLE PULLEY



gives perfect control in traffic.

Will fit any engine.
 Gives a Low Gear.
 Smallest and Lightest.

Free Engine and 2-Speed Hubs.

ALBION ENGINEERING CO., LTD.,

Late HARRIS & SONS,
 Upper Highgate Street,
 BIRMINGHAM.

THE MOTOR CYCLE **LIBRARY OF USEFUL BOOKS**

MOTOR CYCLES AND HOW TO MANAGE THEM.
 14th Edition, now on sale—replete with essential information, well illustrated with original photographs and drawings.
 Price 1/- net. Post free 1/2.

HINTS AND TIPS FOR MOTOR CYCLISTS.
 2nd Edition, containing a multitude of useful hints on the repair and improvement of the motor bicycle.—Information on the quickest and most economical method of "tuning up."
 Price 1/- net. Post free 1/2.

"THE MOTOR CYCLE" ROUTE BOOK.
 An invaluable companion on the road. Ensuring comfortable touring free from inconveniences associated with travelling. Carefully chosen routes with best surfaces throughout the whole of the British Isles.
 Price 1/6 net. Post free 1/9.

Obtainable from "THE MOTOR CYCLE" Offices, 20, Tudor St., London, E.C.

AIR COOLED

Filtrate

for

MOTOR CYCLES.

Sole Makers:

FILTRATE WORKS, LEEDS.

Memo to Motor Cyclists on Holiday

Put in a first-rate plug,
and you will appreciate the difference.
There is no plug to touch the

LODGE

Go to the nearest cycle dealer
and ask for a Lodge Plug, Motor
Cycle type. It is supplied in a
red box. The green boxes contain
the car plugs. The price is

4/-

and each plug is supplied with
Steel Gauge, Copper-Asbestos
Washer, and 'Push-on' terminal
in addition to ordinary milled
terminal nut.

If any difficulty in obtaining, write to
the makers—

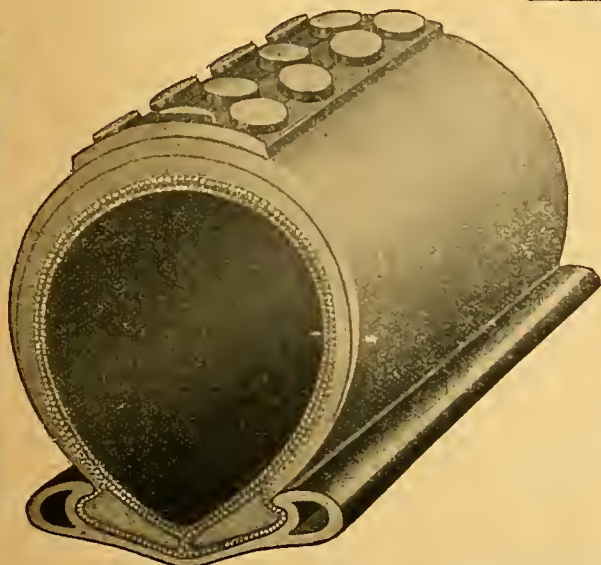
LODGE BROS. & CO.,

Dept. H, New St.,
BIRMINGHAM,

who will supply on receipt of remittance,
post free, by return of post.



TO USERS OF SIDECARS AND TRICARS



Your chief trouble is your rear tyre. Unless very fortunate, you are continually in trouble. Why? Because the ordinary motor cycle tyre cannot stand the strain. It cannot be expected to do the work of a car tyre.

A CAR TYRE will not fit your rim. The only alternative is to fit a cover made on car tyre lines for a motor cycle rim. You also want something stronger than rubber on the tread. The tread should be of special hard steel studs that will not break off or pull out, and the casing should be specially re-inforced. Then you have an ideal tyre for your work. The maximum of strength for the minimum of weight. The tyre illustrated is made on these lines, and costs very little more than an ordinary rubber cover. You can have the same tread fitted to your own tyre.

Particulars and prices on application to—

THE LOMAX TYRE CO. (Dept. Y),
Resilient Works,
William Street, **BIRMINGHAM.**

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

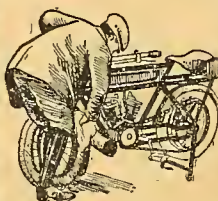
SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

EXAMINE & TEST



under the severest, most exacting conditions, and you will fail to discover any cause of complaint against either new or second-hand

MOTOR CYCLES FROM WAUCHOPE'S

ASK FOR LIST, CALL & SEE. Machines of many makes, all give most perfect results, because each is thoroughly overhauled and perfectly tuned up for the road before sending out. Second-hand machines renovated as necessary, and all fully guaranteed.

TO-DAY'S BARGAINS.

4203.	3 1/2 h.p.	Twin	PEUGEOT	£17 10
4205.	2 1/2 h.p.	1910 Two-speed	F.N.	£23 10
4207.	3 1/2 h.p.	1910 Tourist	REX	£32 10
4208.	7 h.p.	1910 Two-speed	V.S.	£45 0
4215.	2 1/2 h.p.	BROOKLANDS and sidcar		£16 10
4216.	3 1/2 h.p.	1910 Standard	TRIUMPH	37 Gns
4217.	3 1/2 h.p.	1907	TRIUMPH	£23 10
4218.	7 h.p.	1909 Two-speed	V.S. and sidcar.	
4219.	3 1/2 h.p.	MATCHLESS	J.A.P.	£25 0
4220.	5 h.p.	1911 Standard	INDIAN	48 Gns
4226.	3 1/2 h.p.	1910	MIDGET Bicar	£22 10
4227.	3 1/2 h.p.	1907	TRIUMPH	£23 10
4229.	8 h.p.	1910 Twin	BAT	£45 0
4233.	3 1/2 h.p.	1911 F.E.	TRIUMPH	£48 0
4179.	5 h.p.	1911 Twin	REX DE LUXE	50 Gns
4180.	2 1/2 h.p.	BRADBURY		£8 10
4181.	3 1/2 h.p.	1908	BROWN	£22 10
4183.	1 1/2 h.p.	1910	MOTOSACOCHE	£21 0
4190.	3 h.p.	1906	TRIUMPH	18 Gns
4196.	6 h.p.	1908 Two-speed	N.S.U. and sidcar	£32 10
4197.	3 1/2 h.p.	1908 Two-speed	P. and M.	£30 0
4198.	3 1/2 h.p.	1909	MINERVA	£25 0
4199.	2 1/2 h.p.	EXCELSIOR		£12 10
4200.	7 h.p.	1910 Two-speed	MATCHLESS and Lowen sidcar	65 Gns
4151.	3 h.p.	QUADRANT	Tricar	10 Gns.
4153.	5 h.p.	1911	INDIAN, free engine model	£50 0
4154.	5 h.p.	1910 Two-speed	Twin ROO	40 Gns.
4158.	1 1/2 h.p.	1910	SINGER MOTO-VELO	£22 10
4160.	2 h.p.	1908	MOTO-REVE	£15 0
4161.	2 1/2 h.p.	1910	ROYAL ENFIELD	£23 10
4093.	7 h.p.	1910 Two-speed	V.S.	45 Gns
4040.	7 h.p.	1910 Two-speed	INDIAN	£47 10
4123.	2 1/2 h.p.	1910	DOUGLAS	£30 0
4133.	2 1/2 h.p.	ARIEL		£8 10
4135.	5 h.p.	1907 Twin	REX DE LUXE and sidcar	£22 10
3894.	1 1/2 h.p.	1910	MOTOSACOCHE	£22 10
3509.	3 1/2 h.p.	1909	MINERVA	£22 10
4051.	2 1/2 h.p.	1910	ROYAL ENFIELD	£25 0
3933.	6 h.p.	1910 Two-speed	ROO & sidcar	£47 10
4100.	6 h.p.	1909	CHATER-LEA Cigarette	28 Gns
4046.	1 1/2 h.p.	1908	MOTOSACOCHE	£12 10
3507.	3 1/2 h.p.	1908 Two-speed	N.S.U.	20 Gns
3099.	4 h.p.	Twin	N.S.U.	£18 10
2965.	2 h.p.	1909	MOTO-REVE	20 Gns
3323.	2 1/2 h.p.	1910 Twin	N.S.U.	£22 10
4092.	2 1/2 h.p.	MINERVA		£17 10
3980.	3 1/2 h.p.	1908 Two-speed	N.S.U.	£22 10

Change for a better. Send details of your present mount, and receive our liberal exchange offer in part payment of a new 1911 model of any leading make.

WAUCHOPE'S
9, Shoe Lane, Fleet St.,
LONDON, E.C.

Telegrams: "Opificier, London."

Phone: 5777 Holborn.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Illife and Sons Limited.

SPECIAL NOTE

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

1911 Phelon-Moore, 3 1/2 h.p., very little used, good as new; £50.—C. Gibson, 1, Parkside Rd., Kendal.

1910 Free Engine Triumph, perfect condition: one trial and examination; £40.—1, Market Place, Egremont, Cumberland.

PHOENIX, 8 h.p., 1909 model, magneto, Stepney, offers invited; Phelon-Moore sidcar wanted.—Motorist, 9, Winifred Terrace, Sunderland.

6 h.p. N.S.U., 2-speed, and free engine, in perfect condition, good sidcar machine; exchange single, good make, and cash to adjust.—4, Salford Terrace, Egremont, Cumberland.

TRIUMPH, 1907, magneto, h.b.c., accessories; write wire, or phone for immediate deliveries.—Turvey and Co., The Motor House, Sunderland. Tel.: No. 626.

SECTION II.

York and Lancashire.

1911 Free Engine Rover, unspratched; £52, with spares.—Wards, North St., Wetherby.

TRIUMPH, 1907, magneto, h.b.c., accessories; £22, offers invited.—343, Green Lane, Bolton.

SINGER, 3 1/2 h.p., free engine, June, 1911, as new; £45.—Cottam, St. Mary's Gate, Lancaster.

2 1/2 h.p. Minerva, new studded tyres, perfect condition; £12/12.—Richards, 125, High St., Bolton.

3 1/2 h.p. Rex, 1908, Bosth, new Amac, Whittle belt, splendid condition; £18.—93, Wallgate, Wigan.

1907 Triumph, magneto, h.b.c., Watawata belt, lamp, etc., complete, excellent condition; £22.—Below.

N.S.U. 2 1/2 h.p. Lightweight, 1911, brand new, under-gear pulley, magneto; £26.—Below.

1910 Singer Moto-Velo, 2 h.p., Lightweight, magneto, new tyres, two new belts; £23.—Below.

1907 Triumph, magneto, new cylinder, piston, carburettor, h.b.c., just back from makers; £24.—Below.

1911 B.S.A., Rover, and Triumph, free engine models, from stock.—Hartley Clegg, Ltd., Burnley.

ENFIELD Lightweight.—Sole agents for Manchester and district, Newton's, Blackfriars St., Manchester.

2 1/2 h.p. Lloyd Lightweight, new tyres, re-bushed, excellent condition; £12/10.—68, Wellington Rd., Stockport.

1910 Rex, 3 1/2 h.p., just been fitted with 1911 P.M. 2-speed gear, chain drive; offers?—Burnell, Castleford.

PREMIER Motor Cycle for sale, 3 1/2 h.p. twin, almost new, magneto, and h.b.c.; price £32.—17, Market Sq., St. Helens.

N.S.U., 1911, 3 1/2 h.p., Model de Luxe, 2-speed and free engine, new; £42.—Graydon, 19, Kensington Rd., et. Anne's-on-Sea.

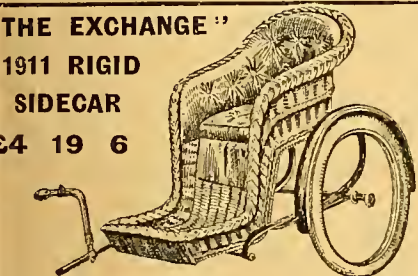
IMMEDIATE DELIVERY.

EXCHANGES CONSIDERED.

NEW 1911 MACHINES IN STOCK.		
911 3 1/2 h.p. Tourist Rex	43	Gns
911 5 h.p. Two-speed Rex de Luxe	80	Gns
911 7 h.p. Sidette	£43	0
911 3 1/2 h.p. Bradbury	£55	0
911 3 1/2 h.p. Two-speed Bradbury	£43	0
911 3 1/2 h.p. Rudge-Whitworth	£43	0
NEW 1910 MACHINES. REDUCED PRICES.		
910 3 1/2 h.p. Magneto Rex, grey finish	32	Gns
910 3 1/2 h.p. Magneto Rex, Cantilever seat	35	Gns
910 5 h.p. Twin, grand sidecar mount	42	Gns
910 3 1/2 h.p. Plate Clutch, free engine, pedals	44	Gns
910 4 h.p. Magneto N.S.U.	£30	0
Grand New 1910 5 h.p. Two-speed Twin Rex de Luxe, 1911 cylinders, forks, M.O.V., magneto, and other 1911 fittings, fully guaranteed, 26 x 2 1/2 in. non-slide	£53	0

THE EXCHANGE

1911 RIGID SIDECAR
£4 19 6



De Luxe type, with best tyre, apron, etc. £6 6 0
Ditto, with reversible child's seat £7 0 0
Ditto, with best each-built body £7 12 6
Improved quick-detachable joints are fitted to all models.
Prompt delivery to suit Rexes, Triumphs, N.S.U.'s, Indians, and any other make.
Discount to trade. Exchanges entertained.

PASSENGER COMBINATIONS.		
1 h.p. Twin Rex de Luxe, magneto ignition, Roc clutch, handle starting, and new rigid sidecar	£27	10
1 h.p. N.S.U., free engine, N.S.U. sidecar, very smart turnout	£33	10
1 h.p. Two-speed Rexette, carries three	£25	0
Grand New 1910 4 h.p. Twin Rex de Luxe, 1911 fittings, and new 1911 de Luxe sidecar	£59	15
1 h.p. Two-speed Rex Litette, w.e., very smart and powerful	£29	10

SECOND-HAND MACHINES IN STOCK.		
911 3 1/2 h.p. Tourist Rex, done 750 miles	£36	0
911 3 1/2 h.p. T.T. Triumph	£38	10
910 Twin Rex, special M.O.V. engine, very fast	£29	10
910 3 1/2 h.p. Magneto Rex, 8 1/2 x 8 1/2	£27	10
910 5 h.p. Rex de Luxe, fine sidecar machine	£42	10
910 3 1/2 h.p. Rex, very fast, special machine	£27	10
909 5 h.p. Rex de Luxe	£38	10
908 3-6 h.p. Rex Lightweight, magneto	£17	10
907 3 1/2 h.p. Magneto Rex, spring forks	£19	19
907 3 1/2 h.p. Rex, spring forks	£15	10
1 h.p. Twin Rex de Luxe, Roc clutch, spring forks	£24	10
1 h.p. late type Two-speed Humber	£32	10
Quadrant, 3 h.p., nice order	£11	10
1 h.p. Antoine, h.b. control	£16	10
1 h.p. J.A.P., light and handy	£10	0
1 h.p. J.A.P., twin, magneto, free engine	£26	10
1 h.p. Werner, light and low	£15	10
1 h.p. Magneto Lightweight	£16	10
1 h.p. Magneto Quadrant, spring forks	£24	0
1 h.p. Eclipse, low frame, 26 in. wheels	£8	10

CASH PAYMENTS FROM £3 DEPOSIT.
SPECIAL OFFER.—Two Brand New 3 1/2 h.p. Rexes, 8 1/2 bore, 80 stroke, spring forks, very low frame, ball bearings to engine-shaft, Bosch magneto ignition, Brown and Barlow handle-bar control carburettor, foot and hand brakes, 1 in. Lyso belt, 26 x 2 1/2 Continental tyres, footrests, number-plates, toolbag, tools, spares, stand, and carrier. Bargain price, 32 Gns.
NEW SIDECARS from £3 10s. upwards.
Discount to Trade.

The Halifax Motor Exchange

LARGEST REX DEALERS.
16, Westgate, HALIFAX.
'Phone, 766. Telegrams, "Perfection."
Business Hours, 9 a.m. to 6 p.m.
Australian Agent—Allen, 6, Westbourne St., Petersham, N.S.W.

MOTOR BICYCLES FOR SALE.

3 1/2 h.p. Rex, magneto, B. and B., h.b.e., spring forks, engine, as new, new Palmer cord back, Whittle; £17/10.—24, Cornwell St., Hereford.
FAIRY Lightweight Twin, B. and B., 1911 h.b., C.A.V. new coil and accumulator, splendid little mount; £13/10.—Watkins, Lye House, Lye.
TRIUMPH, 1910, free engine, speedometer, Nightingale whistle, mirror, Parsons oo-skid chain, Lucas King of the Road lamp, not ridden 1,600 miles; 45 guineas.—Barber, 8, Cambrian Place, Swansea.
4 h.p. Bat, spring frame, Stephen's engine, tyres nearly new, in good condition, £12; 3 1/2 h.p. Zenith Gradua, spring frame, l'airair engine, magneto, in splendid going order, any trial, £16; 2 h.p. Clement-Garrard, spring forks, torpedo tank, in good order, £6.—Crown Motor and Cycle Co., Bridge St., Evesham.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

3 1/2 h.p. B.S.A., in stock, new; offers?
2 1/2 h.p. Twin, in stock, new; offers?
5-6 h.p. Roc Twin, 1910 model, 2-speed, new Rou treads on Dunlops, new condition; offers?
5-6 h.p. Indian, in perfect order, 1910 model; offers?

2 1/2 h.p. Singer Moto-Velo, 1910 model, excellent condition; offers?—Randall, Andover.
B.S.A. Motor Cycles from stock.—Trinder and Osborne 2a and 3, Broad St., Banbury.

NEW 1911 Douglas, only used for trial runs; £32.—Greens, motor agents, Havertwest.

TRIUMPH, 1908, decent order and condition; £27/10.—Heybourn, Motors, Maidenhead.

IMMEDIATE delivery B.S.A. and Premier motor cycles.—Eyles and Eyles, St. Aldates, Oxford.

DODGLAS, 1911, splendid condition, little used; £33/10.—Heybourn, Motors, Maidenhead.

IMMEDIATE Delivery of free engine Singers and sidecars for same.—Gibson and Co., Avingdon, Berks.

BRADBURY.—1911 Bradburys in stock; immediate delivery; trade supplied.—Ginger Motors, Banbury.

1911 F.E. Triumph, 1911 standard Premier in stock at Wheeler's Motor and Cycle Depot, Newbury.

1911 Bradbury, not done 500; cost £50, accept £40; bought 7 h.p. Bat.—Goldingham, Nibley, Dursley.

ENTFIELD, 41 guineas, 1911, 2 1/2 h.p., chain drive, shop-soiled only, never used; £36.—Ginger Motors, Banbury.

TRIUMPH T.T., not unpacked, immediate delivery, pay carriage; £50.—Pugh, 40, High St., Havertwest.

RUDGE-WHITWORTH Motor Cycles from stock standard model, £48/15.—Balfour's Motor Wks., Banbury.

MOTO-REVE, 2 1/2 h.p. twin, few weeks old, perfect condition; £33, bargain.—Heybourn, Motors, Maidenhead.

KERRY, 2 1/2 h.p., accumulator ignition, new piston and cylinder, compression perfect; £8; trial.—Whincup, Wycombe, Bucks.

2 1/2 h.p. Rex Lightweight, magneto, new tyres and engine, re-accumulated and re-plated, whole as new; offers.—Caversham Motors, Reading.

1910 3 1/2 h.p. Kerry-Avingdon, Whittle belt, lamp and separate generator, all spares; 29 guineas, or near offer.—Wood, 6, Hughenden Rd., Clifton, Bristol.

EYLES and Eyles, 113, St. Aldates, Oxford, have in stock Bat, 4 1/2 h.p., 2-speed, free engine; B.S.A., 3 1/2 h.p., free engine; and Premier, 3 1/2 h.p., free engine; also sidecars.

THE Speedy Singer in stock, free engine; reliable Premier in stock, £47/10; several second-hand machines to be cleared at low prices; exchanges entertained.—Martin, Station Hill, Chippenham.

6 h.p. Humber Forecar, Humber fittings throughout, 2-speed gear, free engine, Dunlop car tyres, new condition, cost £98; just overhauled; price 20 guineas, worth double; room wanted.—Breeze, 103, Victoria Rd., Aldershot.

TRIUMPH, new September, 1908, carefully used, speedometer, lamp, new Palmer shaft back, complete, £30; also specially tuned free engine Rover, 1911, brand new, £55.—Write, Biggs, engineer, 18, Marking Rd., Southsea.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

B.S.A., 1911 standard motor cycle, shop-soiled, never been on the road; £43/10.

1910 Standard Triumph, in new condition, not been 3,000, re-treads on both tyres; any trial or examination; £38.

1911 Free Engine Triumph, ridden under 2,000, first-rate condition; any trial or examination; £48.—L. R. Tipples and Son, Triumph agents, Mistley, Essex.



CHEMICO MOTOR BIKE OIL

LUBRICATION is a matter of utmost importance to the motor cyclist, and an item which is apt to be too lightly considered. You cannot give too much attention to this, or exercise too much care in the selection of a suitable oil.

CHEMICO MOTOR BIKE OIL

has had our careful attention, coupled with our wide knowledge of oil, exercised in its production, which with every confidence we recommend. CHEMICO MOTOR BIKE OIL is exceptionally high in flashpoint, will not carbonise the valves, or soot the plug, but will circulate everywhere necessary and keep the engine perfectly cool.
WE URGE every motor cyclist to test CHEMICO MOTOR BIKE OIL, and give attention to the running of the engine during test.

Note how sweetly it runs and how clean the valves keep.

PRICES.

Quart Tins	1/6 each.
Half-Gallon Tins	2/6 "
Gallon Tins	4/6 "

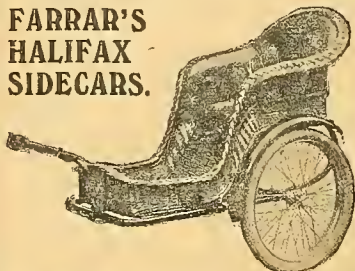
The County Chemical Co. Ltd.,
Bradford St. Birmingham.
London, Manchester, Glasgow, Dublin, Cardiff, E.D.A.

CAR PATTERN MUDGUARDS

can be fitted without
extra charge.

This is our Model de Luxe.
Complete £5 : 5 : 0 Complete

FARRAR'S
HALIFAX
SIDECARS.



Absolutely the finest value on the market.

LESS POWER.

It is admitted by experts that, owing to the unique design, far less power is required to propel Farrar's Sidecars than any other style on the market.

NOTE OUR front arm which grips the sidecar CENTRE. Nothing lopsided about this attachment.

All our Sidecars are now fitted with Farrar's quick detachable joints and cranked back axles, refinements found on very few other makes.

MODEL "DE LUXE"	£5 5
MODEL "C," with cane body	£8 0
MODEL "D," with coach-built body	£7 0
MODEL "E," with reversible child's seat	£6 10

ALL COMPLETE WITH MUDGUARD & TYRES.

Discount to the Trade.

Delivery from stock to suit TRIUMPHS, REXES, P. & M.'s, N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE.

SPRUNG LIKE A CAR.

Sole Agent for Australia and New Zealand:

Mr. T. HARRIS, Hunter Street, SYDNEY, N.S.W.

ENGINES.

ENGINES.

6-7 h.p. Twin Antoine, fine puller	£6 10
5-6 h.p. SAROLEA, brand new, 1910 model, fitted magneto, silencers, driving pulley, etc.	£14 14
1½ h.p. DE DION, air-cooled	£1 15
Phelon and Moore Engine and Frame	£5 10
4½ h.p. HUMBER, water-cooled	£6 10
2½ h.p. MINERVA, good puller	£3 10
2 h.p. SIMMS Engine (vertical) and Frame	£2 10
3 h.p. DE DION, variable pulley	£2 5

Other engines accepted in part payment.

NEW CARBURETTERS.

1911 B. and B., complete	25/-
1910 Amac, variable jets	22/-
5/- allowed for old carburetter.	
Second-hand Amac, h.b. control	12/6
Longuemare, Amac, and others	5/- each

FARRAR'S Motor Exchange

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes from G.P.O.)

Telephone 919.

MOTOR BICYCLES FOR SALE.

WILTON Cycle Co.,

VICTORIA, S.W.—See bargains below; all best makes in stock.

WILTON.—Bradburys in stock, free engine, £54/10; 2-speed, £55.

WILTON.—Clyno; sole S.W. agents; trial by appointment; early delivery.

WILTON.—Matchless; sole S.W. agency; early deliveries.

WILTON.—1911 Kerry-Abingdon, 3½ h.p.; £45.

WILTON.—1911 Moto-Reve, 2½ h.p.; £45.

WILTON.—New Enfield; £36.

WILTON.—Bradbury, 3 weeks old, 1910 standard model, all accessories, as new; £35.

WILTON.—F.N., 4-cyl., 4½ h.p., good order; £25.

WILTON.—Humber, 3½ h.p., 1910 standard, accessories; £25.

WILTON.—Exchanges and instalments, reasonable terms.

WILTON.—1910 Moto-Reve, 2 h.p., with accessories. £25.

WILTON.—7 h.p. Brown, twin, Bosch magneto, B and B. carburetter, just overhauled; £32.

WILTON.—1909 5 h.p. Sarolen, Chater-Lea, 4 speeds, new Druid forks, B and B. carburetter, Bosch magneto, new Rom on back; £30, bargain.

WILTON.—3½ h.p. Excelsior, B. and B. carburetter. £8/10; 2½ h.p. Precision-Enfield, £6/10.

WILTON.—Tricar, 6 h.p. International engine, water-cooled, Renold patent 2-speed gear, Renold silent chains, wheel steering, 760x90 tyres; £30.

WILTON.—Humber tricar, chain driven, free engine, good order; £10/10.

WILTON Cycle Co., 110, Wilton Rd., Victoria, London, S.W. Phone, 5115 Westminster.

3 h.p. Kerry, ready for the road; £10.—Roberts, 49, Gap Rd., Wimbeldon.

QUADRANT, 3½ h.p., just overhauled, tyres new; £10.—Seward, 38, Bellevue Rd., Enfield.

MOTOSACOCHE, 1½ h.p., 1910, good condition; £20.—Shepherd, Guildford St., Chertsey.

MOTOR Cycles, second-hand, all prices; write for lists.—H. E. Kettle, Smarden, Kent.

T.A.C., 7 h.p., 1911, perfect order; £50, or exchange Triumph and cash.—4, Church Rd., Acton.

3½ h.p. M.M.C., B. and B., tools, lamp, accessories; £2 11/10, offers.—55, Haggerston Rd., N.E.

REY, 5, Heath St., Hampstead, can give immediate delivery of the following 1911 machines:

REX, 3½ h.p., brand new, 1911 clutch model, handle starting; £42.

BRADBURY Standard Free Engine or 2-speed Model immediate delivery from stock.

HUMBER, 1911, 3½ h.p., two-speed and free engine model; immediate delivery.

BAT, 7-8 h.p., 1911, new, for immediate delivery; £60

TRIUMPH, 1911, standard model, for immediate delivery, £48/15; and clutch models.

DOUGLAS, 2½ h.p., 1911, standard, model D; immediate delivery.

DOUGLAS, 2½ h.p., 1911, model E, two-speed and handle starting; £48.

LINCOLN Elk, 3½ h.p., 1911, £34; or 2½ h.p., £28/10; no waiting.

HANDY Hobart, 3½ h.p. twin, 1911, or 2½ h.p.; no waiting.

RUDGE T.T. Standard and free engine now in stock. no waiting.

B.S.A., 1911, 3½ h.p., for immediate delivery; no waiting; £50.

ALL the Above for immediate delivery; terms, cash exchange, or extended payments.—Only address Rey, 5, Heath St., Hampstead. Tel.: 2678 P.O.

£22.—3½ h.p. Rex de Luxe, Roc clutch, spring frame, late model; any trial.—30, Arlington Rd., Surbiton.

QUADRANT-MINERVA, 1½ h.p., good working order; £5.—Apply, 52, Westend Rd., Southall, Middlesex.

BRADBURY, 3½ h.p., spare parts in stock.—Agents, Bright and Hayles, Church St., Camberwell Green.

BRADBURY Catalogues post free.—Agents, Bright and Hayles, Camberwell.

NEW Hudson agents, Bright and Hayles, 73, Church St., Camberwell Green.

3½ h.p. Bradbury, 1910 model, guaranteed perfect; £2 14/10.—73, Church St., Camberwell.

F.N., 4-cyl., splendid condition; bargain, £22/10.—73, Church St., Camberwell.

FARRAR'S Motor Exchange

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes from G.P.O.)

Telephone 919.

SINGLE-CYLINDER REXES.

3½ h.p., 1910, with 1911 spring forks	£35 0
3½ h.p., 1910, black finish	£32 0
3½ h.p., 1910, grey finish	£32 0
3½ h.p., 1909, Tourist, very good	£28 0
3 h.p., 1908, Featherweight magneto	£18 0
3½ h.p., 1906, Tourist, M.O.V., spring forks	£14 0

TWIN-CYLINDER REXES.

7 h.p. de Luxe, two speeds, M.O.V.	£43 0
5-6 h.p., 1908, two-speed, and sidecar	£32 0
5-6 h.p., special model, 1909, magneto	£27 10
5-6 h.p. de Luxe, clutch model	£24 0
5-6 h.p., two speeds and free engine, Bosch	£28 0
5-6 h.p. de Luxe, 1908, two-speed model	£28 0
5-6 h.p. de Luxe, 1908, two speeds, special, good	£29 10
5-6 h.p., 1908, two-speed de Luxe, 1909 engine	£32 0
5-6 h.p., 1907, Tourist, Bosch magneto	£21 0
5-6 h.p., 1907, Lloyd's variable gear, Bosch	£23 0

N.S.U.'s N.S.U.'s N.S.U.'s.

5 h.p. Twin, Bosch magneto	£19 0
5½ h.p. Magneto, 2 speeds	£25 0
1908 Lightweight, Bosch magneto	£17 0

OTHER MAKES. OTHER MAKES.

6-7 h.p. Twin Antoine, Bosch, B. & B.	£21 0
1911 New Hudson, three speeds	£47 0
3 h.p. Triumph, M.O.V., very good	£18 0
3½ h.p. Fafnir, M.O.V., grand goer	£12 0

SIDECAR COMBINATIONS.

5-6 h.p. Clutch Model Rex and new sidecar ..	£29 0
5-6 h.p. 2-speed 1908 Rex and Sidecar	£33 0
One ditto	£32 0
7-9 h.p. two-speed Rex and Sidecar	£63 0

All fitted with Magneto and Spring Forks.

TYRES. TYRES. TYRES.

26 x 2 and 26 x 2½ in. wired-edge covers ..	12/6
Continental, rubber non-skids, 26 x 2½ or 2½ in. 30/	
Hutchinson, ribbed tread, 26 x 2½	18/6
Continental, beaded, 26 x 2	18/6
Tubes, all sizes, guaranteed	9/6

£4 DOWN SECURES ANY OF THESE. BALANCE 6/- WEEKLY.

3½ h.p. Brown Bicar, 26 in. wheels	£12 0
3½ h.p. Fafnir, M.O.V.	£12 0
3½ h.p. 1906 Rex, M.O.V., spring forks	£14 0

£6 DOWN SECURES ANY OF THESE. BALANCE 7/6 WEEKLY.

1908 N.S.U. Lightweight, Bosch magneto ..	£17 0
5 h.p. Triumph, M.O.V., 26 in. wheels	£18 0
1908 Magneto Rex, low and smart	£18 0
5-6 h.p. Twin Rex, Bosch magneto	£21 0

CARS AND TRICARS.

5½ h.p. Humberette car, 2 seater	£18 0
5-6 h.p. Rexette, two speeds, a beauty	£24 0
One ditto, re-varnished	£20 0
6 h.p. Rover Tricar, good goer	£17 0
4½-5½ h.p. two-seater Alldays car	£16 0

MISCELLANEOUS BARGAINS.

Forecar Attachment, good	35/-
Brooks Broo saddle	9/6
F.R.S. 58/- Lamp set	30/-
Cowey Speedometer, only done 582 miles ..	£3 3
Second-hand sidecar, rigid	£3 10
Mills-Fulford Castor Wheel Sidecar	£6 6
Vertical Frame, with 26 in. back wheel, etc.	£1 15
Prested accumulators, new, 15 amp.	9/6
Tricar Frame, suit 6 h.p. engine	35/-
Lycett's Tubular Carriers, new	4/11
New Lycett's Saddle, coil springs, L/109 ..	15/-
New Frame for vertical engine	30/-
New Prested Midget Trembler Coils	15/6

WANTED.

Triumphs, Rexes, Minervas, N.S.U.'s, Douglas's, Moto-Reves, and other magneto machines.

Cash waiting.

We advertise LESS MACHINES THAN what we have got; other people advertise MORE MACHINES THAN they have got.

If we put all the machines in our list we should want a couple of pages, and, at our cut prices, this would not pay. We HAVE the largest stock in ALL ENGLAND; there is no cod about us. Ask anyone who has been to Morecambe, and they will all tell you the same story—"The place was bunged out to the doors with stock, and we never saw so many in our lives." We have this repeated DAILY. Come and CONVINCE yourself before buying elsewhere, or write us.

WE HAVE weekly deliveries of the following new machines; if, when you write us, we are sold out, we shall have one in the week afterwards. We purchased SOME HUNDREDS at the Show, and we are out to SELL THEM on our money-back terms.

The Canary is STILL IN SONG—come and see it.

LIGHTWEIGHTS.

DOUGLAS, 1910	£28 0
F.N., 2½ h.p., 1910, 2-speed	£19 0
ENFIELD, 2-speed, 1911, as new	£36 0
ENFIELD, 1910	£28 0
DOUGLAS, 1910, fine order	£29 0
SIMMS, 1½ h.p.	£12 10
DOUGLAS, 1909	£21 0
DOUGLAS, 1909, fine order	£22 10
F.N., 1910, 2-speed	£21 0
F.N., 1½ h.p.	£12 10
MOTOSACOCHE	£14 0
MOTOSACOCHE, 1910, free engine	£24 0

SIDECAR MACHINES.

VINDEC SPECIAL, 5 h.p., 2-speed	£25 0
N.S.U., 2-speed, 4 h.p., 1911	£35 0
N.S.U., 2-speed, 5 h.p.	£25 0
BAT, 1910, 5 h.p., good order	£39 0
N.S.U., 1910, 2-speed, 4 h.p.	£31 0
PEUGEOT-CHATER-LEA, 5 h.p., 2-speed	£40 0
P. and M., 1909, strong puller	£34 0
HUMBER, 1910, 2-speed	£30 0
P. and M., 1909	£33 0
BAT, 1911, 3½ h.p.	£35 0
PHANOMEN, 2-speed, 5 h.p.	£21 0
RED INDIAN, 5 h.p., 1910	£37 10
J.A.P.-CHATER-LEA, 5 h.p.	£39 0
ROC, 4 h.p., 2-speed	£25 0
GREEN INDIAN, 1910	£36 0
REX, 5 h.p., fine order	£29 0
VINDEC SPECIAL, 5 h.p., Auto variable pulley	£25 0

NEW 1911 MODELS READY FOR IMMEDIATE DELIVERY.

RUDGE-WHITWORTH, 1911	£48 0
BRADBURY, 1911, 2-speed	£55 0
BRADBURY, 1911, single-speed	£48 0
BAT-J.A.P., 1911, 3½ h.p.	£48 10
BAT-J.A.P., 1911, 5 h.p.	£58 0
MOTOSACOCHE, 1911, free engine	£38 0
ROYAL ENFIELD, 2-speed, 1911	£52 10
LYNO, 5 h.p., 1911	£64 0
COTT, 1911	£65 0
DOUGLAS, 1911, 2-speed	£48 0
BAT-J.A.P. 8 h.p., 1911	£60 0
HUMBER, 1911, 2-speed	£50 0
DOUGLAS, 1911	£39 18
ENITH-GRADUA, 5 h.p., 1911	£69 6
ENITH-GRADUA, 3½ h.p., 1911	£54 12

HIGH-CLASS SOLO MACHINES.

INGER, 3 h.p., magneto	£12 10
RIUMPH, 1909, fine order	£34 0
RIUMPH, 1909, fine order	£32 0
IMMS, 3½ h.p.	£14 0
IMMS, 2½ h.p., magneto ignition	£10 10
RIUMPH, 1910, free engine	£40 0
RIUMPH, 1910, Mabon clutch	£39 0
S.U. 3 h.p.	£17 0
RIUMPH, 1909	£28 0
RADBURY, 1911, as new	£45 0
S.U. 3½ h.p.	£23 0
RIUMPH, 1909, Roc conversion	£36 0
RIUMPH, 1909, Mabon variable gear	£35 0

Also several low-priced magneto machines about £10.

MOTOR BICYCLES FOR SALE.

EAGLES.—Matchless, 8 h.p. twin, 1911 T.T. model, perfect condition; £44; exchange lower power.	
EAGLES.—N.S.U., 3½ h.p., popular magneto, spring forks, h.b.c., excellent condition; £19/10.	
EAGLES.—Motosacoche, 1½ h.p., lightweight, 1910 model, magneto, Druid spring forks, Whittle belt, Palmer tyres; £20.	
EAGLES.—Minerva, B.S.A., 2½ h.p., m.o.v., spring forks, adjustable pulley, h.b.c.; £11/10.	
EAGLES.—Triumph, 3 h.p., 1905, Hellesden ignition, B. and B. carburetter, in good order; £8/10.	
EAGLES.—Minerva, 3 h.p., m.o.v., magneto, adjustable pulley, h.b.c., very low built; £7/10.	
EAGLES.—Triumph, 1911, standard model, for immediate delivery; £48/15.	
EAGLES.—Bradbury, 1911, standard model, for immediate delivery; £48.	
EAGLES.—We have a few brand new single-cylinder N.S.U.'s just delivered, gear-driven magneto, improved carburetter, h.b.c., Shamrock belts, 1911 spring forks and other improvements, complete with tool case, full set of tools, stand, etc.; 3½ p. £27. 3½ p. £31 nett cash; deferred payments arranged.	
EAGLES.—Immediate delivery of the N.S.U. 2-speed gears, all sizes in stock; £5/15.	
EAGLES and Co., High St., Acton, N.S.U. West London district agency.—Early delivery of 1911 models; liberal allowances for machines in part payment.—Tel.: 556 Chiswick.	
WANDSWORTH.—Rex, late 1908, 5-6 h.p., twin, magneto, Roc free engine clutch, runs well; £18/10.	
WANDSWORTH.—Roc, 4 h.p., m.o.v., magneto, 2 speeds, h.b.c., Clyno pulley, nearly new, unmarked; £28/15.	
WANDSWORTH.—V.S., 5-6 h.p. twin, magneto, h.b.c., Traillan spring forks, adjustable pulley, good order; £25.	
WANDSWORTH.—Roc, 3½ h.p., magneto, free engine clutch, very low built, runs well; cheap. £15/10.	
WANDSWORTH.—F.N., late 1909, 5-6 h.p., 4 cyls., magneto, spring forks, guaranteed as new; sacrifice £28.	
WANDSWORTH.—N.S.U., late 1908, 3½ h.p., m.o.v., magneto, h.b.c., Gradua gear pulley, nice order; £17/10.	
WANDSWORTH.—F.N., late 1908, 4-5 h.p., 4 cyls., magneto, central intake, h.b.c., spring forks, perfect; £22/10.	
WANDSWORTH.—Griffin, 2½ h.p., m.o.v., fine machine; cheap. £12/10. exchanges.—Wandsworth Motor Exchange, Elmer St., Wandsworth.	
REY, Hampstead.—Great Bargains.—5, Heath St., Hampstead. Tel.: 2678 P.O. Bargains as below.	
HAMPSTEAD.—Douglas, 1910, nice condition; £26, bargain.	
HAMPSTEAD.—1911 Triumph, free engine model, almost new, with accessories; £49; special bargain.	
HAMPSTEAD.—1911 Lincoln Elk, shop-soiled only, 3½ h.p., Palmer tyres; special price £50.	
HAMPSTEAD.—1911 Triumphs, brand new, for immediate delivery from stock; free engine models or standard.	
HAMPSTEAD.—F.N.'s, latest 1911 models, in stock, no waiting, no extra for extended payments.	
HAMPSTEAD.—3½ p. B.S.A., spring frame, condition and tyres like new, requires cylinder only; bargain, £7.	
HAMPSTEAD.—1911 5 h.p. Twin Indian, clutch model, blue, almost new; £48; special bargain.	
HAMPSTEAD.—1911 3½ p. Premier, almost new condition, with all accessories; special bargain, £34.	
HAMPSTEAD.—1911 Bradbury, like new condition, with accessories; a side-car machine; £35, bargain.	
HAMPSTEAD.—Royal Enfield, late 1910, splendid condition, all accessories; £26, special bargain.	
HAMPSTEAD.—3½ h.p. 1911 two-speed Humber almost new, with accessories; £45.	
HAMPSTEAD.—Only house for great bargains and quick delivery of new 1911 machines you cannot get elsewhere; agents for all makes, and makers of the famous Rey's side-car and exhaust whistle.—Only address, 5, Heath St. Tel.: 2678 P.O., Hampstead.	
TRIUMPH, 3½ p., spring forks, h.b.c. B. and B.; £18.—J.B., 70, Richmond Parade, East Twickenham.	
32 new tyres, plating good; £11.—9, Park Rd., Merton.	
SHAW 2½ h.p. Motor Cycle, splendid running order; £5.—E., 52, Larden Rd., Uxbridge Rd., Shepherd's Bush.	
19 Douglas, in perfect order, and new condition throughout, Roux tyres; £29.—7, Chepstow Rd., Croydon.	
F.N., 2½ h.p. lightweight, in good riding order; £9.—Printers, opposite Hertin—Hounslow District Station.	

ACCUMULATOR MACHINES.

HUMBER, 2½ h.p.	£9 0
KERRY, 2½ h.p., useful model	£7 10
MINERVA, 2½ h.p., good machine	£9 0
MINERVA, 1½ h.p.	£7 10
WERNER, 2½ h.p.	£8 10
ARIEL, 3½ h.p.	£9 10
REX, 3 h.p., poor condition of enamel	£6 10
BRADBURY, 3 h.p., strong machine	£9 10
HUMBER, 3½ h.p.	£9 10

Also several more.

TWO-SPEED GEARS.

Of these we stock S.H. N.S.U., Mabon, Auto Variable Pulleys, Roc, at prices to suit all. State wants.

SPECIAL LINES.

Sidecar Aprons	7/3
Mabon 1911 Free Engine	£2 15
Large Side Bags	5/11½
Swan-neck Seat-pillar	2/9
Special Strong Carrier	4/5½
'Any make Rubber Belting, 7½ in., per foot	1/10½
Handle-bar Watch and Holder	3/11½
Butted Tubes, all sizes, brand new	12/6
Triumph Pattern Handle-bars	5/6
Long Handle-bars	4/11½
Large Triumph Pattern Horn	4/11½
Exhaust Cut-outs	2/11½
Handle-bar Mirrors	2/9
Large size ditto	3/11½
Parker Self-contained Lamp	15/11½
Special Bracket Separate Generator Lamp	23/6
F.I.E.N. Magnets	£3 4 11½
B. and B. Carburetters, h.b.c., 1911	23/-
Tube and Belt Cases	5/11½
Belts, 7½ x 7	5/11½
Special H.B. Watch Holders, 10½ in.	1/11½
New Self-contained Lamp, large size	13/11½
Special Twist Horn	3/11½
New F.R.S. Generators	7/-
Rubber Goggles	1/5½
Brass Exhaust Whistles	2/11½
Tubes, 26 and 28 x 2, brand new	4/11½
Leather and Steel-studded Bands	19/9
S.H. Lucas Lamps, complete	30/-
S.H. F.R.S. Lamps, complete	35/-
Garner's Whistles, post free	12/6
Trembler Coils	6/11½
Non-trembler Coils	6/9
Carbide Carriers	1/10½
Lamp Brackets, all patterns	1/11½
Horn Grips	2/4½
Longuemare Carburetters, h.b.c.	12/6
T.B. Handle Starter	12/-
Cantilever Spring Seat-pillar, Triumph	7/6
S.H. P. and H. Generators, complete	7/6
S.H. Parker's Generators, complete	6/9
New Generators	4/11½
Holland Motor Cycle Suits	8/11½
Long Holland Coats	6/11½
Waterproof Leggings	4/11½
Ditto ditto with fronts	10/11½
Ditto Suits	19/11½
Tau Gloves, with gauntlets	4/6
S.H. Whistle Belts from 1/- per foot.	
Triumph Compression Domes	2/2

New Specification List now ready, post free.

CLEARANCE TYRE LIST.

5 DUNLOPS, 28 x 2, B.E.	17/6
5 DUNLOPS, 28 x 2, W.O.	11/6
3 GORTONS, 28 x 2	18/6
1 GORTON 28 x 2	14/3
1 GORTON, 26 x 2	13/-
1 REFLEX, 28 x 2	15/-
1 MICHELIN, 26 x 2, W.O.	13/-
1 MICHELIN, 26 x 2, W.O.	15 11½
5 CONTINENTALS, 26 x 2, W.O.	15 11½
5 WINBORNES, 26 x 2, B.E.	16/-
3 Special Ribbed, 28 x 2, B.E.	17 11½
1 SEVERN, 26 x 2, B.E.	15 11½
1 Special Ribbed, 28 x 2	15 11½
1 REFLEX, 24 x 2	14 11½
1 A WOX, 28 x 2	15 11½

Special Ajax Steel and Rubber, extra heavy, for sidecar machines, 26 x 2 35/-
MORECAMBE Studded, old pattern 14/11½
MORECAMBE Studded, new pattern 19/11½
Heavy MORECAMBE Studded, new pat. 23/11½
Note.—These are CASH PRICES, and we cannot entertain allowances for old covers off same.

Hitchen's Motor Exchange Co., Ltd.,

Euston Rd., MORECAMBE.

Telephone 112.

Wires: "Motor."

OUR STOCK

s at your disposal. Communicate with us and we can

SAVE YOU MONEY!!

1911 MODELS.

5 h.p. REX DE LUXE	60 Gns.
3½ h.p. PREMIER Tourist	£47 10
3½ h.p. Tourist TRIUMPH	£48 15
3½ h.p. Magneto RUDGE-WHITWORTH	£48 15

OTHER NEW MACHINES.

3½ h.p. BRADBURY	£48 0
1910 3½ h.p. Magneto REX, 1911 forks	38 Gns
Special 3½ h.p. Magneto REX, with pedalling gear	32 Gns
1910 3½ h.p. Twin REX DE LUXE, 1911 forks and fittings	£53 10
1910 5 h.p. Twin INDIAN, spring forks, green finish	£52 10
1910 3½ h.p. Magneto REX, 1911 forks, Continental non-skids	37 Gns
Special 3½ h.p. Magneto REX, Continentals, fitted with pedals	32 Gns
1910 5 h.p. Twin Tourist REX, Cantilever seat, non-skids	40 Gns
1910 5 h.p. REX DE LUXE, 2½ in. non-skids, 1911 fittings, cylinders, mechanical inlet valves	£53 10

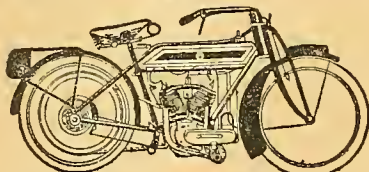
SECOND-HAND BARGAIN

1910 5 h.p. REX, grey finish	£26 10
REX 1910 7 h.p. Twin, a "Nut"	£39 10
1909 REX DE LUXE, two-speed, etc.	£38 10
TRIUMPH 1910 T.T.	£39 10
1909 5 h.p. REX DE LUXE and Sidecar.	£41 10
5 h.p. Twin Magneto J.A.P.	£28 10
5 h.p. N.S.U., free engine and Sidecar.	£33 10
REX 1909 3½ h.p., as new	£32 15
HUMBER, 3½ h.p., two-speed, etc.	£32 10
REX, 1910, 3½ h.p., "hot stuff"	£29 10
QUADRANT, 3½ h.p., magneto, h.b.c.	£24 10
REX Tourist, 1910, 3½ h.p., very fine order	£35 10
REX 3½ h.p., vertical, good	£10 10
F.N. Dightweight, magneto, spring forks	£19 10
REX Lightweight, good	£17 10
Two-speed Water-cooled 5½ h.p. REXETTE	£25 0

A CALL WILL REPAY YOU.

SPECIAL OFFER.

New 1910 1/2 Twin REX DE LUXE, 1911 fittings .. £53 10
Guaranteed.



Our Sidecar List will interest you. Drop us a line for it.

EASY PAYMENTS.

DEPOSITS from £3 3s. upwards. Write us!

3½ h.p. J.A.P., accumulator ignition	£9 10
QUADRANT, 3½ h.p., magneto, spring forks	£24 10
F.N. Lightweight, magneto, spring forks	£19 10
REX Twin, 5½ h.p., spring forks, fast	£19 10
QUADRANT Trike, low, good	£16 6
QUADRANT, 3 h.p., good condition	£12 15
ROTHWELL, very good indeed	£13 15

MISCELLANEOUS.

26 x 2½ Extra Heavy Tubes, 7/6: 26 x 2½, 8/5.	
F.R.S. Lamp, with special generator	£1 9 6
1911 Stewart Speedometer for 26in. wheel, NEW	55/-
New Large Lycett's Saddle	10/6
26 x 2 New Continental Cover	16/6
1win Rex Frame	£2 7 6
20 x 2½ Heavy Tricar Covers, best make	25/-
New Sidecar Basket	17/6
£11. 6in. NEW 3in. Continental Belt	11/6
Sidecar Body, art cane, new	19/6
The "Westgate" Hook Fastener	-/9
Rushmore Pattern Lamps, mirror lens, complete	12/11
"Forward" Adjustable Belt Fasteners	1/6
Double-Twist Horns	4/6

Tyre Bargain List on application.

MOTOR BICYCLES FOR SALE.

1907 2½ h.p. Minerva, in very fine condition, many refinements, lamp, two belts, spares; £12.—Below.

1909 L.M.C., 3½ h.p., 2 speeds and free engine, spring forks, stand, carrier, Bosch magneto, B. and B. carburetter, h.b.c., excellent condition; £28.—Below.

1910 5 h.p. Tourist, condition perfect, Lucas lamp, horn, etc.; £36.—Below.

1911 3½ h.p. Premier, latest type, Mabon clutch Whittle belt, as new throughout; £38.—Below.

1910 F.N. Lightweight, 2½ h.p., 2-speed and free engine model, perfect order and condition; price, with tricycle conversion set, £30.—Below.

1911 Humber 3½ h.p., 2-speed model, quite like new, fitted with Whittle belt, speedometer, lamp, horn, watch, mirror, etc., tools and spares; £44.—Below.

1910 P. and M., 2-speed 3½ h.p. model, new September last, condition perfect; £46.—Below.

1909 N.S.U., 6 h.p. twin, Bosch magneto, B. and B. carburetter, h.b.c.; £18.—Below.

1910 Triumph, 3½ h.p. roadster model, perfect in every detail; £35.—Below.

1910 Triumph, 3½ h.p. free engine model, Lucas horn and lamp; £43.—Below.

1911 Rex, 3½ h.p. Tourist model, as new throughout; £36.—Below.

1910 Indian, 5 h.p. model, new last September, condition and appearance perfect; £36.—Below.

1910 Chater-Jap, 5 h.p. engine with overhead valves, Chater-Lea new spring forks, Jap carburetter, Bosch magneto, both h.b.c., Mabon clutch, 26x2½ tyres, Davison's tank, with gauges, all possible refinements; £55.—Below.

1910 Metosacoché, magneto ignition, spring forks, Whittle belt, a splendid little machine; £20.—Below.

1910 5 h.p. Rex de Luxe, 2 speeds and free engine, with Rex coachbuilt sidecar, Cowey speedometer, Lucas 5½ lamp set, and Solar lamp, Lucas horn, many refinements and spares, perfect order and condition; £44.—The Eastern Garage Co., Romford Rd., Forest Gate, Telephone: Stratford 10. Telegrams: Egaraco, London.

1911 Free Engine Triumph, lamp, horn, etc., unused; £55.—No. 8, 127, The Motor Cycle Offices, Coventry.

3½ h.p. Ariel, in perfect condition, just overhauled, engine as new; £15. near offer, or exchange.—Arton, Dunmow.

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3½ h.p. De Dion engine, good condition, new tyres and tubes, long handles, horn, seat; £8.—Barton, Shepperton, Middlesex.

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F.N., 2½ h.p., perfect condition, good puller; only fault, tyres want seeing to; £10, or nearest offer.—R. Horsley, Station Hotel, Amersham, Bucks.

2½ h.p. Minerva, new condition, 2 accumulators, low position, long handle-bars, very fast; £12; trial.—Hibbs, 18, Lettison St., Camberwell Grove.

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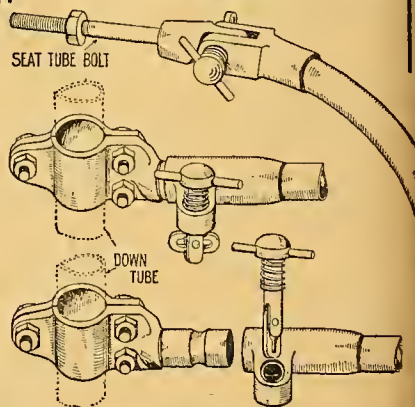
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TOTTENHAM.—Triumph, 1911, clutch model, £55 standard, £48; delivery from stock.—Below.

TOTTENHAM.—Rudge-Whitworth, 1911, clutch model, £55; standard model; delivery from stock.—Below.

TOTTENHAM.—Humber, 1911, 2-speed model; delivery from stock; £50.—Below.

TOTTENHAM.—Triumph, 1911, standard model; delivery from stock; £48/15.

TOTTENHAM.—Fafair, 4½ h.p., Simplex, new engine and magneto, Whittle, spring forks; £27/10.—Below.

TOTTENHAM.—Kerry, 5 h.p., twin, free engine, and coach-built sidecar; £20.—Below.

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TOTTENHAM.—N.S.U., 5 h.p., twin, Whittle, magneto, low built sidecar Chater-Lea, spring forks; £33.—Below.

TOTTENHAM.—Rex, 1909, 5 h.p., twin, tourist model all as new; £28/10.—Below.

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TOTTENHAM.—1910 Motosacoche, just overhauled by makers; £25.—Below.

TOTTENHAM.—Triumph, 3½ h.p., perfect order, with sidecar; £20.—Stamford Hill Motor Co., 128 High Rd., Tottenham. Phone 1982.

CHATER No. 6, complete, less engine, all grey; also 1½ h.p. lightweight, spring forks, wants tuning, ash offer.—165, Keapton Rd., East Ham.

TRIUMPH, 1909, absolute perfect condition, all accessories, new tyres, Whittle, good chamber, take sidecar; £33.—15, Llanover Rd., Plumstead.

TRIUMPH, 3 h.p., accumulator, just thoroughly overhauled, new cylinder, piston and bearings as new; £17.—E. Russell, 45, Cornwall Rd., Brixton.

3½ h.p. Minerva, Chater-Lea frame, spare accumulator, stand, carrier, accessories, good running order what offers?—60, Charlton Rd., Charlton, S.E.

3 CYL. Vauxhall, 7-9 h.p., painted grey, hood, screen, overhauled, new chains, in good condition throughout; £50.—Apply, Gainsford, Woodside, Hitchin.

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3½ h.p. De Dion, accumulator, Whittle, sidecar, all new tyres; £15, or exchange 2½ h.p. J.A.P. light weight, or good make.—132, King's Rd., Brentwood.

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MINERVA, 3½ h.p., Chater-Lea No. 7, Continentals, Watwata, B. and B. h.b.c., guaranteed sound machine, fast, and reliable; £12/10.—88, Louisville Rd., Balfour.

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F.N., 4-cyl., 5-6 h.p., 1911 engine and carburetter, new Dunlop tyres, £35; 3½ h.p. motor bike, new B.B. carburetter, in very good order, £15.—69, Ashley Av., Cheriton.

5 h.p. V.S. B. and B. carburetter, h.b.c., Kempshall rear cover, new belt, magneto, splendid condition; bargain, £24, or with nearly new sidecar £30.—King, Station Rd., Bexhill.

3½ h.p. Rex, m.o.v., h.b.c., footboards, Helleesen, long bars, low position, just overhauled, whistle; owner bought twin; £12, or nearest.—H.C.B., 22, Mortimer Rd., Kingsland, N.

3½ h.p. Fafair, accumulator, torpedo tanks, low frame, spring forks, Whittle belt, h.b.c., F.N. carburetter, lamp, horn, etc., splendid condition; £8.—E., 50, Croydon Rd., Pease, S.E.

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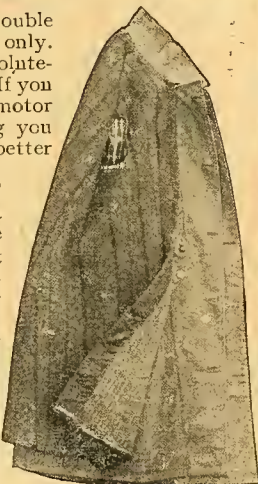
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19 11 Triumph, free engine, good as new, Autoclipse lamp, horn, exhaust whistle, spares, including platinum points and new belt, fittings for sidecar; £54.—Adam, West Malling, Kent.

3 1/2 h.p. Triumph, bought December, 1909, not run 1,000 miles; any trial and examination; studded tyres; £28, extremely good value.—A. C. Crombleholme, 11th Hussars, Sborncliffe, Kent.

TWIN Rex, 5h.p., Bosch magneto, 1911, h.b.c., perfect order, as new, fitted for sidecar; owner too nervous; £30, or offer.—Proprietor, Prince Alfred, 35, Lisimore Rd., Gospel Oak, N.W.

SACRIFICE.—1 1/2 h.p. Motosaccho, splendid order, new spare belt, 2 spare accumulators, must be sold; also 4 1/2 h.p. Automoto, £10; and 2 1/2 h.p. Werner, £9.—Fuller, 253a, New Cross Rd., London.

TRIUMPH, Millford sidecar, late 1910, free engine, Cowey, Triumph lamp, Brooks carrier, spares, all new condition; cost over £80, sell £60; no offers.—H., 7, Cleveland Rd., Acton Green, Chiswick.

WIN-PRECISION Motor Cycles; immediate delivery 1911 model, gradual payments, £2 monthly, cash £45/10; particulars on application.—De Nevers Automobile Agency, Empire House, Piccadilly, W.

3 1/2 h.p. Ariel, m.o. valves, B.B. carburetter, 2 accumulators, new Lyso belt, tyres in fine order, good bill-climber, suit sidecar; £10, or part exchange good push bike.—Huggett, Frith Farm, Walton-on-Hill, near Epsom.

19 11 Triumph, complete with all accessories, done about 300 miles, owner obliged to give up; £47.—Can be seen Cheyne Garage, 93, Manor, Chelsea, or write, Warren Hastings, 5, Pond Place, South Kensington, S.W.

TRIUMPH, standard, 1910, run 4,000 miles, extra pair footrests, Whittle belt and spare, engine just overhauled, new Michelin tyre fitted, general condition perfect; owner buying car; £39.—85, Kingston Rd., Wimbledon.

19 09 (late) Minerva Twin, 4 1/2 h.p., condition perfect, just thoroughly overhauled and enamelled, new cord and belt, F.R.S. lamp, and long footboards; any trial by appointment; no exchanges; 30 guineas.—Meeton, West St., Dorking.

BROOKER'S Trusty Triumph, one stop since September, 1909, Palmer cords, new F.R.S. searchlight, Bowden magneto control, special piston, extra back mudguards, toolbars, and Michelin butted tubes, magnificent condition; £37.—15, Park Rd., Wandsworth, S.W.

3 1/2 h.p. 1911 Arno, new June, perfect order, with F.R.S. lamp, Jones speedometer, spare tube, belt in case, all spares, also nearly new Chater-Lea Comfy sidecar to match, splendid turnout; together £40, separate £37/10 and £4/15; trial willingly.—W.T., Gordon House, Roland Rd., Walthamstow.

F.N., 1909, 5-6 h.p., only done 4,350 miles, Davison oil and petrol gauges, special inlet pipe, long handle-bars, new Continental on back, front unpunctured, does from 5 to well over 50 m.p.h., now being thoroughly overhauled, perfect condition; £27/10.—Cecil Harland, Harefield Vicarage, Uxbridge.

WIN Precision Motor Cycles.—Immediate delivery of 1911 model, Druid forks, Bosch magneto, B. and B. carburetter, Dunlop tyres, £45/10; cash or gradual payments, £2 monthly; trial by appointment, any reasonable distance.—Jennings, 268, Hornsey Rd. (near Public Baths), Holloway, London.

HAZEL Lightweight Motors.—We are now in a position to give early delivery of our 2 1/2 h.p. model, the lowest, shortest, and lightest machine of its power on the market, fitted with Jap engine; price 38 guineas; second-hand machines in part payment; many good second-hand machines in stock at reasonable prices.—The Grims Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

SECTION IX.

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19 11 Rudge-Whitworth, 3 1/2 h.p., fixed engine, in stock; £48/15.—Moffat, Yeovil.

LATEST 3 1/2 h.p. Triumph, with free engine, new; have purchased car; £52.—Goudry, Red House, Dorchester.

BRADBURY, 3 1/2 h.p., accumulator, enamelled green, good order; bargain.—Strout and Carne, Lostwithiel, Cornwall.

3 1/2 h.p. Quadrant, Bosch, spring forks, B.B., h.b.c., 3 1/2 Lyso belt, spares, splendid order; £18, offers.—Radford, Pitt, Uffculme.

SECTION X.

Scotland.

1 1/2 h.p. Motosaccho, late 1908, magneto, Palmer tyres, 1 1/2 good running order; accept £14.—Frazer, Scone, Perth.

QUADRANT, 3 1/2 h.p. (choice of two), perfect throughout; bargains at £12 and £9.—McLaren, Craigmill, Stirling.

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THE MOTOR CYCLE

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ADDRESS: 20. TUDOR STREET, LONDON, E.C.

A Valve Transposition.

A SUGGESTION is made elsewhere in our pages this week with regard to overhead exhaust valves. It is pointed out that in the case of overhead inlet valves there is some amount of delay in removing an exhaust valve when the latter is situate underneath the inlet, as compared with the rapid removal of the exhaust valve when it is merely covered by a screw cap. Our correspondent inquires why not make the exhaust valve overhead and the inlet valve underhead, basing his query on the fact that the inlet valve seldom requires either attention or renewal, whereas in the case of the exhaust valve it usually requires replacement, grinding, or some form of "tuning up" about every thousand miles, and perhaps more often when the machine is driven all out for prolonged journeys. Anyone will admit that if the exhaust valve and its seating could be readily detachable from the cylinder top without disturbing the inlet valve, it would be a time saver in grinding and replacing, as it would be possible to carry a complete valve dome, spring, etc., fitted up, and to change the whole dome when compression weakened through pitting of the valve or total failure occurred due to a broken valve.

At first sight the suggestion seems quite easy of accomplishment, and, of course, overhead exhaust valves are no novelty, but we do not know of an overhead exhaust in conjunction with a mechanically operated inlet valve underneath it. The chief objection to the idea in motor cycle practice is the lack of head room. The exhaust valve requires a strong spring and rocker, and these mean space in which to allow them to work. A separately constructed seating so means some amount of weight in metal to enable

a suitable form of seating to be cast which will not distort with the heat. The overhead arrangement would also necessitate a somewhat stronger and heavier tappet rod owing to its length in comparison with the shorter and better supported tappet of the conventional type. Among the advantages of the arrangement are the above-mentioned accessibility, probably better cooling of spring, guide, etc., owing to their removal from close proximity to the heat of the cylinder, and the ease with which the tappet rod could be made adjustable to allow for stretched valve stems and wear of valve foot and tappet rod end.

The efficiency of engines with both valves overhead is known, but the drawback of possible damage to the piston if either valve were to break and fall into the cylinder is also known. With one valve made overhead and the other underhead in a separate valve chamber, some objection to breakage is overcome, because it is possible so to design the chamber that the valve heads in case of breakage cannot enter the space above the piston. There still remains, however, the question of rapid removal of the exhaust valve, and this has caused our correspondent to bring forward what may be considered a valuable suggestion, particularly to those makers who have adopted the overhead inlet valve and are faced with the question of a comparatively slower method of exhaust valve replacement. We do not think there is very much to choose between the two systems when it comes to a question of a quick change of exhaust valves, but if there is anything in it the valve which is covered by a screwed on cap certainly has it. Other advantages and disadvantages may make themselves known, but to be able to fit a machine on tour with a complete unworn seat, exhaust valve, and spring with a minimum of trouble and time is a laudable desire.



The N.W. London M.C.C. Tour to Lyons.

DURING the few days remaining before the race our men spent the greater part of their time on the course, which requires some knowing, and is in places very dangerous. There are three level crossings and the gates are frequently closed. Most of the circuits were done early in the morning before the heat became severe. Punctures were fairly frequent, and all tyres were very thoroughly overhauled.

On the evening of Friday, the 4th inst., we were received at the rooms of the M.C.C. of Lyons, and M. Bouget, acting on behalf of the president, M. Bouvard, who is unfortunately ill, made a formal speech of welcome, the usual replies and felicitations following. We broke up early to secure as much sleep as possible, the start being at 6 a.m. from La Place de la Demi Lune, on the outskirts of Lyons.

There was a handicap of one minute per h.p. which worked out fairly well considering the nature of the course. Three circuits of about 37½ miles each had to be covered, making about 112 miles in all of the most difficult going it is possible to imagine, the corners, sharp bends, and gradients being numberless. Fairly well up to time the first four men were pushed off in a row, being followed in a few minutes by five more in the same manner; this method of starting in a comparatively narrow lane being a decided novelty to us. Our starters for various reasons were reduced to four, Printz, who arrived late overnight, having come through

from Dieppe in two days being among them. Thomas had a trial ride round the course on his Premier after the swelling of his knee had subsided, but found it impossible to race, and M. Martin, one of our French friends, who was exceedingly keen on getting astride an English machine, undertook to ride in his place, so that nominally we had five starters.

All got away well, and we settled down to wait for the first arrival. Escoffier was the first in, having passed seven or eight others, and making a first round time of 59m. Rose came through in 1h. 4m., and Printz put up a splendid performance in doing 1h. 7m. on a course he had never seen. Hill, who was our great hope, picked up a huge nail, and had no sooner remedied this trouble than he picked up another, and was so late the first time round that he was thus early out of the race. Rose continued to run splendidly, however, and, having no trouble of any sort, ultimately ran home a winner by 5m. on actual time, or by 2m. on handicap.

The French took our win in excellent part, and their congratulations were none the less hearty because they never dreamed we should beat their crack cornerists.

At a well-attended banquet in the evening, to which we were invited, we were thoroughly fêted, and there is no doubt our visit will do much to promote good relations between the sporting communities of the two countries.

C.W.

NOTES ON THE CIRCUIT DU RHONE RACE.

BY THE WINNER, F. A. ROSE.

The English team was certainly not as numerous as was to be desired. Hal Hill was our hope, for none of our other speed men had turned up, and we soon learned to respect the Frenchmen with their little engines and absurdly light machines. They are certainly very daring on corners, and with good reason, for the roads for a hundred miles round here are all corners, and it is considered no crime in this country to take them at full speed—if you can.

On Thursday morning the only available riders were Hill (5 h.p. Bat), Westacott (3½ h.p. Zenith), and Rose (3½ h.p. Triumph); Thomas (3½ h.p. Premier) having already sampled the corners and damaged his leg. We were shown round the course on Thursday by Yenne, one of the French riders. It is a very sporting course, full of impossible corners, loose stones, and hills. It crosses two mountain passes, and has 200 bad corners to the lap—600 in all.

We began to understand why they favour light machines here, and why handicaps in the race are so small; it is a course for lightweight and small engines.

On Sunday morning we all turned up at the start. There was some delay, as nobody had thought of bringing pins to fix on our numbers, but eventually we got away in batches according to handicap. The first few miles were exciting. I had a ding-dong race with Valenzano over the narrow twisty roads, but he soon punctured, and I pushed on and passed one or two of the weaklings. On the first mountain road I overhauled a Frenchman, and managed to pass him at the top of the Col de la Croix du Blanc. Down the other side caution was necessary on account of the turns, especially as the road was in no way closed to the public, and I passed sundry cattle and farm carts. I checked in at St. Bel just as Escoffier was leaving, and hoped to catch him before starting the climb to the next pass, but I little knew my man—all I caught was a cloud of dust.

Climbing the twisty road to the pass, I found my 4½ to 1 gear none too low. The gradient was easy, but picking up

after the corners was hard work for a hot engine. Someone was in front, but I could not pass till the top was reached. Then, opening out, I got ahead, found an evil corner, skidded in the dust, and rolled over. I had not counted on finding three inches of dust, but no harm was done, and I was soon off, the other man having courteously slowed to ask if I was all right.

The worst of the first circuit was now done. A long run down a good road, twisty at first, but straightening afterwards, a mad blind down a village street full of people who had turned out to see the fun, then into the main road and eight miles back to Lyons with the engine roaring at about 3,000 r.p.m. Would something break? I lay down and waited, and as I was microscopically adjusting the spark advance something went past at about seventy. It was not Hill; it must be Debeaune on the big René Gillet, and I felt sad, for I knew he must have passed Hill. As I ran into the control everyone shouted, "Hill, ou est il?" How should I know? I pushed off, feeling that the reputation of the English contingent depended on my efforts alone.

The next circuit was much like the first. I thought I saw Debeaune starting off just as I rounded a bad bend, and hoped to catch him on the mountains, his long wheelbase being in my favour. I never saw him, and afterwards heard he had given up because his gear was too high. I wonder if he conked; I know I did.

Halfway round the circuit I saw Thomas by the roadside. He waved me on frantically, and held up three fingers. That made me think. On the home straight I saw Hill resting. He shouted me to go on. I thought him rather heartless, for my poor engine was racing as though it could not last another minute.

At the end of the second lap they said I was in front. That seemed impossible, for I had seen neither Debeaune, Yenne, or Escoffier, but it gave me hope, and I kept the engine hard at the load. I was beginning to know the corners and to like them till I took one just a little too fast

CIRCUIT du RHONE

HILL CLIMB
OF THE
N.W. LONDON
&
LYONS M.C.C.'s



- (1) The crowd at the starting point. (2) Mr. Yenne (Magnat Debon) of the Lyons club taking a corner in the hill-climb. (3) The chief control.
(4) Weighing in for the inter-club hill-climbing contest. (5) Hal Hill (Bat) who punctured in the first round.
(6) F. A. Rose (31 b.p. Triumph) after winning the Circuit Race for the North-west London M.C.C.

The N.W. London Tour to Lyons.—

and went up a bank. No damage except a scraped hand and bent footrests, so off we went minus a pump. Then I sighted a Magnat-Debon, and followed it up the mountain till it punctured. Later I saw Printz sitting in a ditch, and, unfortunately, with his hands bandaged. His hands being oily had slipped from the bars, and he had come a cropper, smashing his three-speed gear. The last few miles was a

triumphant procession, then on to the finish, sign, and—drink. I was thirsty.

Escoffier and Yenne came in at intervals of five minutes. They had had punctures and sooted plugs, and Escoffier had hit a dog. Their engines must be wonderfully efficient to have picked up so much lost time. They congratulated me as though they would have been sorry to beat me. These French motor cyclists are real sportsmen. F. A. ROSE.

A FRENCHMAN'S OPINION OF BRITISH MACHINES AND THEIR RIDERS.

We have received from Mr. Schilling, the secretary of the Motorcycle Club de Lyon, a copy of the local sporting journal, which gives a detailed account of the race and hill-climbs organised by the club in connection with the visit of the N.W.L.M.C.C. Its comments on the English machines will be of considerable interest to our readers. "The English motor bicycles," it says, "are heavier and more powerful than those generally used by French riders, and this is accountable for the fact that the powerful English motor bicycles have never given the same troubles which were inherent in the powerful French machines which appeared ten years before their time. We do not say that these models from the other side of the Channel are faster, although an Englishman has won the cup, but their constructors have transformed excessive power into comfort. The English competitors were not, like ours, crouched on their machines so as to offer the least resistance to the air, and it was at once apparent that the engine power was amply sufficient to propel the machine at a great speed. The English machines carried every accessory for serious touring. We even found that one

of these machines had a speedometer. Several saddles were provided with backrests, a thing we have never yet seen in France, and to start by means of a clutch the pedals were fitted, which is also unknown in this country. The footrests on certain machines are very comfortable, and the cooling appears to have been particularly well worked out. Several machines had clutches and change speed gears, and those which do not possess these refinements are provided with an easy and simple means of reducing the gear by altering the width of the pulley flanges. Lastly, the sidecars which came by road showed to us that this economical means of touring for two people is popular in England. Rose deserves every congratulation. In fact, I was particularly pleased," continues the writer of the article, "with the indescribable enthusiasm with which Rose's fellow members greeted him when he came into view of the control and showed that the laurels rested with the N.W.L.M.C.C. What attachment to their colours must these sportsmen have, and how we would like to see in every sporting club in France the *esprit de corps* flourishing to such a degree."

Track Racing in England and America.

THE casual visitor to Brooklands on a race day, be it a B.M.C.R.C. or B.A.R.C. meeting, is probably struck by the fact that the attendance is, to say the least of it, meagre. The much-talked-of "man in the street" does not care for motor cycle racing, and yet some

years ago push-cycle races used to attract quite big crowds. True, there was a fair attendance for the International match, Collier v. de Rosier, but nothing like the crowds one sees in the United States. Speed apparently has no attraction for the average Englishman, for not even Nazzaro and the prospect of some 120 odd miles an hour had the effect of seriously depleting London's population and swelling that of Weybridge for the day.

In America, enthusiasts flock from all the countryside to witness motor cycle racing, which is about as popular as horse-racing is in England, possibly owing to the fact that there is an official ban on the latter sport. Excitement is intense and enthusiasm runs high at a motor race meeting—a very different state of affairs from that in England.

At Brooklands it is admittedly difficult to follow the progress of a race intelligently, more especially a handicap, owing to the enormous size of the course. Even a car race is difficult enough, but motor cycles appear but mere specks on the Byfleet banking. There is nothing in America like Brooklands, the Parkway track being, I believe, much bigger and more in the nature of a road race track. The tracks which attract the American crowds are circular, or nearly so, and much smaller, resembling in size the Canning Town track or some of the Parisian velodromes. They are made of wood, and banked the whole way round.

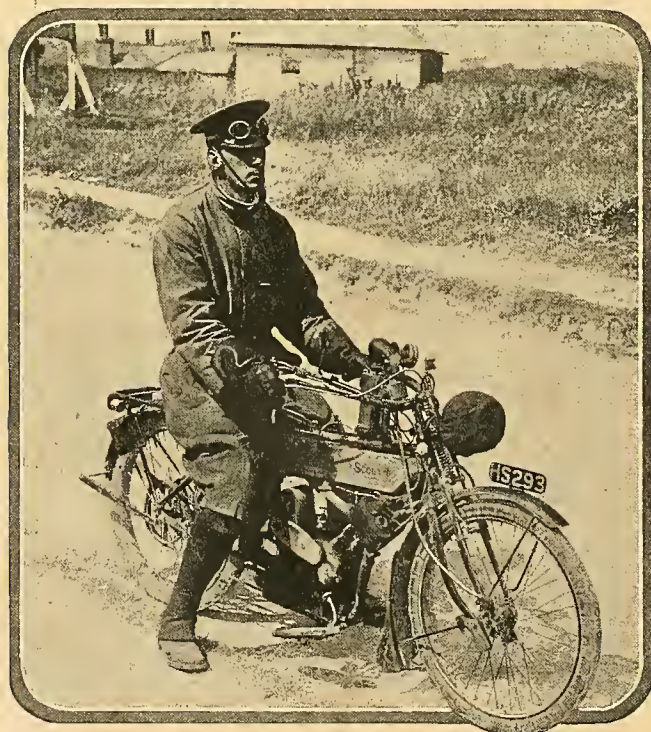
The cement surface of the Brooklands track is naturally somewhat bumpy, while the comparatively smooth wood surface of the American tracks, of which practically every town of any importance has one at least, is far more conducive to high speeds.

Of course, it must be remembered that Brooklands was primarily intended for cars, and that they feel the bumping far less.

Enthusiasm naturally runs much higher when the spectators are able closely to follow the doings of the riders, and it is naturally impossible on a small track to run fields of, say, twenty or thirty, as is done at Brooklands.

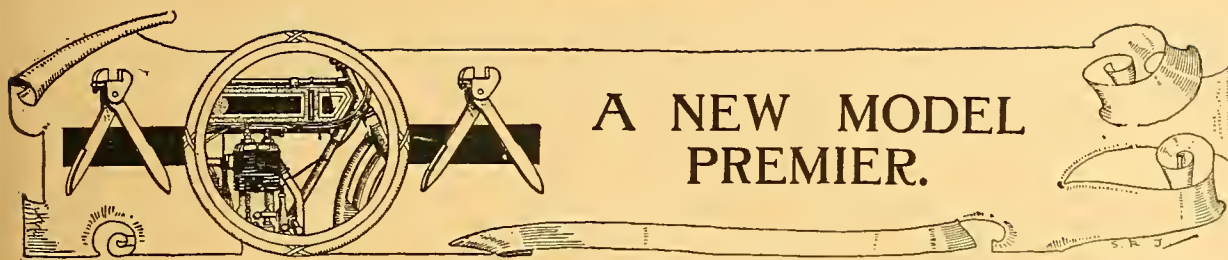
It is certainly a pity that more enthusiasm is not shown in this country, but the fact that Brooklands is so far from town and that it is so difficult to follow the races may account for this.

I have heard a rumour respecting a saucer track on Yankee lines to be constructed in London. If it were to be taken in hand, I believe it would be a success, provided the racing were conducted on proper lines. P.C.C.



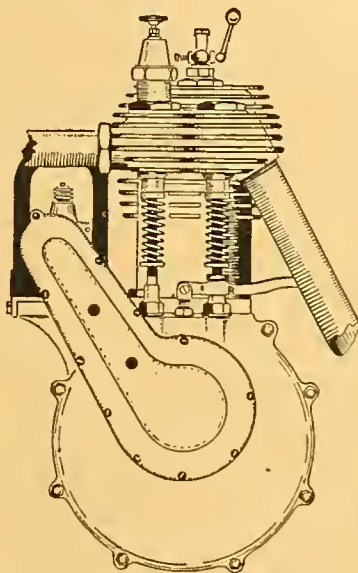
TERRITORIALS IN CAMP AT DOVER.

Rev. Hassard-Short, chairman of the A.A. and M.U. Motor Cycle Section, and Chaplain to the Kent Cyclist Battalion, on his P. and M. He is taking a very active part in this year's manoeuvres.



A NEW MODEL PREMIER.

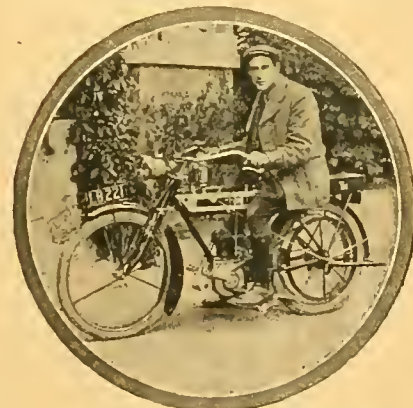
ALTHOUGH not common knowledge, it has been known to us for some time that the Premier Cycle Co., Ltd., Coventry, were devoting their attention to the production of a medium weight single-cylinder machine, and the outcome is the $2\frac{1}{2}$ h.p. model illustrated on this page. Its lines are not yet definitely settled, but so far as the engine and its appurtenances are concerned, these are of 1912 design. It is quick to show its capabilities to all and sundry, for it is being ridden in this week's six days' Yorkshire reliability trials of the Auto Cycle Union by *J. H. Crickmore. The principal



Power unit of the new model $2\frac{1}{2}$ h.p. Premier.

66 by 72 mm., giving a cubical capacity of 246 c.c.; mechanically-operated side by side valves and a ball bearing crankshaft are used, which is the usual Premier practice. In general appearance the power unit is a replica of the now well-known $3\frac{1}{2}$ h.p. Premier, the magneto being carried on a platform abaft the cylinder, where it is well protected from foreign matter, and the B. and B. carburetter is fitted at the rear of the magneto. It will be observed from the

illustrations that a dropped frame is used on this new model which gives an extremely low saddle position, a rider of short stature being able to rest his feet on the ground with ease. Another departure is the Druid girder spring forks. For this week's difficult trial in Yorkshire Mr. Crickmore has had special fittings on the machine, such as a three-speed hub gear, the Armstrong Triplex being the one selected. We understand that the machine in its complete form as illustrated weighs in the neighbourhood of 150 lbs., and its preliminary

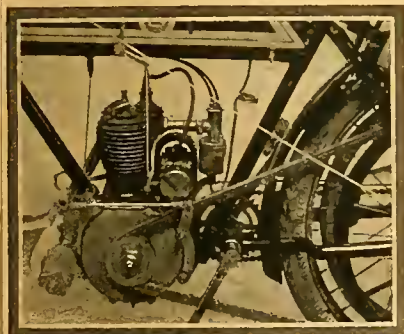


J. H. Crickmore, who is riding the $2\frac{1}{2}$ h.p. Premier in this week's A.C.U. 1,000 miles trial in Yorkshire.

trials have proved that it is a fast and handy little mount, which should appeal to that section who look askance at the comparatively heavy $3\frac{1}{2}$ h.p.

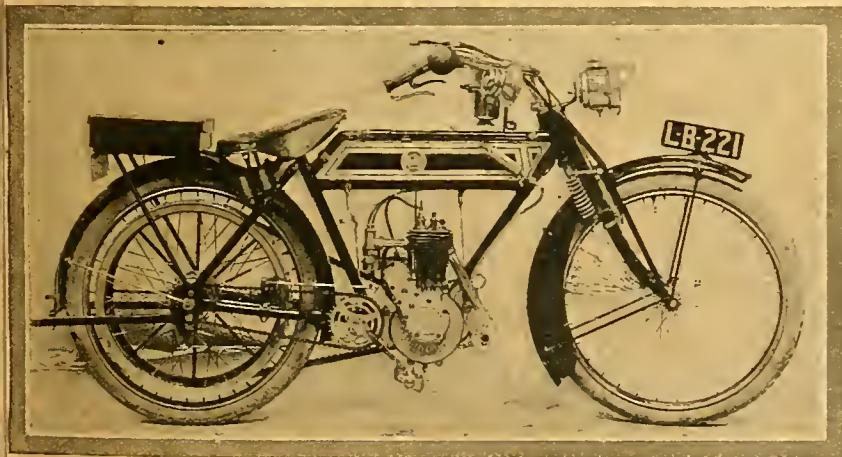
A.C.U. INTER-TEAM CHAMPIONSHIP.

The preliminary regulations with regard to the above competition, to be held on Saturday, September 16th, are now ready, and will be sent to the secretaries of clubs interested on application to the Auto Cycle Union, R.A.C. Buildings, Pall Mall, S.W. The awards are—the winning team to receive a silver trophy and its members gold medals; teams finishing second and third to receive silver and bronze medals respectively, provided not less than ten teams enter. Competing machines should be standard touring motor cycles, but T.T. machines are eligible, provided they are sufficiently silenced. Cut-outs are prohibited. Our readers will remember that the winners of last year's competition were the team representing the Coventry and Warwickshire M.C., whose six members all accomplished a non-stop run over a 156 miles course in Derbyshire.



Pulley side of engine showing disposition of magneto, carburetter, and brake pedal.

departure from standard practice in the case of the engine is the *désaxé* or offset cylinder, the advantages of which type of construction were dilated upon in a recent issue. The bore and stroke are



The new $2\frac{1}{2}$ h.p. three-speed Premier described on this page.



Silencers in the A.C.U. Six Days' Trial.

If I read the regulations aright, the A.C.U. do not propose to seal silencer cut-outs in the 1911 Six Days' Trial, as I fancy has been their invariable rule in the previous trials; but, of course, marks will be awarded for silence and deducted for noise. Now I hope the judges are not going to misread the popular opinion on this point. I have known occasions when they have taken notes of noise or silence on freak hills across lonely moors, when the engines were opened out to the last notch on low gears with their cut-outs open, or their drilled silencers permitting the maximum of noise. Nobody is annoyed or injured by a sharp barking noise on a lonely hill where there are only grouse and sheep to hear, and it really does not matter twopence whether a machine is noisy under these conditions or not. I trust therefore that no occasion of this sort will be selected for making the silencer observations. On the other hand the sharp flat bark of a well-tuned engine on open exhaust is a public nuisance in populous places; and nobody could grumble if the judges inflicted severe penalties on any competitors noticed to be driving on the open exhaust in towns or villages or when passing other traffic. I believe the A.C.U. committee are firm believers in the absolutely noiseless motor cycle as an ideal; but I also believe they have the wisdom to recognise that the feeling of the motor cycling community is dead against them on this point, and that, therefore, they will only attempt to enforce silence where silence is required of every gentlemanly rider as a matter of courtesy.

The Toolbag Question.

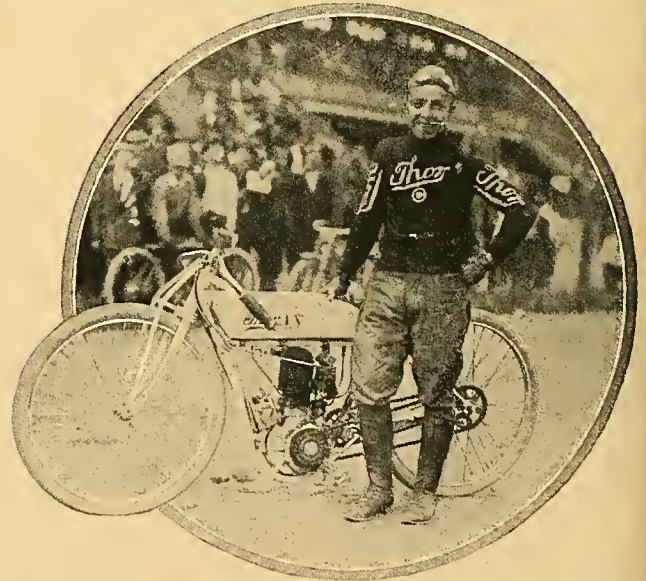
"Ready for the road" is an elastic term, and as such is glibly used by the compilers of catalogues; but when one examines their definition, one is driven to wonder if they have ever ridden a machine on the road at all. I recently took delivery of a modern machine, for which I paid an inclusive price "ready for the road." When I overhauled it, I found it had two small toolbags, mounted one on each side of the rear carrier. The one was filled to suffocation by a neat leather tool roll, holding all the spanners, etc., I could reasonably require. I thought hastily that my surplus spares were intended to be housed in the other. On opening the other, I was disappointed of the anticipated vacancy. It, too, was filled to suffocation with a tyre repair outfit, two big spanners, a selvyt, and a cleaning cloth. I eyed my brace of spare valves, my spare sparking plug, my spare belt fastener, and my spare belt with pain—where were they to go? There is no accommodation for them on any of these "ready for the road" machines. The belt is admittedly a puzzle. When I am on a tour, my personal luggage occupies the entire carrier, and my spare belt is looped untidily round the handle-bar; when I am on a short run, my belt ties on to the carrier top. But for the enumerated spares there remain only two alternatives—both bad; one is our pockets, the other is in the luggage with the tooth powder and shaving soap. There ought to be a third bag *à la* Enfield filling up the space usually

wasted between carrier top and mudguard tail; this would just hold the usual spares, and only leave the spare belt and tube to be catered for by individual fancy.

Dirty Oil Tanks.

Many suggestions rain in on us for the improvement of the motor bicycle, but I do not remember that any critic has ever laid his finger on one very simple defect, which could easily be remedied. I refer to the normally filthy condition of the average tank in the neighbourhood of the oil-filler hole. Of course, users are greatly to blame for replenishing their oil tanks without the aid of a filler, so that the green mess slops all over the tank. But the maker must also bear his share of the nuisance. A large milled cap is usually set so close to the top tube and a tank clip that the resulting chinks and crannies cannot be easily cleansed; there are also often quite permanent leaks from the vent hole of the filler cap, from the spindle of the pump piston, and around the ball valve at the bottom of the pump. I have only once owned a clean oil tank. It had an outside pump, with good sound union joints, and the filler cap was carried on a short curved elbow, projecting from the tank side just below its top. Only gross clumsiness could soil the top of this tank, and if soiled it was very easily cleaned, while good workmanship had altogether obviated a leakage at every point. The outline was not so neat as the modern standard flush-sided tank, but a neat outline is of little value if the surfaces are permanently filthy. Who will give makers a lead at the next show?

80 M.P.H. ON A SINGLE CYLINDER—PERHAPS!



S. Matthews, an American rider of a Thor IV. A cutting from a leading Chicago newspaper accompanying this photograph says: "Matthews thrilled the 20,000 spectators. At times this midget speed demon was travelling at the rate of 80 miles per hour. He averaged 75 miles per hour." Are we expected to believe that there are single-cylinder machines in America capable of averaging or even attaining 75 m.p.h.?

THREE SPEEDS

IN CONJUNCTION WITH 2½ H.P.

It is some weeks since we referred briefly to a spin on a 2½ h.p. three-speeded New Hudson, but since that time we have been enabled to enjoy an extended trial, and our further acquaintance with the machine has even improved the high opinion we formed of it on the occasion of our initial test. Easy to start, a really speedy machine for its size, economical to run, and abso-

saddle position of any standard mount we have yet ridden, and the increased feeling of comfort and security as a result is most pronounced.

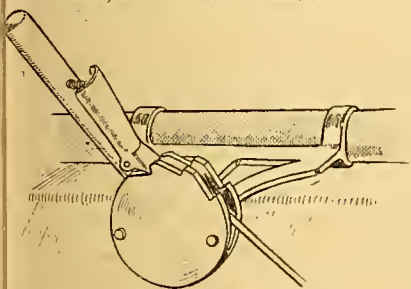
The Well Balanced Engine.

The engine of the machine we tried was the new model mechanically-operated side by side valve J.A.P., and the absence of effort on the part of this engine when running between 20 and 30 m.p.h. greatly impressed us. Of all the excellent J.A.P. productions we have been privileged to try we do not hesitate to characterize the 2½ h.p. as the best yet. Knocking and labouring are practically non-existent; it responds to the throttle in a manner suggestive of applying spurs to a war-horse, and in conjunction with the three-speed gear we found we could do more than we could with the finest of 3½ h.p. single-gear machines, and with a good deal less fuss and risk to the rider, which is saying a good deal.

It seems almost unnecessary for us to refer to the bicycle work of the New Hudson, for this company always made a pretty bicycle, and if we say that they commenced designing motor cycles where other people left off we consider we have hit the nail on the head.

To revert to the gear, this is simplicity itself to manipulate. Although a clutch operated by a pedal on the right foot-

rest is provided, one may ignore its presence, for by merely raising the exhaust valve lifter and moving the gear change lever to the required notch, shock or jar is entirely absent. What we particularly like about the Armstrong gear is its direct middle ratio. In riding through crowded thoroughfares or along narrow by-lanes, the midway ratio is the one most generally used. It is not low enough to overheat the engine, which also signifies that it is not so low that

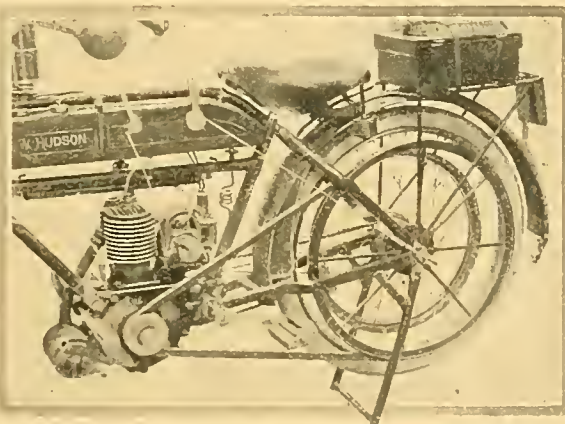


New type of gear-changing lever and bracket fitted to the forward part of top tube. The fittings are larger and stronger than hitherto fitted to Armstrong gears.

utely reliable and dependable for hill-climbing under all conditions, no wonder it is taking a powerful hold of the motor cycling community.

Why, only a couple of years ago people would have laughed at the idea of such a hillputian engine climbing Snaefell Mountain unaided, yet the little New Hudson recently sailed up with ease with our 11½ stones in the saddle, and never once required the lowest gear. It picked up after the hairpin and the Boosneck in surprising fashion, and only once did it exhibit signs of requiring a further reduction of the ratio.

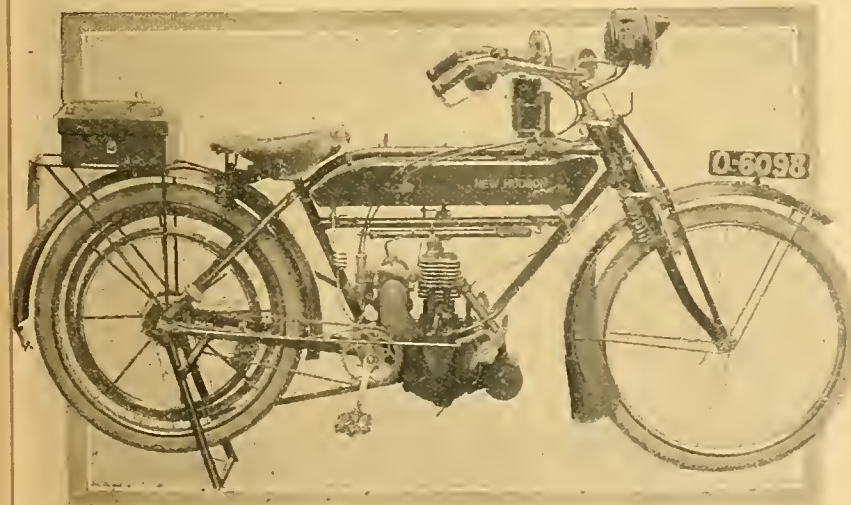
The New Hudson, with its gracefully swept down top tube, enables the lowest



The power plant, also showing control of the Armstrong-Triplex gear. The change speed lever is now placed immediately behind the steering head.

the engine is racing round at an uncomfortable speed with the bicycle only just moving; further, there is no noise but the regular beat of the engine. With the lowest ratio in engagement, one may crawl at a speed limited only by the capability of remaining upright, which discounts fully two-thirds of the fears associated with traffic riding. Once or twice in riding the machine in traffic, we have been brought to a standstill, but have remained seated in the saddle until an opening occurred, and by digging on the ground with our feet with the lowest gear in engagement, the engine fired immediately on releasing the valve lifter.

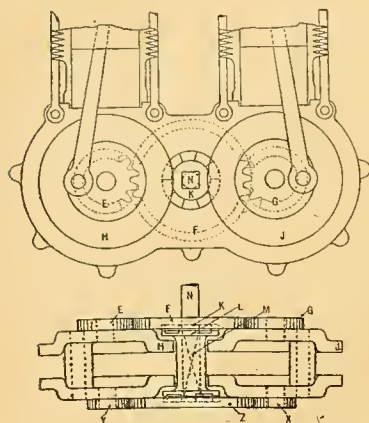
During our trials of the machine we have been convinced over and over again that, notwithstanding the extra complication incidental to a change-speed gear of the type under review, a variably-gear mount is the simplest to manage. On tortuous hills a single-gear mount is most difficult to control and keep going, and many are the risks taken by their riders in approaching blind corners at too fast a speed, whereas the non-chalant owner of a variably-gear mount progresses upward and upward at a comfortable pace, slow but sure, utterly oblivious as to the number of twists and hairpins which may abound. And these are in brief the main reasons which have caused us to thoroughly believe in the ultimate future of the variably-gear motor cycle.



2½ h.p. three-speed New Hudson with which our trial was made.

A TANDEM MOTOR CYCLE ENGINE.

THE motor cycle engine illustrated herewith has been designed by Mr. Prentis, of Messrs. Packer and Prentis, Ilford, and was brought to our notice by Mr. J. Rowe, 189, Ilford Lane, E.



It consists of two vertical cylinders with opposed cranks, and is intended to be carried tandem fashion in the frame. On the two flywheels H and J are the pinions E and G, which mesh with the intermediate wheel F, which revolves at half the crankshaft speed. The square shaft M and the pulley-shaft N are provided with dog clutches at either

end, so that the drive may be taken either through the central pinion F from E and G, or through the small pinions X and Y (shown in fig. 2) on the other side of the engine to the large central pinion Z. Owing to the fact that the cranks are opposed and the flywheels revolve in opposite directions, the engine should be practically perfectly balanced. By setting the cylinders tandem fashion an ideal protected position for the magneto is provided, namely, between the two cylinders.

The two-speed gear, it will be seen, is of a simple type. The wheels are always in mesh, and there is no doubt about the gear getting well lubricated, and the possibility of the oil leaking is exceedingly small.

It is possible to make the counter-shaft M to run through both sides of the crankshaft, so that on one side provision might be made for handle starting. The fact that the shaft N runs about half the speed of the engine enables a very large belt pulley to be used. This engine resembles in some respects the old pattern Lanchester car engine, which had its flywheels geared in a similar manner, but the cylinders were horizontally opposed.

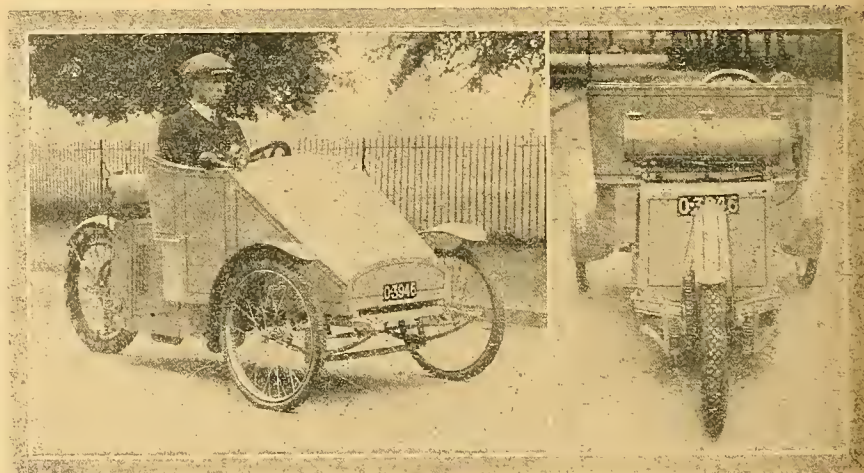
A SOCIABLE PASSENGER VEHICLE.

THE accompanying illustrations are of a sociable which has been built by Mr. A. J. Adcock, of the Handsworth Garage, Crompton Road, Handsworth, Birmingham. The principal features of this model are a 4 h.p. Aster water-cooled engine with thermo-syphon circulation, two speeds by sliding gears in an oil-tight gear box with gear wheels always in mesh. The ratios are 8 and 16 to 1, with a 28in. by 2½in. back wheel.

Transmission from engine to gear box and thence to road wheel is by roller chains, a cone clutch being fitted to an extension of the gear box shaft.

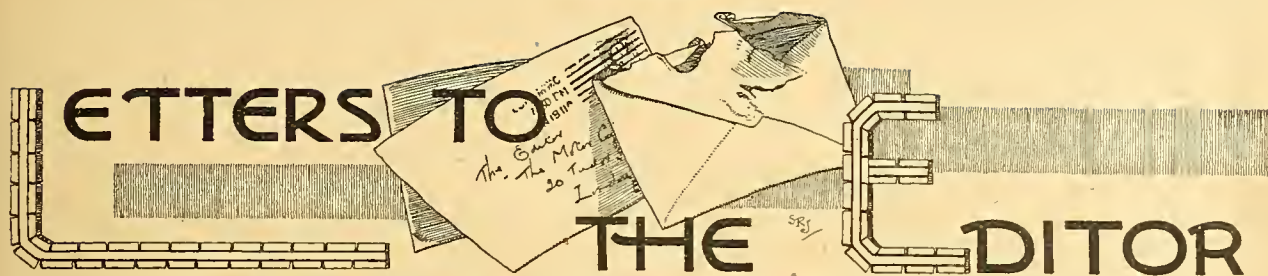
The vehicle is sprung fore and aft, the front axle being on semi-elliptic springs; the rear wheel is provided with a fulcrum lever and coil spring in tension, a device which is said to give excellent results. The braking is well studied, a motor cycle belt rim brake, of which there is none better, being fitted to the rear wheel; this brake can be applied by pedal or side hand lever. A chain passing over a sprocket attached to the steering column conveys motion to the steering arms of the stub axles through the medium of a steel cable, a spring being inserted at each end of the cable where it is coupled to the steering arm. The circular tank at the rear is divided into compartments for the petrol, oil, and water, the radiator being situated underneath the tank. It will be noticed that the engine, etc., is completely covered, side louvres enabling the entrance of air to assist in cooling.

The design will doubtless appeal to those who are interested in a self-contained form of vehicle as apart from a sidecar combination. Readers are now fully aware of the reasons why the rigid tandem tricar type of vehicle has declined and the sidecar combination has to a great extent taken its place.



Three-quarter side and rear views of a sociable passenger vehicle made by A. J. Adcock, of Birmingham. The machine has a 4 h.p. Aster engine, and is sprung at all three wheels.

The sociability and springing of machines of the A.C. type and the one under review largely compensates for the imperfection of three tracks. The springing reduces the vibration arising from the fact that the three tracks seldom, if ever, fitted the inequalities of the road; if the track was made wide enough to fit the usual wheel ruts, the machine was heavy and cumbersome; if made narrow, the wheels were first up on one side and then down on the other.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Overhead Exhaust Valves—A Suggestion.

[5805.]-One bears a good deal at present about the advantages of a mechanical inlet valve placed over the exhaust valve. The objection raised against this seems to be the trouble experienced in having to remove the inlet valve and seating to get at the exhaust valve.

What is the objection to having the exhaust valve overhead and the inlet below? With the exhaust valve in this position such operations as grinding in would be extremely simplified, as both valve and seating could be removed.

MAC.

Steeplechasing on a Motor Cycle.

[5806.]-I should like to draw the attention of your readers to an interesting mishap which occurred to me the other day when riding my 1911 $3\frac{1}{2}$ h.p. Rex.

I was visiting a camp situated in a park, and on leaving the grounds I started my machine on the grass. Not noticing a deep ditch that crossed my path, I was on it before there was time to think! The bicycle entered the ditch (6ft. wide by about 2ft. 6in. deep) and jumped the other bank, landing me safely on the other side. Nothing happened to the machine!

Possibly some other reader has had a similar experience?

VICTOR J. DE SPIGANOVICZ.

Silence.

[5807.]-As a rider of a 1911 N.S.U. I was greatly interested in Mr. Parkes's letter [5776] in which he remarks on the falling off of speed on opening the cut-out of his machine. A friend of mine who rides a similar machine, and myself, have both noticed this peculiarity, but unlike your correspondent neither of us have made a test by speedometer. Nevertheless, the closing of the cut-out causes an increase in speed which is unmistakable.

Will one of the readers of your excellent paper give an explanation of this cut-out effect (which appears to be against all preconceived ideas of the action of a cut-out) and also a remedy for same if possible, as I still wish to retain the open cut-out if beneficial to cooling, etc., of engine, but without the lowering of speed which now occurs.

TOM TIT.

Continental Touring with a Sidecar Attachment.

[5808.]-Having noticed lately on several occasions, motor cyclists touring with luggage, spares, etc., carried on their sidecar frame—the basket being detached—the idea has struck me as being particularly suited to Continental touring, as it enables one to carry a quantity of luggage.

The various big organisations seem to think that such a combination abroad will strike the authorities (French and Italian in my case) as coming under the heading of a light car, and advise me to prepare accordingly.

If any of your readers have taken such a combination as

I mention abroad, I should feel very grateful for a short *résumé* of their experiences, and perhaps they could also tell me if the fact of the luggage being mounted on the actual frame (no springs) in any way detracts from what, otherwise, appears to be a very good idea.

(CAPTAIN) C. A. M. HOWARD.

Formulae in Hill-climbs.

[5809.]-Having noticed in your pages that Professor Callendar's formula has been found by the A.C.U. to be unsuitable, I thought it might interest you to know that the local motor cycle club (in South Australia) found this to be the case some two or three years ago when a certain competitor mounted on a machine of large h.p. would have had to have ascended the hill in question (not an easy one) at over 60 m.p.h. to have won the event.

The committee immediately set to work to rectify this, and the outcome was the following formula:

$$W \\ C \times T^2$$

W = Total weight of machine and rider (in lbs.)

T² = Square of time taken (in seconds).

C = Piston displacement (in c.c.'s.)

For twin-cylinder machines C is taken as 9-10ths of actual.

After being used at all hill-climbs held since it has been found to be very satisfactory. In practice it may possibly not work so well on smooth surface straight hills as on rough tortuous climbs (the former are almost unknown here), but in any case it is a great improvement on the present A.C.U. formula.

The accuracy of this method of working out results is quickly noticed if past climbs which have been run in classes are grouped and calculated as only one class.

With it there is no necessity to have different classes. A competitor on 8 h.p. has just the same chance as one on $1\frac{1}{2}$ h.p.

In the same issue as your leaderette on this subject appeared is the report of a hill-climb of the M.C.C. of South Australia. This was run under the above formula, and as the first two placed men were very evenly matched as regards the personal element and rode machines of same size, the details may be interesting. (See table at foot.)

Personally, I have ridden in hill-climbs without classes under this formula mounted both on low and on high-powered machines with equally satisfactory results.

As I am the originator of the above formula I have taken the liberty to write at length on the subject, and I shall be only too pleased to explain it more fully (if necessary) or discuss its merits per the medium of your columns, but of course there is always the delay of a couple of months in getting replies from Australia.

Trusting that the A.C.U. will consider favourably the advisability of giving this formula a fair trial.

Norwood, South Australia. C. R. CHURCHWARD.

	WEIGHTS.		Gear.	Size of Engine.	Distance.	Time.	RESULT.	
	Machine.	Rider.					On above Formula.	If A.C.U. Formula were used.
Competitor A. (trade rider)	182 lbs.	133 lbs.	4 $\frac{3}{4}$	499 c.c.	4 miles	6m. 44s.	386.7 points	390 points
Competitor B. (amateur rider)	229 lbs.	154 lbs.	5 $\frac{1}{2}$	499 c.c.	4 miles	7m. 26s.	385.8 points	430 points

Continental Touring.

[5810].—May I take up a little of your valuable space to mention that in crossing *via* the Folkestone-Boulogne route Mr. W. L. Grange and myself were charged £1 for the machines only, and that for a 1½ hours' passage. Needless to say, we returned by a different route, and found the Bennett line from Boulogne to Hull more satisfactory; the passage for ourselves was only 7d. each more, whilst our machines cost only 3s. 6d. each. W. FAWCETT.

Hill-climbing.

[5811].—I notice in your issue of August 3rd that a Zenith-Gradua has climbed Bow Brickhill Hill. I believe I was the first rider of a single-gear machine to climb this "bump." I did so in the presence of two witnesses (both motor cyclists, who left their machines near the bottom) in September, 1909, on my 3½ h.p. L.M.C., gear 4½ to 1, and my weight 14 stones 2 lbs.

I can corroborate Mr. Lake's description of the surface of the latter half of the hill. Both times I skidded into the hedge, and almost stopped; it was literally ploughing the sands. The last one hundred yards or so leave the road and run over a track (the surface prevents "rushing"). It is a sporting hill to try, but not one calculated to improve a machine.

Mr. Gazeley, motor agent, of Fenny Stratford, on the main Coventry road, two miles off, is always ready to give directions and information. HAROLD BEVIR.

[5812].—We notice in a paragraph in your issue of August 3rd, on page 802, a suggestion that Amulree has never been climbed with a sidecar (clean ascent). We wish to point out, however, that Mr. F. W. Annandale, of The Vale, Polton, Midlothian, climbed this hill three times one afternoon in competition during the year 1909 on one of our 8 h.p. standard Matchless motor cycles fitted with Mills-Fulford rigid sidecar, his speed being over 20 m.p.h.

Mr. Annandale is at present in Scotland recruiting his health before returning east, and has pointed out to us your remarks. He would have written himself, but is not able to do so at present. H. COLLIER AND SONS, LTD.

[5813].—On Bank Holiday Monday, August 7th, I climbed Matlock Bank on my 3½ h.p. Zenith-Gradua, with sidecar and passenger. I was told by residents there that this was the first time that a single-cylinder machine so loaded had successfully climbed the hill.

I should be interested to know whether this statement is correct. It is just possible that others have climbed the hill without the knowledge of these particular residents.

I might say that Mr. A. E. Catt and other motor cyclists saw me ascend the hill. W. BARRATT.

The Noise of Motor Cycles.

[5814].—I write to ask you to keep up your influence to induce motor cycle riders to pass through villages and towns as quietly as possible. I have the misfortune to live in a village near Portsmouth, through which all traffic to and fro the latter place must pass.

For the last half dozen Sundays we have had a stream of motor cycles passing through the village at hours varying from 3.30-7.30 a.m., all apparently with their cut-outs fully open. Now this state of affairs is quite unnecessary; the noise at this time of the morning awakens people, many of whom are tired after a hard day's work, and in addition to this makes the man in the street object strongly to motor cycles. If an open exhaust is necessary, it simply shows that the design of the exhaust box is wrong, and the sooner the makers recognise this the better. These noisy motor bicycles are keeping more people from joining in the pastime than anything else. If all cars made noises in proportion to their horse-power like the bicycles do, life would not be worth living. My little machine, a twin, opposed cylinders, is practically noiseless, and I should never dream of buying a noisy machine, whether it had done 1,000 miles an hour at Brooklands or had climbed five miles of 1 in 2 in five minutes. Machines can be and should be made silent, and no cut-out should be allowed on the road. This latter abomination is used, as a rule, by the youth who wears his cap peak backwards, and who thinks that, because he is making an objectionable row, he is "doggy" and up-to-date. If makers would only understand that a silent machine appeals to the public, they would, in addition, soon find that

a greater number of the public would take to motor cycling. An additional grumble. Why do makers of motor cycles retain the top tube? It is quite unnecessary (*vide* the Scott), and is only a remnant of the push bicycle days.

A MOTOR BICYCLIST SINCE 1898.

Saddle Comfort.

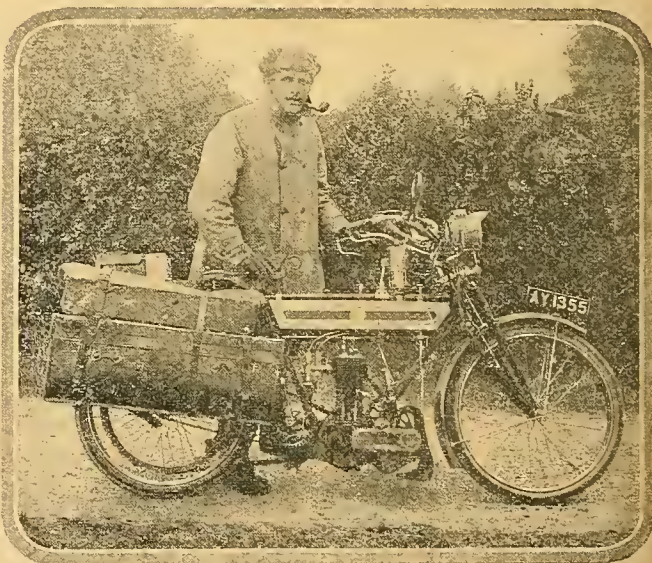
[5815].—Mr. Vernon Brooks's recent letter "Saddle Comfort" impels me to endorse all he says. I have ridden all the well-known makes, and never on Irish roads could I honestly say I was comfortable, though I always tried to think so. When I bought my new Scott I ordered an XL all pan seat, mainly on Mr. Vernon Brooks's opinion. It was a revelation, and I now ride in absolute comfort and the seat is the admiration of all who see it. It is very easily adjusted.

And a word of praise for the Scott. No one who has not ridden one can realise the comfort, silence, cleanliness, and ease of starting of this machine. The complete water-cooling and semi-automatic lubrication have added enormously to its efficiency. I do not wish to say other machines are not excellent—everyone knows they are—but they will have to be a lot better yet to induce me to desert the Scott. If the quadcar or light four-wheeler is a sound proposition, surely here is the engine, rather than the big four-stroke air-cooled twin or single. (Colonel) H. G. KENNARD.

An Experience of Cornish Roads.

[5816].—I would like to draw the attention of sidecarists to the high camber which prevails on many of the Cornish roads. This is a source of some danger when a motor bicycle and sidecar are taken up a hill too steep to allow of the passenger being carried. I have had narrow escapes from this cause on two occasions. There does not seem to be much trouble so long as one adheres to the left-hand side of the road, but it happened that I had to pass carts on the right-hand side, going uphill with an empty sidecar; when steering on to the crown of the road again, the sidecar wheel left the ground and caused the bicycle to run into the hedge. I have driven right through several counties over a thousand miles without the wheel rising in this way. The only way of obviating this, as far as I can see, is for the driver to steer from the sidecar seat if he has to lighten the load by dropping his passenger.

I recently travelled to the Isle of Man, and would recommend motor cyclists wishing to go from Chester to use the New Ferry at Birkenhead. In this way a very disagreeable road is avoided, and the passenger is landed in Liverpool at the same pontoon, as if he had crossed from Birkenhead itself. The fare for two persons, motor bicycle, and sidecar totalled to 7d. only. F. TRAFFORD.

**THE LUGGAGE-CARRYING PROBLEM.**

F. Ellmore (3½ h.p. Triumph) after completing a non-stop run from Beachy Head to Leicester. He tells us that numerous people expressed surprise at the quantity of luggage it was possible to carry, secured to one side of the machine. The bags and contents weigh approximately 120 lbs.

An Explanation.

[5817.]-I find that a number of people imagine my tyre troubles in the Scottish Trials were experienced with Kempshall covers, and in justice to Kempshall Tyres, Ltd., I should be glad if you will allow me to explain.

The Kempshall non-skid on my back wheel was in perfect condition when my carrier broke and cut it in half. Being unable to obtain a spare Kempshall cover at Aberfeldy, I fitted a rear cover of another make. B. H. DAVIES.

Six Days' Lightweight Record.

[5818.]-I notice in last week's issue of *The Motor Cycle* that a Mr. Redding, in letter 5794, speaks of Mr. H. V. Swift "looking after his own machine, not as in the case of an effort made since, having a couple of assistants to do it." As I am the only rider who has succeeded in beating Mr. Swift's lightweight six days' record, the writer seems to refer to me, and I beg to inform Mr. Redding that I had no assistants or help, and that my machine required no "looking after." JAMES MERTON.

Reliability Trial in North Devon.

[5819.]-I have just read with considerable interest the account of the North Devon reliability trial just held, and would like to correct a little misunderstanding in your columns. The Eastbourne Private Motor Tourists organised and carried out a reliability trial in North Devon and Cornwall, and an observed hill-climb on Porlock Hill, last Easter, which were reported in the motoring press. In the climb half of the competitors made the ascent of Porlock, one a single-gear Triumph, and the remainder took the new road to Oor Post. During the trial members of the party on single-gear machines made clean ascents of Barbrook Mill Hill, Lynmouth Hill, and Beggar's Roost.

I shall be glad if you will make this correction on behalf of the E.P.M.T., as I think we are quite the first to conduct a 600 miles trial through that country.

CAPTAIN E.P.M.T.

Hill-climbing.

[5820.]-Regarding the Stelvio Pass I wrote about last week, this pass requires no exaggeration to do it justice, so I should esteem it a favour if you would correct a little misprint, no doubt due to my sending the particulars written with a blunt pencil. The hairpin bends number forty-eight on the ascent and a similar quantity on the descent, which is in Italy. The distance up is sixteen miles, rising from under 3,000 feet to over 9,000 feet, and giving an average gradient of 1 in 13 for the sixteen miles. The letter was sent from an hotel about halfway up, where we spent half an hour imbibing something wet and cold. We, however, did reach the top after having about five stops, three of which were failures, chiefly owing to trying to take some of the corners at over six miles an hour. I may say that I do not think I could ride straight up, even if I had a machine geared 20 to 1 and water-cooled, as I should certainly "fozzle" at least one of the forty-eight corners. W. FAWCETT.

The Question of Water Cooling.

[5821.]-In your issue of July 27th I noticed an article about water-cooling on motor cycles. Although I do not possess a machine, the articles published in *The Motor Cycle* have furnished me with a good knowledge of motor cycles and some of their chief defects.

Disregarding for the moment the favourite old troubles of tyres and belts the motor cyclist's great foes are, to my mind, overheated engine, conking, and sooted plug. Now it seems to me that on the water-cooled engine these troubles are practically done away with. Is this alone not worth the extra weight?

It is certainly strange, but nevertheless true, that a great 30 to 40 h.p. car makes less noise than an insignificant 3½ h.p. motor cycle. How beautifully smooth these cars run, too. If makers could get motor cycles to run as quietly and smoothly as a car, I think that motor cycles, in spite of their present popularity, would become more popular. If water-cooling reduces noise, this is another great point in favour of its adoption. How often I have heard exclamations of disgust at the noise of passing motor cycles, and they have been new ones, too. How often have I and others been surprised at the ease with which a car starts and glides

noiselessly away. Then, again, if water-cooled engines run cooler than air-cooled, does this not mean less oil? And if the efficiency is increased, does this not mean less petrol consumption?

To my mind, the most perfect motor cycle would be a four-cylinder water-cooled one, with either chain or shaft drive—as near approaching a car as possible, the weight being its only drawback. R. GROSE.

Silence—A Sidecar Suggestion.

[5822.]-Having read your leaderette on the first page of last week's issue, which deals principally with silence, I would like to make known my own experience.

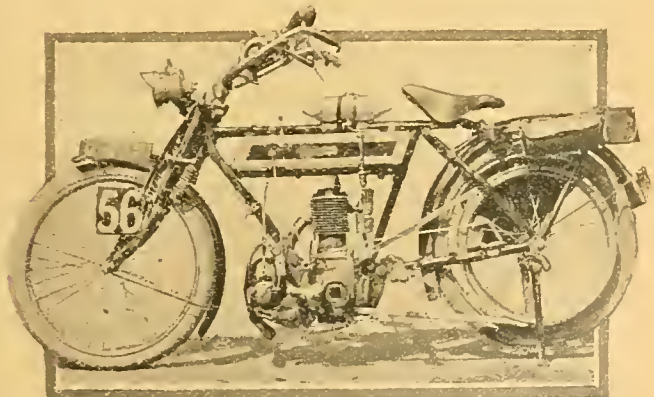
I have a large 8 h.p. J.A.P. combination, and thought at first of having an auxiliary silencer fitted attached to the sidecar, such as you suggest, but before resorting to this somewhat clumsy makeshift I was persuaded to fit a silencer made by Harry Reed, of Dot Motors, Manchester, and have done so with the greatest benefit, for with cut-out closed it is impossible to hear the engine explosions. The only noise to be heard is made by the valves clicking. There is apparently no back pressure whatever, for the engine runs as fast and as cool with the cut-out shut as it does with it open. I might add that the latter attachment is a splendidly thought out arrangement. ERIC LONGDEN.

Compression Ratio for Racing Purposes.

[5823.]-Through the medium of your valuable paper, I should like the experience of other readers on the following points. I have been using a well-known make of twin 7 h.p. for competition work this year, and have been puzzled that the compression seems to be only 40 to 60 lbs. per square inch. I am assured by the makers "that this is quite as high as I can expect," but it strikes me as being very low for racing purposes. I have used an Amac carburetter, which I consider an excellent one, but I find that unless I pass hot air through it moisture collects along the outside of the inlet pipes, and the engine "hunts." It seems curious that this should be so, as Collier uses a similar carburetter on his Matchless, and mine is placed between the cylinders, as in his case. I have also found that the exhaust valves pit badly, especially on the front cylinder, and I should be extremely grateful to anyone who could recommend a make of valve that would stand up to the work. Someone else's experience would be very welcome. SAPPER.

We have received a copy of a long letter written by Mr. Hugh Gibson to the A.C.U. Committee concerning his suspension in connection with his recent End-to-end sidecar record. In it, he points out that although his average speed was twenty-three miles per hour, three-fourths of the journey was on practically deserted roads, and he was never cautioned or challenged by a single policeman.

He lays particular emphasis on the fact that all the Six Days' Trials competitors exceed the legal limit regularly, and Mr. Gibson considers there is much less danger to the public in an End-to-End ride than there is in a six days' trial.



New Models in the Trials. 3½ h.p. Steelhouse-Precision. This machine, which is being ridden by V. Busby, has a Brampton variable gear.

MECHANICAL DETAILS OF THE SIX DAYS' TRIAL MACHINES.

NEARLY all the competing machines in this week's A.C.U. 1,000 miles trial are standard in every respect, and even in the exceptions it is generally only in minor details that any departures have been made. We describe and illustrate below the amendments in design, which will, in most cases, appear on 1912 models.

Scott.

A neat device has been incorporated in the carburettor, which is intended to allow the engine to take the fullest

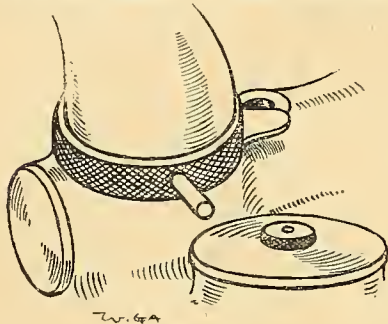


Fig. 1.

possible charge of gas. This device consists of a small lever attached to the swivelling jet cover, as shown in fig. 1, which can be operated by hand, and, in consequence, the air inlet can be added to by the area of the orifice through which the jet is inspected. This hole is some 3/16 in. in diameter, and its opening allows a somewhat larger jet than usual to be employed. The cover is attached to a knurled collar, which fits round the base of the inlet pipe, as shown.

A rather more important detail is the new method of regulating the supply of oil delivered to the engine by the small automatic pump, which is embodied, as described in previous issues of *The Motor Cycle*, in the crankshaft bearings. In

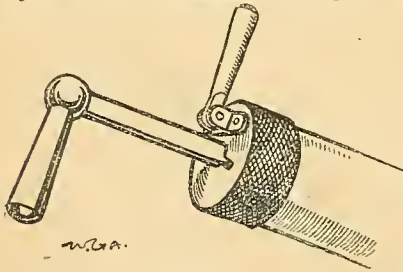


Fig. 2.

previous machines the delivering of lubricant could only be adjusted by the introduction of oil nipples of different sizes, and as this could not be done whilst the machine was being ridden, the oiling system lay under certain disadvantages. These have now been done away with in

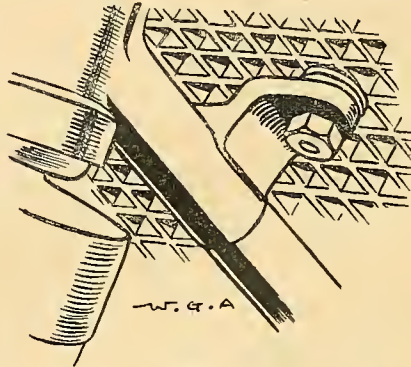


Fig. 3.

a very neat and ingenious manner, which has the very admirable feature of introducing practically no extra complication. The arrangement is as follows:

The pump spindle carries below the leather washers a small extension which

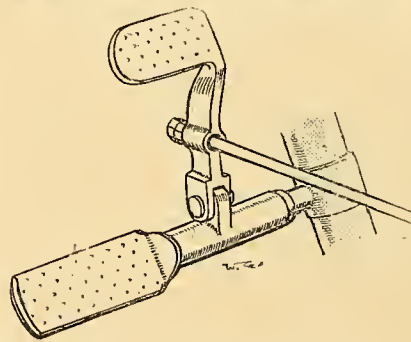


Fig. 4.

bears against the head of a small mushroom valve situated between the gauze filter of the oil inlet and the ports through which oil is fed to the crank chambers. This small valve is held off its seating by a spring, and thus opens to the fullest extent when the pump

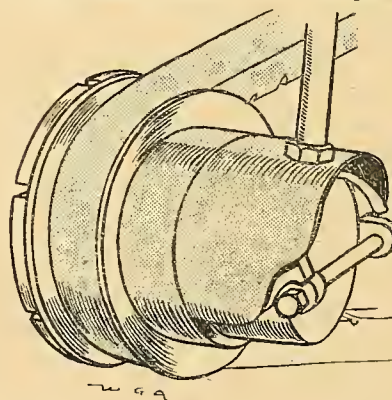


Fig. 5.

plunger is withdrawn. When the plunger is "home," i.e., with its small bayonet pin tucked under the lid of the pump barrel, the valve is open to a certain extent, and the feed to the oil pump is taken through it. A small folding handle is fitted to the barrel cap, and as the latter is screwed, rotation of this cap

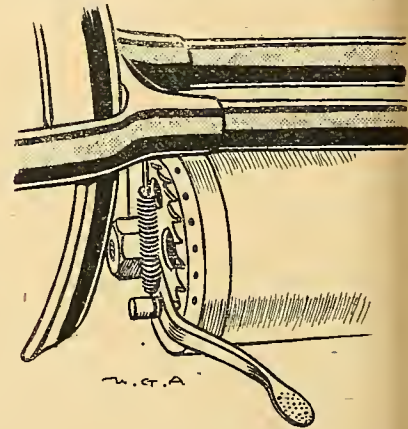


Fig. 6.

causes the plunger to be lifted up or depressed as the case may be. Thus, when the barrel cap is screwed down it carries with it the pump spindle and its extension, and the last-named, pressing upon the valve, decreases the supply of oil permitted to the pump. This neat device entirely overcomes the disadvantages to which the pump-feed is prone.

Another new point in the Scott is the employment of lugs brazed on to the down tubes for the purpose of securing the honeycomb radiator. Previously this was held in position by a couple of clips, which, however, over very bumpy roads had a slight tendency to allow the whole affair to slip. The new arrangement is illustrated in fig. 3.

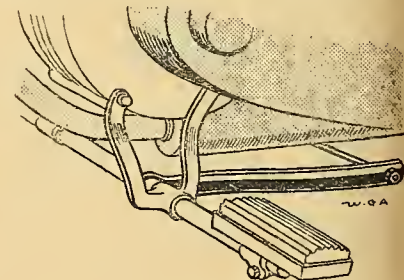


Fig. 7.

Alcyon.

Fig. 4, which is practically self-explanatory, shows the new brake pedal fitted to the Alcyon machine. It is

Mechanical Details of the Six Days' Trial Machines.—

carried out in the simplest possible manner, and is particularly effective when the necessity arises for brake adjustment. The hole in the pedal lever through which the valve is passed is coned out so that the angularity of the lever puts no lateral strain upon the rod.

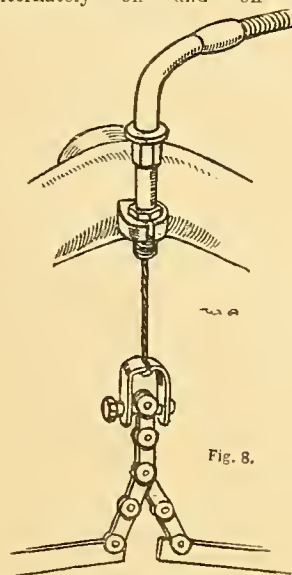
N.S.U.

Fig. 5 illustrates a very ingenious method by which the N.S.U. two-speed gear has been provided with an adjustable pulley on Mr. H. J. M. Hughes's sidecar. The outer pulley flange is, of course, owing to the arrangement of the gear, not available for this purpose, and the adjustment has therefore been incorporated in the inner flange. As shown in the illustration, this flange abuts against a castellated ring working on a left-hand thread, and pulley adjustment is very easily effected with a tommy bar inserted into one of the castellations. The device is so neatly carried out that it scarcely makes any appreciable difference to the appearance of the gear, and we are informed that in practice it gives most excellent results, and that in future it is likely to become a standard fitting on N.S.U. machines.

P. and M.

Two new fitments have been put on the P. and M. machines. They consist of a silencer cut-out and a front wheel stand. The first is illustrated in fig. 6, and is quite a small contrivance attached to the rear end of the silencer. There are two end plates, each of which has four holes, and, whilst the inner one is fixed to the silencer shell, the outer one is rotatable

by means of a ratchet operated by a small pedal. The ratchet is so arranged that the thrust upon the pedal makes the cut-out alternately "on" and "off." The



front wheel stand, which forms an exceptionally neat fitting which is well out of the way until required, is shown in fig. 7. It is pivoted to the footrest bearer in front, and in the rear is, when out of use, clipped to a small lug on the silencer.

Matchless.

Mr. J. Tassell has fitted a novel kind of exhaust valve lifter to his 8 h.p. Match-

less-Jap, which is illustrated in fig. 8. As will be seen, the Bowder wire is conducted through an elbow tube fixed in a lug brazed on to the inlet pipe. The distribution of lift to the exhaust valve levers is accomplished through a branched piece of cycle chain, and the result is a saving in friction and an easiness in operation that is quite remarkable. In fact, in

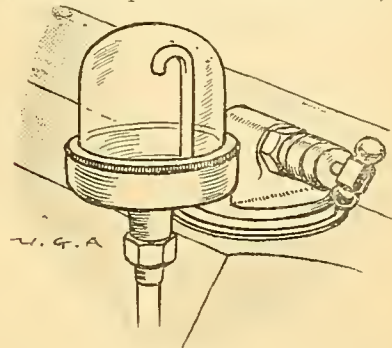


Fig. 9.

spite of the strong springs, the exhaust lift lever can be held up almost with the pressure of a single finger.

L.M.C.

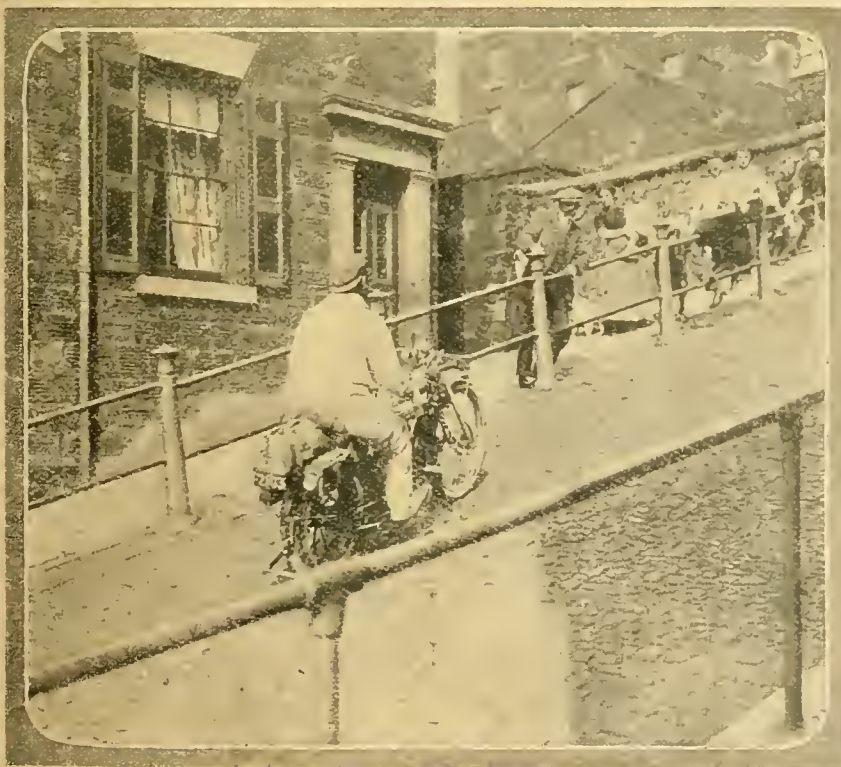
The new type of sight feed oiler fitted to Slaughter's L.M.C. is shown in fig. 9. It operates on a similar principle to that of the J.A.P. drip feed oiler, but owing to the glass dome there is no impediment to its being clearly visible under all conditions. The thumbscrew at the side allows the drip to be adjusted when riding.

CLIMBING SHEFFIELD'S STEEPEST HILL.

F. Dover, of coast ride fame, added yet another laurel to the records he has made on his $3\frac{1}{2}$ h.p. Premier. Last week he climbed Turner's Hill, which has a gradient of 1 in 3, and a surface made up of round cobble stones, and is crossed every ten feet by a gutter running at right angles across the same. Mr. Dover's machine now has an Armstrong three-speed gear. The first attempt was a failure, owing to Mr. Dover letting down the stand of his machine to act as a sprag in the event of the engine failing, but in crossing the second rise—a gutter face—the side of the carrier caught in the nick of a boulder and broke, the side mounting up into the back wheel and throwing the rider over the front. The second attempt proved successful, the speed of the machine being about twelve miles per hour. Mr. Shepard Sawyer, riding a similar machine to Mr. Dover, also made the ascent, and his time was the same as Mr. Dover's. Both are riding their machines in this week's 1,000 Miles Trial.

CUMBERLAND M.C.C. RELIABILITY TRIAL.

A trial from Bassenthwaite to Harrogate for a cup and gold medal took place on August 6th. There was a heavy downpour of rain on the outward journey, and only three checked in at Kendal. The ultimate winner proved to be H. Robinson ($3\frac{1}{2}$ h.p. B.S.A.), two marks lost. W. W. Beck ($3\frac{1}{2}$ h.p. Triumph) being second.



Fred Dover, the coast rider, climbing Turner's Hill, Sheffield, on his $3\frac{1}{2}$ h.p. three-speed Premier. This hill has a gradient of 1 in 3 and, as will be seen, the surface is composed of rough cobble stones. Dover's ascent was the first on a motor cycle.



SIX DAYS

HARROGATE
AS A CENTRE

RELIABILITY TRIALS

Preliminary Preparations.

THIS is written on the eve of the great trial after a busy morning's work. The Clarendon Hotel yard from breakfast to lunch time was full of machines, most of which were undergoing tuning operations, and even at an early hour competitors were putting finishing touches to their mounts, seizing the last few moments that remained, after the lapse of which the time for attention is



The competing machines being examined by the judges in the Clarendon Hotel Yard, Harrogate, the day before the start.

all too limited. Tuning, however, was quite a side line in the morning's work, as the chief duties of the officials were to examine and seal, seal in the blazing sun.

The hotel yard is capacious enough, but lock-up accommodation was scarce, quite as scarce as sleeping apartments, which, in Harrogate, are well nigh impossible to get. The A.C.U. has made a mistake this year in holding the trial so late, as Harrogate is at the height of the busiest season it has had for many a long day. Mr. Nisbet, the ever active and able clerk of the course, was occupied in superintending things generally in his businesslike way. Mr. Sharp, the highly technical judge, was going over each machine in detail, and seeing if it conformed to the official requirements. Most machines did so, and Mr. Sharp told me that his task had been a simple one. There were a few exceptions, however.

Details for Attention.

N. D. Slatter's Alcyon exhausted directly on the ground, which was contrary to regulations, so he had to alter things by covering up the offending holes and drilling fresh ones. Finn's Enfield had a broken carrier, and a couple of chipped radiating fins, damage which had been sustained on the railway. These points were noted so that his record in the trial might not be impaired. Piggott, riding a 6 h.p. Zenith, had no number-plates and no lamp, as he had been touring about the country and had not seen the final regulations. He was told to find number plates, and the machine was allowed to be sealed. Immediately after Messrs. Sharp or Brooker had examined a motor bicycle it was handed over to the sealers, who worked with a will all the morning. Messrs. Ross, Gibson, Abbott, and Boileau were among those

who were busy with seal, wire, and pliers. By lunch time nearly every machine had been examined, sealed, and stored away, and the following men were found to be missing: H. H. Bowen (4 h.p. Bat), A. J. Stevens (2½ h.p. A.J.S.), D. R. O'Donovan (3½ h.p. Singer), G. Riddiough (3½ h.p. P. and M.), and E. B. Ware (Chater-Lea and sidecar). Of these Bowen was badly hurt in an accident, and had to spend several days in a cottage in Keighley; Riddiough is a non-starter.

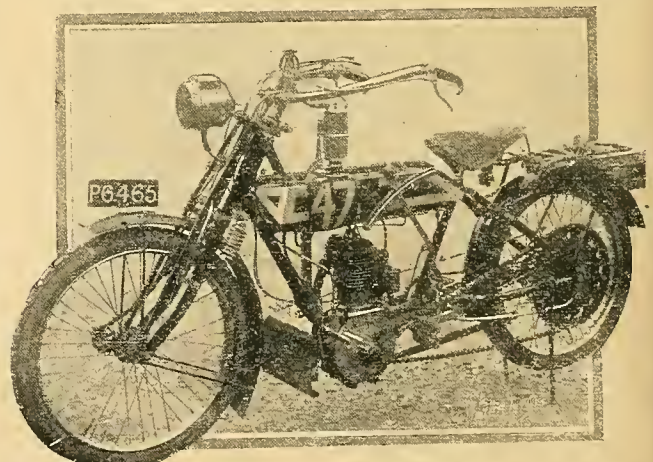
F. Smith has been ill but arrived in time for the start on Monday. Most of the machines are of standard design, there are a few newcomers (most of which we illustrate), but of the well-known makes entered only detail alterations are to be noticed. These are dealt with in a separate article in this issue, illustrated by line drawings.

Monday's Run, 177½ Miles.

The start of the first day's run of the Six Days' Trials was made punctually at eight o'clock on Monday morning, Mr. J. R. Nisbet being the official starter. The machines were arranged in a very businesslike manner round the large yard of the Clarendon Hotel, and as they were in numerical order and had to pass practically one by one through the bottleneck entrance to the yard, there was no hurry or chaos, but just a steady stream of competitors. The machines left in groups of four at intervals of one minute, so that the eighty odd competitors were cleared in about twenty minutes. The non-starters were H. H. Bowen (Bat), D. R. O'Donovan (Singer), George Riddiough (P. and M.), A. P. Mamice (Premier), and E. B. Ware (Chater Lea &c.)

The list of starters, together with a specification of their machines, is given on the next page, from which it will be noticed that practically every well-known make is represented. There were seventy-seven starters, made up as follows: Single-cylinders, 53; twin-cylinders 24. Motor bicycles, 72; with sidecars, 4, and one self-contained passenger machine.

The popularity of belt transmission is shown by the number of machines fitted with this form of power conveyer, 57 being so supplied. Chains were noticeable on 16, and 4 were both belt and chain driven. There are no gear driven machines in the trials, unfortunately. Out of the grand total 58 have variable gears and 19 a fixed ratio.



New Models in the Trials. 3½ h.p. Invincible-Jap, chain driven. This machine is fitted with a V.S. two-speed gear—4½ and 9 to 1. The rider is F. Banks.

COMPLETE LIST OF COMPETITORS AND DETAILS OF THEIR MACHINES.

No.	Entrant.	Make and H.P. of Machine.	Change Speed Gear and Transmission.	Cyls.	Bore and Stroke.	Capacity.	Rider.
*1	W. Cooper	3 $\frac{1}{2}$ Bradbury	Single, belt	1	89 x 89	554	Entrant
*2	A. C. Robbins	3 $\frac{1}{2}$ Humber	2-speed Humber, belt	1	83 x 88	476	Entrant
*3	A. R. Abbott	3 $\frac{1}{2}$ Bradbury	2-speed N.S.U., belt	1	89 x 89	554	Entrant
*4	E. A. Collier	3 $\frac{1}{2}$ Zenith	Gradua variable, belt	1	85 $\frac{1}{2}$ x 85	488	Entrant
*5	C. C. Cooke	3 $\frac{1}{2}$ Triumph	Single, belt	1	85 x 88	499	Entrant
*6	V. Wilberforce	2 $\frac{1}{2}$ N.L.G.	Mabon variable, belt	1	76 x 65 $\frac{1}{2}$	297	Entrant
*7	B. H. Davies	3 $\frac{1}{2}$ Rudge	2-speed N.S.U., belt	1	85 x 88	499	Entrant
8	W. W. Douglas	2 $\frac{3}{4}$ Douglas	2-speed Douglas, belt & ch.	2	60 x 60	340	G. L. Fletcher
9	W. W. Douglas	2 $\frac{3}{4}$ Douglas	2-speed Douglas, belt & ch.	2	60 x 60	340	P. Phillips
*10	R. Owen Wells	3 $\frac{1}{2}$ Bradbury	2-speed N.S.U., belt	1	89 x 89	554	Entrant
12	Enfield Cycle Co., Ltd.	2 $\frac{3}{4}$ Enfield	2-speed Enfield, chain	2	54 x 75	343	H. V. Colver
14	Enfield Cycle Co., Ltd.	2 $\frac{3}{4}$ Enfield	2-speed Enfield, chain	2	54 x 75	343	H. Greaves
15	Zenith Motors, Ltd.	3 $\frac{1}{2}$ Zenith	Gradua, belt	1	85 $\frac{1}{2}$ x 85	488	P. Weatherill
16	Zenith Motors, Ltd.	6 Zenith	Gradua, belt	2	76 x 85	770	J. Haslam
17	Zenith Motors, Ltd.	3 $\frac{1}{2}$ Zenith	Gradua, belt	1	85 $\frac{1}{2}$ x 85	488	R. W. Duke
18	Phelon and Moore, Ltd.	3 $\frac{1}{2}$ P. and M.	2-speed P. and M., chain	1	82 x 88	465	P. Shaw
19	Phelon and Moore, Ltd.	3 $\frac{1}{2}$ P. and M.	2-speed P. and M., chain	1	82 x 88	465	W. Pratt
*20	E. W. Merrill	3 $\frac{1}{2}$ P. and M.	2-speed P. and M., chain	1	82 x 88	465	Entrant
*21	P. W. Moffatt	2 $\frac{3}{4}$ Douglas	2-speed Douglas, belt & ch.	2	60 x 60	340	Entrant
*22	Jack Baker	3 $\frac{1}{2}$ Triumph	Single, belt	1	85 x 88	499	Entrant
*23	C. Williams	3 $\frac{1}{2}$ Triumph	Single, belt	1	85 x 88	499	Entrant
*24	F. Dover	3 $\frac{1}{2}$ Premier	3-speed Armstrong, belt	1	85 x 88	499	Entrant
*25	G. E. Whitworth	2 $\frac{3}{4}$ Royal Enfield	2-speed Enfield, chain	2	54 x 75	340	Entrant
26	A. J. Stevens and Co., Ltd.	2 $\frac{3}{4}$ A.J.S.	2-speed A.J.S., chain	1	70 x 77 $\frac{1}{2}$	298 $\frac{1}{2}$	W. Heaton
27	A. J. Stevens and Co., Ltd.	2 $\frac{3}{4}$ A.J.S.	2-speed A.J.S., chain	1	70 x 77 $\frac{1}{2}$	298 $\frac{1}{2}$	A. J. Stevens
28	Premier Cycle Co., Ltd.	2 $\frac{3}{4}$ Premier	3-speed Armstrong, belt	1	66 x 72	246	J. H. Crieckmore
29	Premier Cycle Co., Ltd.	3 $\frac{1}{2}$ Premier	3-speed Armstrong, belt	1	85 x 88	499	F. G. Edmond
*30	G. G. C. Pigott	6 Zenith	Gradua variable, belt	2	76 x 85	770	Entrant
*31	S. Saver	3 $\frac{1}{2}$ Premier	3-speed Armstrong, belt	1	85 x 88	499	Entrant
32	Scott Eng. Co., Ltd.	3 $\frac{1}{2}$ Scott	2-speed Scott, chain	2	66 x 63	486	F. Philipp
33	Scott Eng. Co., Ltd.	3 $\frac{1}{2}$ Scott	2-speed Scott, chain	2	66 x 63	486	L. S. Parker
*34	Jesse Baker	3 $\frac{1}{2}$ Scott	2-speed Scott, chain	2	66 x 63	486	Entrant
*35	C. P. Finn	2 $\frac{3}{4}$ Royal Enfield	2-speed Enfield, chain	2	54 x 75	343 $\frac{1}{2}$	Entrant
36	James Cycle Co., Ltd.	3 $\frac{1}{2}$ James	3-speed Armstrong, belt	1	86 x 96	557	Tom Pollock
37	James Cycle Co., Ltd.	3 $\frac{1}{2}$ James	3-speed Armstrong, belt	1	86 x 96	557	A. D. Arter
38	James Cycle Co., Ltd.	3 $\frac{1}{2}$ James	3-speed Armstrong, belt	1	86 x 96	557	Howard Newey
39	Rudge-Whitworth, Ltd.	3 $\frac{1}{2}$ Rudge	Rudge variable, belt	1	85 x 88	499	C. S. Burney
40	Rudge-Whitworth, Ltd.	3 $\frac{1}{2}$ Rudge	Rudge variable, belt	1	85 x 88	499	B. Alan Hill
41	Rudge-Whitworth, Ltd.	3 $\frac{1}{2}$ Rudge	Rudge variable, belt	1	85 x 88	499	G. T. Gray
*42	H. Mellor Jameson	3 $\frac{1}{2}$ Zenith	Gradua variable, belt	1	85 $\frac{1}{2}$ x 85	488	Entrant
*43	G. W. O. Ruscoe	2 $\frac{3}{4}$ Forward	3-speed Armstrong, belt	2	56 x 68	338	Entrant
44	Rover Co., Ltd.	3 $\frac{1}{2}$ Rover	3-speed Armstrong, belt	1	85 x 88	499	C. T. Newsome
45	W. T. Munroe	3 $\frac{1}{2}$ Rover	3-speed Armstrong, belt	1	85 x 88	499	Entrant
*46	P. Grout	2 $\frac{3}{4}$ Douglas	2-speed Douglas, belt & ch.	2	60 x 60	340	Entrant
*47	F. Banks	3 $\frac{1}{2}$ Invincible	Single, chain	1	85 x 85	482	Entrant
48	Lloyd Motor Eng. Co., Ltd.	3 $\frac{1}{2}$ L.M.C.	Single, belt	1	85 x 88	499	G. Castagnoli
49	Lloyd Motor Eng. Co., Ltd.	3 $\frac{1}{2}$ L.M.C.	2-speed L.M.C., belt	1	85 x 88	499	S. J. Woolley
50	Lloyd Motor Eng. Co., Ltd.	3 $\frac{1}{2}$ L.M.C.	Single, belt	1	85 x 88	499	J. H. Slaughter
*51	Jo hua J. Day	3 $\frac{1}{2}$ Bradbury	2-speed N.S.U., belt	1	89 x 89	554	Entrant
52	New Hudson Cycle Co., Ltd.	3 $\frac{1}{2}$ New Hudson	3-speed Armstrong, belt	1	85 x 85	482	H. Graham Dixon
53	New Hudson Cycle Co., Ltd.	3 $\frac{1}{2}$ New Hudson	3-speed Armstrong, belt	1	85 x 85	482	T. C. Atkinson
*54	H. E. Ashley	3 $\frac{1}{2}$ L.M.C.	Single, belt	1	85 x 88	499	Entrant
*55	W. Houghton	3 $\frac{1}{2}$ Bradbury	Single, belt	1	89 x 89	554	Entrant
*56	V. Busby	3 $\frac{1}{2}$ Steelhouse-Precision	Brampton variable, belt	1	85 x 88	499	Entrant
57	Bat Motor Mfg. Co.	5 Bat	Single, belt	2	76 x 85	770	S. T. Tessier
58	Bat Motor Mfg. Co.	7-8 Bat	Single, belt	2	85 x 85	964	E. Babington
59	W. H. Eggington	6 Zenith	Gradua variable, belt	2	76 x 85	770	Entrant
*60	F. G. Boddington	4 $\frac{1}{2}$ Precision	2-speed P. and M., chain	1	90 x 96	600	Entrant
61	Humber, Ltd.	2 $\frac{3}{4}$ Humber	2-speed Humber, belt	1	83 x 88	476	P. G. Evans
62	Humber, Ltd.	2 $\frac{3}{4}$ Humber	3-speed Armstrong, belt	2	60 x 60	339	Sam Wright
63	Humber, Ltd.	3 $\frac{1}{2}$ Humber	2-speed Roc, belt	1	83 x 88	476	H. Berwick
66	N. D. Slatter	2 Alcyon	Single, belt	1	62 x 82	248	Entrant
67	N.S.U. Motor Co., Ltd.	3 $\frac{1}{2}$ N.S.U.	2-speed N.S.U., belt	1	85 x 88	499	F. W. Applebee
68	Triumph Cycle Co., Ltd.	3 $\frac{1}{2}$ Triumph	Single, belt	1	85 x 88	499	S. Crawley
69	Triumph Cycle Co., Ltd.	3 $\frac{1}{2}$ Triumph	Single, belt	1	85 x 88	499	W. Croyton
70	Triumph Cycle Co., Ltd.	3 $\frac{1}{2}$ Triumph	Single, belt	1	85 x 88	499	W. F. Newsome
71	Dene Motor Cycle Co.	3 $\frac{1}{2}$ Dene	3-speed Armstrong, belt	1	86 x 88	510	A. Clark
73	A. J. Sproston	3 $\frac{1}{2}$ Rudge	Rudge variable, belt	1	85 x 88	499	Entrant
74	"Quadrant"	3 $\frac{1}{2}$ Quadrant	Single, belt	1	85 x 88	499	T. Silver
75	"Quadrant"	3 $\frac{1}{2}$ Quadrant	Single, belt	1	85 x 88	499	S. Fontaine
76	J. S. Holroyd	2 $\frac{3}{4}$ Motosacoche	Single, belt	1	64 x 75	242	Entrant
*77	W. E. Grange	3 $\frac{1}{2}$ Bradbury	2-speed N.S.U., belt	1	89 x 89	554	Entrant
*79	J. Tassell	8 Matchless Sidecar	2-speed Nala, belt	2	85 x 85	964	Entrant
80	H. F. S. Morgan	8 Morgan Runabout	3-speed Morgan, chain	2	85 x 85	964	Entrant
81	Godfrey and Applebee, Ltd.	7 Indian Sidecar	2-speed Indian, chain	2	82 $\frac{1}{2}$ x 93	994	O. C. Godfrey
82	Clyno Eng. Co.	5-6 Clyno Sidecar	2-speed Clyno, chain	2	76 x 82	643	F. Smith
*83	H. J. M. Hughes	6 N.S.U. Sidecar	2-speed N.S.U., belt	2	75 x 90	796	Entrant

*Signifies private owner.

The teams competing for the team prizes are bracketed.

The A.C.U. Six Days' Reliability Trials.—



Scenes at the starting point. The competitors were sent off in groups of four. Mr. F. Straight will be noticed on the right of each picture, note-book in hand.

First Day, Monday.

Circular run from Harrogate *via* Thirsk, Byland Abbey, Wass Bank (observed hill), Helmsley, Pickering, Whitby, Saltburn, and back *via* Stokesley and Sutton Bank. 177½ miles.

The first day of the great Six Days' Trial was gloriously fine, though in the early hours a mist hung over the country, which cleared off about an hour after the start. On leaving the headquarters, I turned to the left, following part of the Spring Quarterly Trials route. I was mounted on a 3½ h.p. Scott, kindly placed at my disposal by the Scott Engineering Co., which glided along the road in a delightful manner, and later proved itself to be a good hill-climber as well as a most comfortable machine. My companion was Mr. H. W. Fortune, hon. secretary of the Harrogate club, and it was our intention to get well ahead of the competitors and arrive at Wass Bank in good time.

Some few miles from Boroughbridge, whence Fortune struck off on a short way of his own, we stopped for a moment, and after the restart my companion disappeared round a corner, and in a minute I was wondering which of four cross roads he had taken. However, after seeking help from a map and a couple of countrymen, Coxwold, nestling at the foot of the Hambleton Hills, hove in sight, while behind it was the Great White Horse, a well-known, and for me a welcome, landmark for miles around. Just after the village a diminutive water splash had to be negotiated, and a few minutes afterwards that glorious old ruin, Byland Abbey, came into view. Wass Bank was now at hand, and at its foot was Mr. Nisbet's car, bearing Messrs. Ross, Brooker, and McDonald.

The hill, the first to be observed on the day's run, was somewhat disappointing, Sutton, I knew, and Greenhow, I knew, having climbed the latter twice the day before, but save for a hump in the middle of about 1 in 5 there was nought to cause anxiety, save the wicked surface, furrowed with water courses running transversely across the road.

As regards the climb, it is necessary and right to assume that the modern motor bicycle, if well driven (and I am sorry to say some of those competing were not), is a good hill-climber, so I propose only to deal with the really interesting features of the event.

Robbins (3½ h.p. Humber) was very slow, Colver (2½ h.p. Enfield) was missing fire and eventually stopped, Grout (2½ h.p. Douglas) engine missing, and rider had to pedal fairly vigorously, as later one cylinder failed altogether; however, he reached the top. Crickmore (2½ h.p. Premier) and Slatter (2 h.p. Alcyon) were other unsuccessful competitors; while Greaves (2½ h.p. Enfield), who had the same trouble as Colver, was another companion in trouble.

Just at this time an official car appeared, choosing a very inopportune moment at which to climb the hill. G. T. Gray (3½ h.p. Rudge) and B. H. Davies similarly mounted, both

skidded in a rut at the top of the hump. Sam Wright (2½ h.p. Humber) was conspicuous on account of his machine's silent running. Slaughter, on his single-gear L.M.C., made light of the bank; while those fine old veterans of early days, T. Silver and F. W. Applebee (3½ h.p. Quadrants, single-gear) made good ascents. Finn (2½ h.p. Enfield) stopped with plug trouble, while Newsome's 3½ h.p. Triumph jolted the throttle wire off the carburettor and stopped, but its clever rider made a wonderful restart on the 1 in 5 by means of his clutch alone. Hughes (6 h.p. N.S.U. and sidecar) was another unfortunate, as he broke his belt less than halfway up the hill.

On to Helmsley and from thence to Pickering there was nothing to trouble the men. Abbott had a puncture near Wass, but stoppages were few and far between. Some fine moorland country had to be traversed over which a sea fog hung thick and heavy, and it became somewhat cool. Blue Bank was descended, an observed hill in Wednesday's route, and most of the riders took considerable interest in it.

The Fun Begins.

But it was after Whitby that the fun began. First of all a good steep hill had to be climbed to get into the town, and then the road was narrow and hilly, turn succeeding



G. L. Fletcher (2½ h.p. Douglas) plunging through a water splash near Coxwold.

The A.C.U. Six Days' Reliability Trials.—

turn, and hill succeeding hill. Sandsend toll gate was left open by arrangement, and then after negotiating the coast road with its pretty glimpses of cliff scenery Lythe Bank was reached. Here several dismounted, among whom was R. C. O. Wills (3½ h.p. Bradbury), who was obstructed by a dog. Afterwards Hinderwell Boulby Cliff came into sight, but the competitors left it for the main road to Loftus, which was a pity as it is a stiff climb. The rest of the morning's run ended with the zig-zag climb up to the Zetland Hotel, Salthurn, and many complained of its severity. After haggling over petrol, the arrangements for distributing which were chaotic, the men enjoyed an excellent lunch, and then set out for Thirsk via Guisborough and Stokesley.

For many miles B. H. Davies, W. Cooper, and Colver were my companions. Eventually Sutton Bank was reached, and at the foot a large assembly congregated to cool their engines and make a few adjustments. Sutton Bank is a good deal stiffer than Wass, so the number of failures was slightly greater. Early in the procession a car stuck quite low down, but was soon put to one side. Parker (3½ Scott) was the first man to dismount. Colver (2½ Enfield) appeared to let his low speed clutch slip. Finn (2½ Enfield) dismounted. Jameson (3½ Zenith) was baulked by a competitor and failed to make a clean ascent, while poor Holroyd (2½ Motosacoche) was also brought to a standstill. Robbins (3½ Humber), Abbott (3½ Bradbury). Silver (3½

Quadrant), Tassell (8 Matchless and sidecar), Ruscoe (2½ Forward), Woolley (3½ L.M.C.), Slatter (2 Alcyon), and F. A. Applebee (3½ N.S.U.), all shared a similar fate. Crickmore (2½ Premier), pedalled.

The remainder of the journey through Helmsley (check), Oswaldkirk, Easingwold, Boroughbridge, and Knaresborough, presented no difficulties. At this early stage of the run there have been several retirements. A. D. Arter (3½ James) through a broken connecting rod at the foot of Sutton Bank, Piggott (6 Zenith-Gradua) through his machine being generally out of tune, and Hughes (6 N.S.U. and sidecar) through failing to climb Sutton Bank.

Official Results of First Day's Run.

The following is an official list of riders who failed on Sutton and Wass Banks:

SUTTON BANK.—Mills, Robbins, Abbott, Cooke, Wilberforce, Parker, Finn, Arter, Ruscoe, Busby, Applebee, Creyton, and Tassell. Burney was not observed.

WASS BANK.—Colver, Greaves, Banks, Dixon, W. F. Newsome, and A. Clark.

BOTH SUTTON AND WASS BANKS.—Crickmore, Woolley, Slatter, J. S. Holroyd, and Hughes.

Marks were lost on Monday by the following: Robbins, 22; Wilberforce, 24; Fletcher, 3; Burney, 33; Banks, 87; Castagnoli, 36; Stevens, 5; Crickmore, 6; A. Clark, 4; Slatter, 5; Applebee, 11; J. S. Holroyd, 9; and Grange, 18.

PASSENGER MACHINES NEARING THE SUMMIT OF WASS BANK, THE FIRST OBSERVED TEST HILL.



(1) J. Tassell with his 7 h.p. Matchless sidecar.



(2) O. C. Godfrey (7 h.p. Indian sidecar).

Second Day, Tuesday.

Tuesday's run started in fine, dull weather, which turned into glorious sunshine. At midday all left Harrogate except those stated to have retired in yesterday's report, but Crickmore (2½ h.p. Premier) and Banks (3½ h.p. Invincible) have to be added to the list of withdrawals. The beginning of the run was over ordinary country, which became prettier as we penetrated farther into the wilds, but the most remarkable feature of the route was the number of villages in which there were steep hills, the negotiation of which called for a good deal of skill. After Leckburn the road mounted steadily, but the surface was good, as it had been all the morning; in fact, the going, save for at times too many corners, was perfect. Suddenly, without any warning, the beginning of Arkengarthdale Hill—the pass over the moors—was encountered. The observed portion was quite short, and consisted of a bridge, after which the road turned sharply at right angles, then ascended with a gradient of about 1 in 7, finishing with a somewhat severe turn, after which the hill became easy for some distance. The surface was covered with loose granite, rough as any Scottish acclivity. The first to ascend were Philipp and Parker, who did well, but Baker, whose engine suffered loss of crank case compression through a blowhole in the casting, had to assist the machine by heeling the ground with one foot. Stevens came up slowly, but his colleague, Heaton, managed better. Moffatt came up with his stand down, which he cleverly kicked up again. Finn was the first man to have to dismount. Holroyd came up well with pedal assistance. Busby dismounted. Slaughter came up well, but was rather hampered by Haslam. Davies

made quite a sensational ascent, flinging the stones far and wide.

Eggington dismounted and baulked Wilberforce, who cleverly slipped in between him and the edge of the road. Slatter skidded at right angles in the loose stones, but made a smart recovery and a clean ascent. Applebee dismounted and let his machine fall. Silver also dismounted. The remainder ascended the hill in a highly satisfactory manner. Of passenger drivers, Godfrey, F. Smith, and Morgan came up particularly well; the hill, however, was quite a detail in the morning's run, for much worse was to follow. A mile from where I stopped to observe the men the surface suddenly deteriorated, and for many a mile was in an appalling state—so loose and rutty that even on the level and downhill those who had low gears were glad to make use of them. How the lightweighters stood it no one knows, but evidently it will teach the makers how to build colonial models. Part of the road was grass-grown, but that was a quite unimportant detail. In the midst of it all I came upon poor Morgan, whose two-seated runabout had been performing so well. He was put out of the running by a broken chain which could not be repaired in time. The descent from the moorland road into the valley revealed some glorious scenery, the whole country looking beautiful in the bright sunshine, but it was indeed good to have left that terrible road. Scarth Nick, so I am told, is both rougher and steeper than what we have had this morning, but how we fared thereon shall be related next week. Kirkby Stephen was reached about a quarter past twelve, and here lunch was served at the King's Arms Hotel.

CURRENT CHAT

TIME TO LIGHT LAMPS

AUG.	17th	..	8 17 p.m.
"	19th	..	8 12 "
"	21st	..	8 8 "
"	23rd	..	8 4 "

SPECIAL FEATURES

**THE SIX DAYS' TRIALS: HARROGATE AS A CENTRE.
SEVERAL NEW MODELS.**

THE N.W. LONDON M.C.C. TOUR TO LYONS.

An Attempt to Abolish the T.T. Races.

A section of the industry which is opposed to racing is endeavouring to obtain promises from all the firms which have previously engaged in the T.T. Races to hold themselves aloof from next year's events. Should they be successful it will mean that to amateurs alone will be left the task of trying to win back the Trophy which is now held by an American machine.

Coventry Club's Annual Open Climb.

The sixth annual open hill-climb of the Coventry and Warwickshire Motor Club is fixed to take place on Saturday, September 2nd. This event is always among the most important of the year, and a record entry was received for the last event. Six classes are down on the programme as follows:

1. Single-gear single cylinder touring. 2. Lightweights. 3. Tourist

CLIMBING SALTBURN BANK ON THE FIRST DAY OF THE SIX DAYS' TRIALS.

Trophy machines fixed gears. 4. Ladies. 5. Single-gear multi-cylinder touring. 6. Variably geared touring.

Entry forms and full particulars will be ready this week, and copies may be obtained from the hon. sec., Mr. Geoffrey Smith, 19, Hertford Street, Coventry.

The Six Days' Trials.

To lovers of statistics the subjoined table of percentages may be interesting as showing in as brief a form as possible the percentages of the different types of machines, gears, etc., employed in the Six Days' Trials:

Single-cylinders	...	68.83%
Twin-cylinders	...	31.17%
Motor bicycles	...	93.51%
Sidecars	...	5.20%
Runabouts	...	1.29%
Belt drive	...	72.73%
Chain drive	...	22.07%
Belt and chain drive	...	5.20%
Variable gears	...	76.62%
Fixed gears	...	23.38%

M.C.C. Reliability and Brake-testing Trials.

The results of the M.C.C. reliability hill-climbing and brake-testing trials are:

Winner of Mrs. Jarrott's prize.—W. Pratt (3½ h.p. P. and M.), who also won a gold medal.

Winner of cup presented by Mr. H. F. Hull.—No award.

Winners of silver medals.—E. Kickham (2½ h.p. Douglas), G. L. Fletcher (2½ h.p. Douglas), Eli Clark (2½ h.p. Douglas), and Rex G. Mundy (3½ h.p. T.T. Triumph).

Winners of bronze medals.—E. Pond (3½ h.p. Rudge), P. H. Bentley (3½ h.p. Triumph), R. B. Clark (5 h.p. Indian), F. C. Wasley (2½ h.p. Douglas), and F. Smith (5-6 h.p. Clyno and sidecar).

Hill-climbing.

J. N. Longfield (3½ h.p. T.T. Triumph) won the Ilkley and District M.C. hill-climb last Saturday.

A. L. Ommaney on a variably-gear Rudge made an observed climb of the Wrekin last Tuesday.

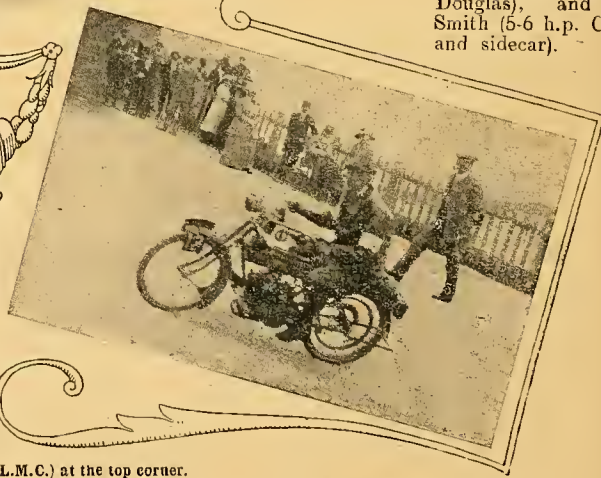
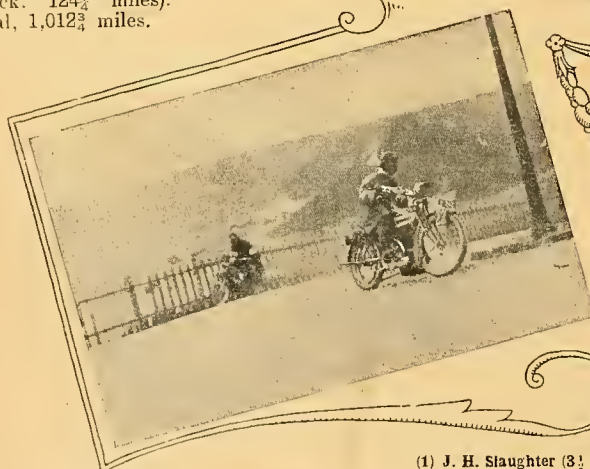
Six Days' Trials, Routes.

The routes for the remaining three days of the trials are:

THURSDAY.—Leave Harrogate, Knaresborough, Boroughbridge (check, 37 miles), Greenhow Hill (observed hill), Grassington (check, 67 miles), Settle (84 miles, lunch at Commercial Hotel), Horton-in-Ribblesdale, Aysgarth (check, 115½ miles), Kidstones Pass (observed hill), Bolton Bridge (check, 148 miles), Harrogate (177 miles).

FRIDAY.—Harrogate, Wetherby, Tadcaster, Otley (check, 35½ miles), Ilkley, Heaton Woods (observed hill), Haworth, Colne (check, 71½ miles), Settle, Hellifield, Burnsall (check, 113½ miles, lunch at Fell House Hotel), Brown Stay Ridge (observed hill), Masham (check, 137¼ miles), Thirsk, Boroughbridge (check, 162½ miles), Harrogate (check, 172¾ miles).

SATURDAY.—Harrogate, Harewood, Selby (check, 33¾ miles), Great Driffield (check, 73¼ miles), York (check, 101¼ miles, lunch at Royal Station Hotel), Wetherby, Harrogate (check, 124¼ miles). Total, 1,012¾ miles.



(1) J. H. Slaughter (3½ h.p. L.M.C.) at the top corner.

(2) J. Baker (3½ h.p. Triumph) rounding the same corner.

(3) H. V. Colver (2½ h.p. two-speed Enfield).

The London Strike.

During the strike last week a motor cycle carrier owned by the Great Western Railway Co. was smashed up by the strikers.

Stolen Machines.

We are informed by Mr. Robert Coleman, 22, Ashdale Road, Terenure, Dublin, that his $2\frac{3}{4}$ h.p. Model E Douglas, engine No. 1993, was stolen from the above address on July 30th. The registration No. is IK 473.

Belgian Road Race.

The result of the Belgian motor cycle race, held on the 6th inst., is that Sarellea machines finished first, second, and third. The result was decided on a formula, $P \times C$

$\frac{V}{C}$, P being the weight of rider and machine, V the speed in metres, and C the cubical capacity.

World's Record Speed.

The fastest speed yet accomplished on a motor bicycle of any power now stands to the credit of an Englishman, C. R. Collier last Saturday annexing three records and attaining a speed of 91.37 m.p.h. The natural question is, why did not Collier attain such a speed in his match with de Rosier? The answer seems to be that C. R.'s J.A.P. engine had only had one week on the road prior to the international match, but is now getting run in. Who said it is not in the air, but in the engine?

British Imports of Motor Cycles.

The imports of foreign motor cycles during July compared with previous years were:

	1909.	1910.	1911.
Motor cycles—	£3,578	£4,090	£2,971
Parts thereof—	£4,799	£4,622	£7,267
	£8,377	£8,712	£10,238

For the seven months ending July 31st the figures show a steady increase. The values were:

	1909.	1910.	1911.
Motor cycles—	£27,202	£31,064	£31,499
Parts thereof—	£16,535	£32,966	£40,680
	£43,737	£64,030	£72,179

British Exports Increase Enormously.

The exports for last month are given hereunder:

	1909.	1910.	1911.
Motor cycles—	£4,388	£9,642	£24,411
Parts thereof—	£2,376	£2,358	£5,249
	£6,764	£12,000	£29,660

During the seven complete months of this year our exports have increased over 100% compared with the corresponding period of last year. Details:

	1909.	1910.	1911.
Motor cycles—	£24,202	£53,661	£120,289
Parts thereof—	£18,893	£21,364	£35,642
	£43,100	£75,025	£155,931

Track Racing at Cambridge.

The results of the three races at Cambridge Mammoth Sports on the 8th inst. are:

Five Miles Open Handicap.—1, Harry Martin ($2\frac{3}{4}$ h.p. Martin-Jap); 2, Storey ($2\frac{3}{4}$ h.p. Caeco); 3, P. V. Wallis ($2\frac{3}{4}$ h.p. Vin). Time, 8m. 44 $\frac{3}{4}$ s.

Three Miles Open Handicap.—1, Harry Martin ($2\frac{3}{4}$ h.p. Martin-Jap); 2, P. V. Wallis ($2\frac{3}{4}$ h.p. Vin); 3, F. W. Dayrell ($2\frac{3}{4}$ h.p. Martin-Jap). Time, 5m. 15 $\frac{3}{4}$ s.

FUTURE EVENTS	
Aug. 26—	Mersey M.C. Open Hill-climb.
Sept. 2—	M.C.C. Members' Hill-climb.
" 2—	Coventry and Warwickshire M.C. Annual Open Hill-climb.
" 9—	Torrey M.C.C. Annual Open Hill-climb.
" 16—	Auto Cycle Union Inter-club Championship, in the Midlands.
Oct. 12—	The Motor Cycle Special Colonial issue.
" 14—	A.C.U. Quarterly Trial (Midland centre) fourth and last of 1911 series.

Five Miles Open Scratch Race.—1, Harry Martin ($2\frac{3}{4}$ h.p. Martin-Jap); 2, P. V. Wallis ($2\frac{3}{4}$ h.p. Vin); 3, F. E. Barker ($2\frac{3}{4}$ h.p. Brooklands). Time, 8m. 44 $\frac{3}{4}$ s.

A somewhat unusual accident occurred in the final of the last race. H. Potter had his left foot jolted off the footrests and caught in the belt, partly locking the wheel and causing his machine to skid. Both rider and machine dashed into the crowd, and a lad was knocked down and injured. Potter escaped with a few bruises and a sprained finger.

A three lap scratch obstacle race in which competitors had to change plugs and bol for apples, resulted in a win for W. Chitty (J.A.P.), who was very smart in changing plugs. Dayrell (Martin) was second, and W. Hodgkinson (J.A.P.) third.

B.M.C.R.C. Brooklands Meeting.

The next meeting of the B.M.C.R.C. will take place at Brooklands on Saturday, the 26th inst. We understand that there was some grumbling at the prices charged for admission at the last meeting, on the occasion of the de Rosier-Collier matches, but the expenses of running this meeting on account of the amount of the prize money were very great, and when the accounts were settled up the club was only 1s. 5d. to the good. At the meeting next week the usual charges will be in vogue, namely, 1s. per head, and no charge will be made for machines. The events are: 3 p.m., the Second 1911 Time Trials. 4 p.m., the Omniclass Hour Race.

Serious Bridge Complaint.

Communication ways between Lancashire and Cheshire are all too few, considering the thousands of cycle, motor cycle, and car users who ride out of the former county into the other, the latter having attractions in the shape of far superior roads. The pretty village of Lymm is a very popular resort for wheel travellers between the two shires, but it has narrow and tortuous approaches, and streets that demand careful going. Hard by the old village, on the Warrington side, is a bridge of the type that is most strongly condemned by all motor cyclists; indeed, the C.T.C., N.C.U., A.C.U., and A.A. and M.U. ought to unite in protestations. The bridge is only wide enough for one vehicle, and has a hump which prevents traffic on one side seeing what is coming up the other side of the hump. Cars and motor cycles must be rushed over, if they are to surmount the top bit of 1 in 4 or 5 gradient, and should two vehicles meet it is only by a violent application of brakes that a smash can be avoided. It may be argued that road users from each side ought to sound their horns freely. Even so, the antiquated bridge wants replacing with something up to date, and a constant source of public danger permanently removed.

**THE GREAT LONDON STRIKE.**

The above is a scene outside the Smithfield meat market. The carmen would not return to work until all the other strikers had had their grievances settled, so an enterprising butcher utilised his twin Rex motor cycle and sidecar to carry his supply of meat. He is seen loading up the sidecar with sheep.

THE NEW TWO-SPEED BRADBURY.

It is some weeks since we referred to the fact that Bradbury and Co., Ltd., Oldham, were experimenting with a countershaft two-speed gear, and it was hoped that one of these

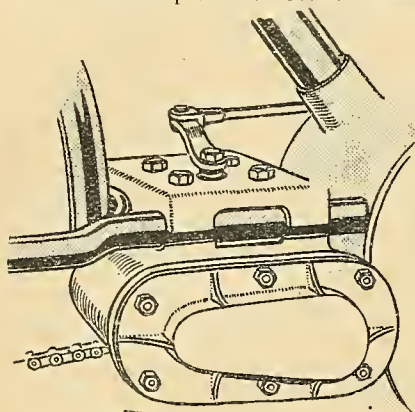


Fig. 1.—The new Bradbury countershaft two-speed gear box.

machines would be ready in time for the Six Days' Trial. At the last moment, however, it was decided not to allow it

to take part, although it was driven to Harrogate for the start, where it was keenly examined.

The new model is chain driven, and a few notes of its new points cannot fail to be interesting. A shock-absorbing sprocket on the engine shaft (shown in fig. 2) transmits power through a chain to the gear box which is situated immediately behind the engine and supported on the chain stays as shown in fig. 1. This box gives two speeds and a free engine on the same principle as the old Riley and Humber tricar gear boxes, that is to say, the transmission is direct on high gear and indirect on low, the pinions being thrown into engagement by positive dog clutches, the lever for operating which passes through the lid of the box. The gears are always in mesh, and the shafts have ball bearings throughout, a double row being fitted to the main shaft at its driving end. Fig. 2 shows the arrangement of pedal by which the change of gear is actuated. Pressing the rear pedal down engages the high gear. A Villiers plate clutch is embodied in the back hub, and is operated from the handle bar, the lever being provided with a ratchet so that the clutch can be set to slip to any desired degree. A start-

ing handle driving the fixed clutch member though a chain is attached to the chain stays, and can be operated with the foot.

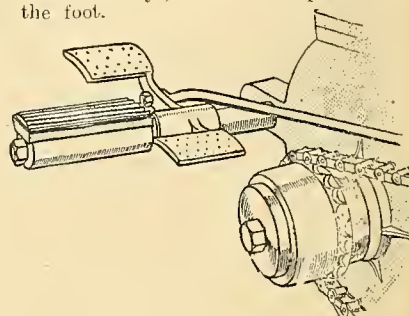


Fig. 2.—Shock-absorbing engine sprocket.

The bicycle part of the machine is similar to the standard Bradbury, the engine measuring 89 x 89 mm. This machine when placed on the market should be in great demand for sidecar work. We note with pleasure the continued interest which this firm displays toward passenger machines, particularly as the Bradbury tricar of early days was one of the best.

HINTS AND TIPS FOR MOTOR CYCLISTS.

By ROAD RIDER.

MENDING WATERPROOF LEGGINGS.

363. It is a simple matter to repair waterproof overalls when the damage is young, though it is impossible to repair them neatly. The edges of the cut should be lightly drawn together with a needle and cotton. No strain must be put on the thread, or it will rip through the fabric. Then the leg may be turned inside out, and a large patch solutioned on to the reverse side, exactly as in mending a tyre. The "prepared" canvas found in the tyre outfit is a good material for repairing stout overalls. For the lighter patterns use sheet rubber cut

from an old cycle inner tube. A similar method may serve for the repair of waterproof reefer jackets, but if the parts around the buttons or pockets are thus repaired, they should be thoroughly stitched up first by a clever needlewoman, and, in this instance, the stitches should be allowed to remain. After repairing leggings, I usually cut the cotton out when the solution has dried.

TO MAKE A CYLINDER WASHER.

364. When a cylinder is taken off for the removal of carbon deposits, the paper washer between the cylinder

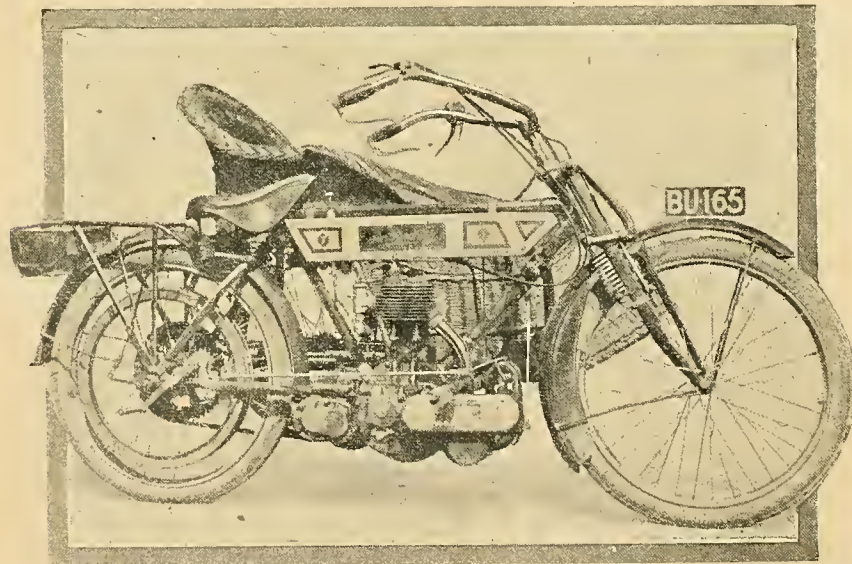
spigot and the top of the crank case is usually torn, and requires replacement. It is an awkward job to mark out a new one in pencil on a sheet of paper, and then snip it round with a pair of scissors. A perfectly fitting washer can be made in a few minutes by the following old engineering shop dodge. Take a sheet of brown paper a little larger than the required size, lay it over the cylinder spigot, and stretch it taut. Then take a very light hammer, and tap the paper gently against the edges of the cylinder spigot and the four holding-down bolt-holes. The taps will cut the paper through against the metal, and a perfect washer will be obtained in a very few seconds. Soak it in oil, and refit it in its proper position.

TO PREVENT PETROL SPRAYING FROM FILLER CAP VENT.

365. There are many ways of preventing petrol spraying from the vent in a filler cap, the most popular being to solder a small hub lubricator over the vent hole on the under side. The simplest of all is to remove the leather washer from the inside of the filler cap, and cut it in two. The cutting line should be a chord of the circle, coming about midway between centre and circumference. Lay the smaller piece of leather across the inside of the cap, and lay the larger piece over it, and at right angles to it. This will cure petrol spraying or oil oozing.

THE N.S.U. TWO SPEED GEAR.

366. Users of the N.S.U. gear need never be afraid of over-lubricating it; the gear will swiftly throw out any excess, which is caught by the shield at the foot of the control lever, and deflected harmlessly to the ground. If the gear be under-lubricated, on the other hand, there is some danger of the planet pinions seizing on their spindles.



The new 3 1/2 h.p. two-speed chain driven Bradbury described above.

SENSATIONAL RECORD-BREAKING.

C. R. Collier rides a mile at 91.37 miles an hour—the fastest speed ever accomplished on a motor cycle.

B RITISH motor cyclists have cause to rejoice in that C. R. Collier, the brilliant Matchless-Jap exponent, has gained from the smart American rider all the records the latter hoped would remain unconquered for some time after his departure. Collier and de Rosier last met on the occasion of the little dinner at Frascati's, which was reported in our issue of last week, and there was nothing in the quiet demeanour of the former to indicate that in just over a week he would have accomplished that which would set the whole motor cycle world a-talking.

In their usually quiet and businesslike way, the Colliers went to work. Not a word was said to anyone, and on Saturday morning last the news flashed round, and caused a great stir among those who keenly follow the pastime.

Friday evening was ideal for record-breaking; what little wind there was blew in favour of the rider, and the weather was typical of what we have been having this glorious summer.

The day was a memorable one for Matchless motors, who have regained the lead for England, and we offer the Messrs. Collier our most sincere congratulations.

Collier's first attempt was on the five miles flying start record, standing at 3m. 43s. After riding a lap to get up speed, he completed the five miles in 3m. 35s. = 83.72 miles per hour, which is British record, the American record for this distance being 3m. 29½s., made by J. de Rosier, at Los Angeles, California, on February 7th, 1911.

The next attempt was on the kilometre flying start of 25½s., made by de Rosier the day previous to his leaving for America. Starting from the fork, Collier was soon going well, and shooting under the members' bridge he came off the banking to the railway straight at a terrific speed, but almost on the kilometre mark his engine seemed to lose its hum, due to the air lever shifting after striking a bad bump. Collier's time for the kilometre was 25s. = 89.48 m.p.h., being world's record.

After returning to the fork to shorten the belt, Collier next attempted the mile. This attempt was even a finer spectacle

than the kilometre, as the engine seemed thoroughly warmed up to its work, and gave out an even roar the moment he shot from under the bridge. His speed was such that, taking the banking after leaving the railway straight, his machine was well up above the 50 feet line used by cars. Collier's time for the flying mile was 39½s. = 91.37 miles per hour, another world's record, and the fastest speed ever attained on a motor bicycle. This beats de Rosier's record of August 4th by 1½s.

At the completion of the attempts, the brothers Collier showed no signs of pleasure; if anything, they were rather sad at the thought that they had not sufficient time previous to the match with de Rosier to do what they have now done with their machine.

The machine was the Red Matchless as used in the three matches with de Rosier, fitted with a twin-cylinder J.A.P. engine, No. 10,516, size 90 × 78.4 mm., Amac carburetter, Bosch magneto, Hutchinson tyres, and Gloria belt. Vacuum oil and Pratt's spirit were used.

RECORDS BY C. R. COLLIER.

Flying kilometre, 25s. = 89.48 m.p.h., world's record.
Flying mile, 39½s. = 91.37 m.p.h., world's record.
Flying five miles, 3m. 35s. = 83.72 m.p.h., British record.

PREVIOUS BESTS.

Flying kilometre, 25½s. = 88.77 m.p.h., J. de Rosier, August 4th, 1911.
Flying mile, 40½s. = 88.24 m.p.h., J. de Rosier, August 4th, 1911.
Flying five miles, 3m. 43s. = 80.72 m.p.h., J. de Rosier, July 8th, 1911.

Above were timed by Messrs. A. V. Ebbelwhite and A. G. Reynolds, official timekeepers to the A.C.U., who were careful to observe that Collier kept his course outside the ten feet line.

The evening was warm and sultry, and if any breeze blew at all it was behind the rider on the railway straight.

A FREAK CLIMB.

Hanson Knabs Hill, leading from Dovedale, at Dove Holes, to Hanson Grange, has hitherto defied all motor cyclists' attempts to climb it, so we are told, and we can well understand the veracity of the statement when the state of the boulder-strewn surface is considered. (See illustrations below.) A. Ainsworth, riding a variably geared Rudge, claims to have accomplished the first ascent, which must be

considered a really wonderful achievement, not solely on account of the steep gradient, but on account of the vile surface. We do not recommend any reader to attempt to emulate Mr. Ainsworth's feat, unless he has no regard for his machine or tyres; in fact, we marvel how the rider kept in the saddle. The gorge is 1,000 yards long, and in some places the gradient is 1 in 3.



Albert Ainsworth, of Ashbourne, climbing Hanson Knabs Hill, Derbyshire. The surface of this incline appears to be a boulder-strewn grass track. See paragraph above.

CLUB NEWS



Sheffield and Hallamshire M.C.C. Reliability Trial which started from Millhouses, where our photograph was taken.

Herts County A.C. (Motor Cycle Section).

The results of the timed hill-climb at Oxenholme were: 1, G. S. Carter (5 h.p. Matchless); 2, C. C. Cooke (3½ h.p. Triumph) and E. A. Colliver (3½ h.p. Zenith).

Cork and District M.C.C.

The results of the reliability trial to Limerick and back, held recently by the above club, were: 1, P. A. Egan (3½ h.p. Triumph); 2, S. R. Hosford (2¾ h.p. Enfield); 3, J. Atkinson (3½ h.p. B.S.A.).

High Wycombe and District M.C.C.

The Hugo Cup competition was run off recently, and resulted as follows: 1, G. Hugo (3½ h.p. P. and M.), cup and gold medal; 2, H. Eccles (4½ h.p. Minerva), Palmer cover kindly presented by Palmer Tyre, Ltd.; 3, E. Gibson (3 h.p. Quadrant), silver medal; 4, R. Pugh (4 h.p. Stevens), bronze medal.

Derby and District M.C.C.

There were eleven entries for the speed trials on August 5th, the winner on handicap being D. C. Bolton (2 h.p. Martin), second A. Ainsworth (3½ h.p. Rudge).

The Henmore Cup Trial was a most interesting and enjoyable affair. The route was laid from Ashbourne to Wirksworth, and return *via* Cross o' th' Hands Hill. Harry Baker (3½ h.p. Triumph) and Edgar Russell (3½ h.p. Bradbury) tied on points, Baker winning the re-run.

North-Eastern A.A.

The following is the result on formula of the reliability trial held in conjunction with Newcastle and District Motor Club on the 7th inst.: 1, G. B. Hall (3½ h.p. Matchless); 2, G. Raper (2½ h.p. two-speed A.J.S.) and R. Crosier (3½ h.p. Ariel); 4, T. Smith (T.T. Triumph).

Sheffield and Hallamshire M.C.C.

The members of the above club held a series of reliability trials on Saturday last. Route Millhouses, Baslow, Buxton, and back to Hathersage. The result was that Mr. Durant's team won with 41 points, Mr. Stacey's team being second with 21 points.

Westmorland M.C.C.

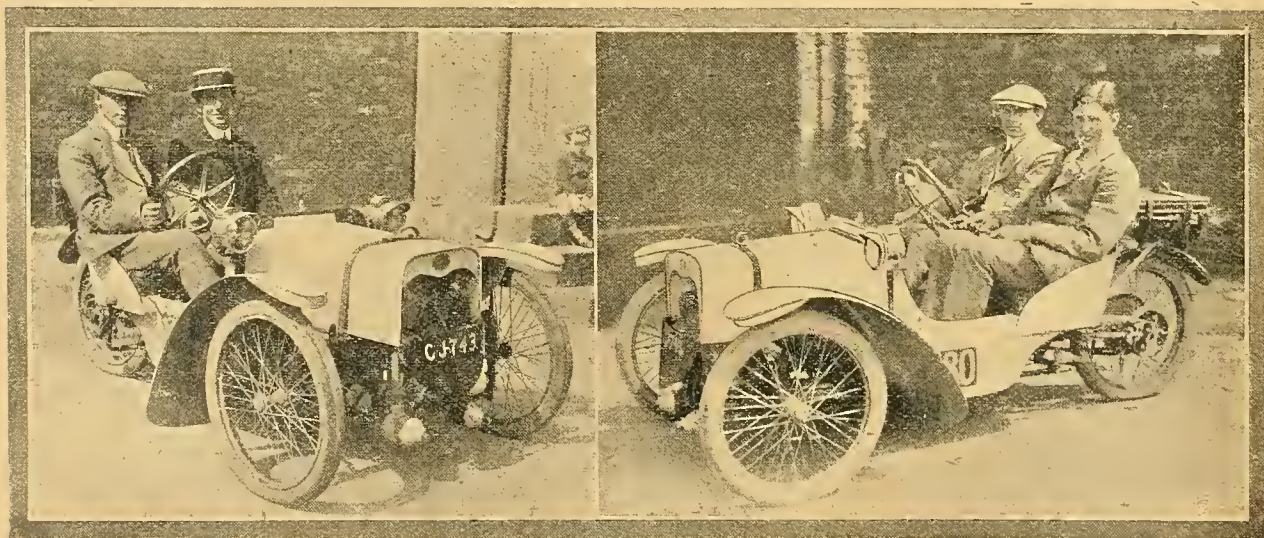
The results of the hill-climbs up Brigsteer Brow (a) on August 8th, and Underbarrow Scar (b) on August 10th were respectively as below:

(a).—1, H. Westwood (3 h.p. Triumph); 2, J. W. Somerwell (3½ h.p. Triumph); 3, J. Braithwaite (3½ h.p. Braithwaite). Fastest time of day, G. A. Gregson (8 h.p. Bat-Jap).

(b). Single Class.—1, J. W. Somerwell (3½ h.p. Triumph); 2, W. Westwood (3½ h.p. Triumph); 3, L. Pierce (3½ h.p. J.A.P.).

Twin Class.—1, J. W. Nelson (3½ h.p. Scott); 2, L. S. Parker (5 h.p. Indian).

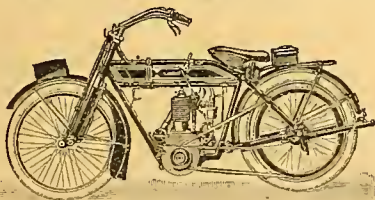
Variable Gear Class.—1, G. W. Braithwaite (3½ h.p. Zenith). Fastest time by Hugh Gibson (3½ h.p. Bradbury).



New models in the Six Days' Trials. First appearance in competition of the 8 h.p. Morgan two-seater runabout.

OLD ESTABLISHED but ALWAYS UP-TO-DATE.

1911 IN STOCK.



H.P.	DELIVERIES.	l.	s.	d.
3½	BRADBURY (standard)	48	0	0
3½	ditto T.T.	50	0	0
3½	ditto 2 speed	55	0	0
2½	DOUGLAS (D)	39	18	0
2½	ditto 2 speed	48	0	0
3½	REX	45	3	0
3	WANDERER	45	3	0
1½	ditto (Magneto)	36	15	0
2	HUMBER	37	0	0
2	ditto (Soiled)	34	0	0
2½	MOTOREVE	45	3	0
3½	HUMBER (2 speed)	50	0	0
3½	ROVER (free engine)	55	0	0
2½	2-speed ENFIELD	52	10	0

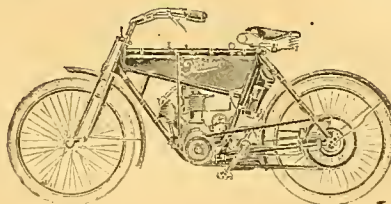
CLYNO, 10 days. 3½ h.p. P. & M., 10-14 days.
ZENITH, 3½-6 h.p., 10 days.

SERVICE SIDE CARS, £6 6s. 0d.
from Stock to suit all Motor Cycles.

We also have a large selection of Second-hand Machines—write for list stating requirements. Our Cash, Exchange and Extended Payment Terms are absolutely the best in the trade.

The SERVICE CO., Ltd., 292-3, High Holborn, London, W.C.

The WANDERER.



The WANDERER Motor Cycle is admitted to be the ideal machine by all who have tried it. It is unsurpassed for reliability and efficiency, which is proved by the fact that it has probably gained **more awards** in competitions in proportion to entries **than any other machine**. Don't accept our statements but avail yourself of our month's approval terms. Liberal allowances for old machines in exchange or supplied on our extended payment terms.

THE CHOICE OF AN OIL.

Judging by the remarks in one or two letters recently received, there appears to be an impression in the minds of a few experienced riders that our Huile de Luxe, whilst a brilliant success for speed work, is not as suitable as our Motorine for general touring.

As a matter of fact, Huile de Luxe is superior to Motorine for machines such as the Triumph, Rudge, Premier, and Norton, and for most of the lightweights. We have pleasure in referring to Mr. Harry Long's magnificent total of 20,000 miles in six months on a 3½ h.p. Triumph, lubricated throughout with Huile de Luxe. The engine was recently examined by the Triumph Co., who reported that the lubrication was absolutely perfect.

Huile de Luxe although comparatively light in body, which means free running, is very rich in refined neutral fatty matter, a constituent that ensures the minimum of carbon deposit and almost entire freedom from sooted plugs provided that reasonable care is taken in lubrication.

Another point of importance to the tourist is the fact that fatty oils when heated retain their lubricating efficiency better than pure hydrocarbons. Wear of the bearings must therefore be less with Huile de Luxe than with an oil that is lacking in fatty matter.

PRICE'S PATENT CANDLE CO. LTD.,
BATTERSEA, LONDON, S.W.

Hub Lubricant—post free—½ lb. tins, 9d.; 1 lb. tins, 1/-



We have emphasized the merits of the
BROOKS PLUG

Now, we show it you in section—

Its design we claim to be perfect for its purpose and its efficiency unequalled, and that claim is supported by these facts—

It is perfectly gastight—**without packing**—its body is of rustless steel—its insulator of the finest glazed steatite—its electrodes of pure nickel and—

It will successfully withstand the hottest of the intensely hot sparks associated with the modern ignition systems.

You would like to know more—then ask for leaflet.

J. B. BROOKS & CO., LIMITED

(Makers of the World-famed Brooks Saddles),

7, CRITERION Works, BIRMINGHAM.

W.H.W.

In answering these advertisements it is desirable to mention "The Motor Cycle."

Club News.—

Torbay M.C.C.

The first annual open hill-climb under A.C.U. licence and rules takes place on Saturday, September 9th. This being the first open event organised by the club it is hoped all motor cyclists in the surrounding districts will compete; representatives of the trade are specially invited. There will be about nine classes, including a passenger class, and one for ladies. Full particulars will be published later. The secretary is Mr. A. Powel, 37, Fleet Street, Torquay.

Surrey M.C.C.

The reliability competition from Farnham to Lyme Regis and back, held on the 19th ult., resulted as follows: 1, C. J. Feeny (3½ h.p. Triumph), error 2m. 5s., McNab Cup; 2, H. R. Owtram (3½ h.p. Triumph), error 3m. 30s., gold medal; 3, A. L. Ommanney (3½ h.p. Rudge), error 4m. 5s., silver medal; 4, L. Kennard (3½ h.p. Zenith), error 15m. 10s., bronze medal. The errors represent the results of timing at Winchester, Ringwood, and Dorchester on each journey, in addition to the terminal controls.

Tunbridge Wells and District M.C.C.

A most successful reliability trial at the schedule speed of 20 m.p.h. was held on the 29th ult. over a course of some forty-three miles. The Kempshall Tyre Co. of Europe presented the first two prizes, while the third prize was a Lyso rubber belt, kindly given by Lycetts, Ltd. The results were as follow: 1, H. S. Boghurst (3½ h.p. B.S.A.), 30s. error; 2, R. Carey (3½ h.p. Ariel), 2m. 30s. error; 3, H. B. Stevens (3½ h.p. Triumph), 3m. 30s. error.

Further reliability trials will be held on Wednesday, August 30th, and Saturday, September 2nd.

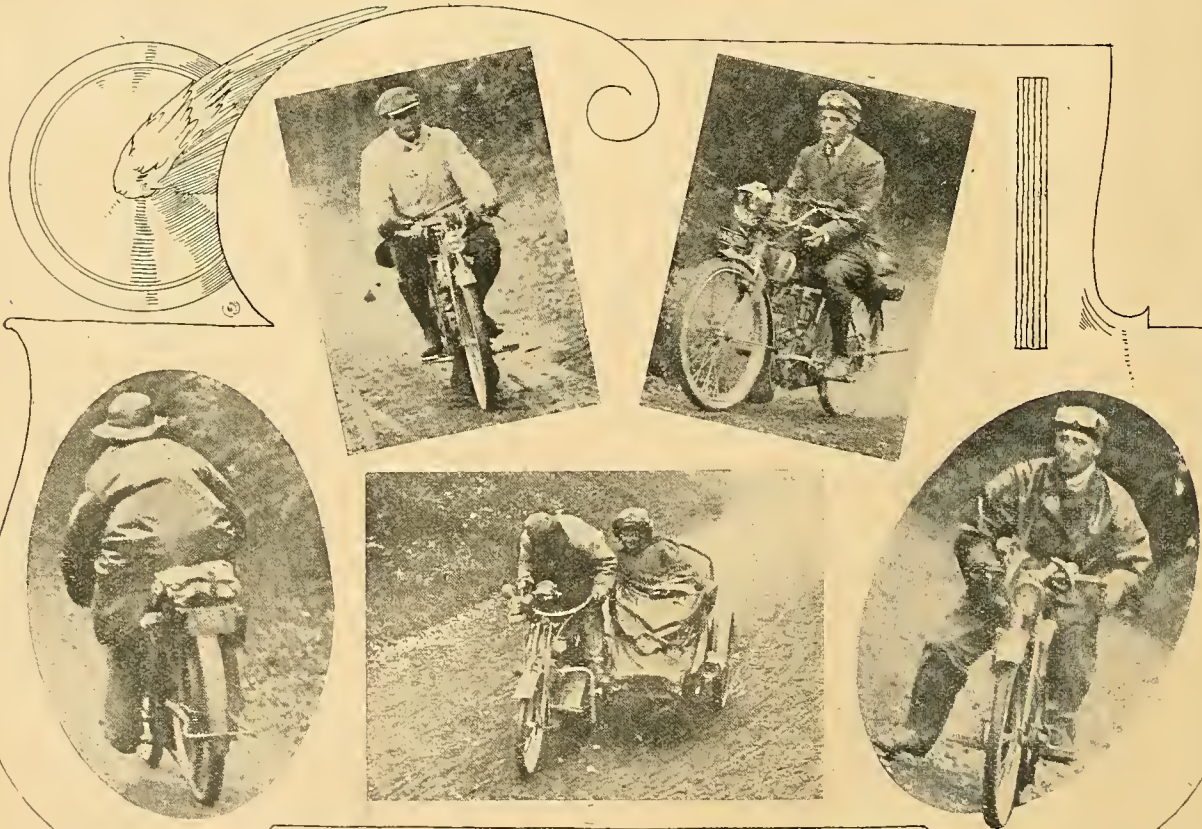
Newcastle and District M.C.

Twenty entrants started in the club's annual two days' reliability trial to Stranraer and back on the 6th and 7th insts. The first check was at Brampton (47½ miles), and the secret control three miles from Castle Douglas, at which point all were checked with the exception of Dawson (5 h.p. N.S.U.), whose belt rim had dropped off, leaving him *hors de combat*. Dinner was taken at New Galloway, and here many casualties were reported. Atrocious weather had been experienced, rain pouring down, and the only competitors who had not lost marks were Crosier, on a brand new Ariel, and Roper, whose new A.J.S. was used direct from its packing case. The day's run finished at Stranraer (162½ miles from Newcastle). Belt slip and tyre troubles were reported, but several got home without losing marks.

Bank Holiday dawned favourably, and the weather all day was fine. Roads were greasy in places, but dry on the whole, and dustless. The return route was superior to the outward one, as instead of wild moorland roads, full of awkward, curly twists, there was a level coast line for many miles. The arrivals back at Newcastle in good time were Crosier and Roper, and as neither had lost any marks at any of the controls, including the two secret controls, the contest between the two for the cup will be decided by seconds only. Other safe arrivals home in good time were T. Smith (3½ h.p. Triumph), Howitt (2 h.p. Humber), Hall (3½ h.p. Matchless), Baxter (2½ h.p. Enfield), Coble (3½ h.p. Triumph), Middleton (3½ h.p. T.T. Triumph), Cooper (3½ h.p. Triumph), R. Smith (3½ h.p. Ariel), Adams (3½ h.p. Rover), and J. Reed (3½ h.p. Rover).

Thanks are due to Mr. Kirsopp for the loan of his Humber car, and to Mr. Nelson Simpson for his Singer.

SNAPSHOTS DURING THE ASCENT OF PORLOCK HILL IN THE M.C.C. STANDARD RELIABILITY, HILL-CLIMBING AND BRAKE-TESTING TRIALS IN DEVON.



(3) E. Kickham (Douglas).

(1) Eli Clarke (Douglas).

(4) F. Smith (Clyno and sidecar).

(2) R. B. Clark (Indian).

(5) H. A. Cooper (Bradbury).

The individual performances were referred to on page 828 and 829 of our last issue, W. Pratt (P. and M.) and R. G. Mundy (Triumph) being the only competitors to successfully ascend the hill.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Slow Running in Traffic.

Q. I am but a novice, and should be glad of your advice on how to get my machine to run slowly through traffic. It is a $3\frac{1}{2}$ h.p. Minerva, and I have found that it will not run slowly for town riding; also that when I lift the valve and slow down to turn a corner it often stops firing altogether, and I have to get off and restart it.—H.J.

Probably you would secure improvement in the running of your machine by fitting a more modern carburetter. What you are suffering from at present is too weak a mixture for slow running, which also accounts for engine stopping when you slow down. What you should do is so to arrange the carburetter that you can practically exclude all the air when you require to run slowly.

Unlighted Railway Crossing Gates.

Q. Whilst riding from Driffield to Hull via Beverley on the evening of July 26th about midnight, I unfortunately took a wrong turn to the left, about 2-3 miles before reaching Beverley, and to my utter dismay about five or six yards in front of me there loomed up a railway crossing gate, into which I collided at about 7-8 m.p.h., buckling slightly the front wheel and the forks. Could I claim damages against the N.E.R. for not having a light on the gate?—L.R.M.

Our legal adviser writes: This query is a difficult one to answer, and it would be best for "L.R.M." to consult a solicitor, and let him write to the railway company claiming the damages he thinks he ought to have. I think it is doubtful whether a railway company is bound to light up the gates at a level crossing, because such gates are put up in pursuance of a statute authorising them to be there, and the Railway Clauses Consolidation Act, 1845, Section 47, while making provisions as to the opening and shutting of the gates, does not say anything about their being lit up at nights. Even if there was no light on the gate itself, I think there must have been a light somewhere near, and a signal box and a man in charge. If there was no one in charge of the gates at the time, or if the gates were shut when they ought to have been open, your correspondent's chances of success are improved. On the other hand, it might be held that there was contributory negligence on his part, through not riding with great caution at midnight. If the damage done is slight,

he had better not spend money on the matter, but if it runs into a few pounds he should, as before stated, consult a solicitor.

Strength of Automatic Inlet Spring.

Q. I have a motor cycle with a small engine of 70×75 mm., and I have had a good deal of trouble with the automatic inlet valve. I should be greatly obliged if you would tell me what you consider would be the correct tension of the spring for an engine of this size.—D.A.P.

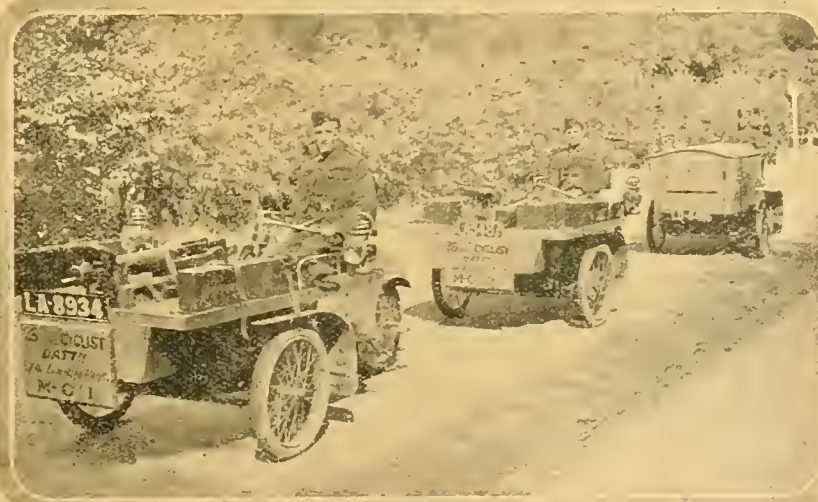
We are afraid that we are unable to inform you of the exact tension necessary for the spring of an inlet valve for your engine, because this varies so very much with the actual design of the engine. We should advise you to experiment with the adjustable nut at the top of the valve spring collar, by which the tension on the spring can be materially altered. If the spring is allowed a weak tension, the inlet valve will open with greater rapidity, and starting will then become greatly facilitated. With the stronger spring starting is not so easy as before, but a higher speed can be obtained on the road, and better all-round results.

Sale of Stolen Machine.

Q. Your kind advice on the following case would be very greatly appreciated. I purchased a machine from a man I know very well, and some little time afterwards I exchanged it for another machine and cash. The original machine now turns out to have been stolen, and the party with whom I effected the exchange will have to give it up. He informs me that he will sue me for the value of his machine and the cash. The man I bought it from purchased it from the actual thief. Can I be forced to pay?—W. P. B. O'REILLY.

Our legal adviser's opinion on the case cited above is as follows: The true owner has a right to recover his motor cycle from the party in whose possession it actually is. When Mr. O'Reilly sold it him there was an implied warranty that he had a good title for it. Therefore, Mr. O'Reilly is liable to make its value good. On the other hand, Mr. O'Reilly can sue the party from whom he purchased it for any expense he may incur.

THE MOTOR CYCLE IN WARFARE.



Auto-Carrier triacs attached to the 25th London Cyclist Battalion, carrying Maxim guns. The 25th are the pioneers of military cycling. The members are in camp at Rye, Sussex, and number 400 officers and men—80 per cent. of their establishment.

Sluggish Acceleration.

? Your assistance in the following would be much appreciated: My machine is a 1910 $3\frac{1}{2}$ h.p. (m.o.v.) with Simms magneto, B. and B. carburetter, gear $4\frac{1}{2}$ to 1. It is very sluggish in accelerating, but when once into its stride it takes a lot of slowing down again. With a shade throttle and half air it does 18 m.p.h.; after running at 40 or so for half a mile it will do 25 on the same setting as formerly. How can I cure this so as to get along smartly? The engine carbonises very quickly. I give half a pumpful of oil every five or six miles. Can I reduce this with safety? About how much oil do you recommend for ordinary touring running? The petrol consumption is very heavy (60 or 70 m.p.g.); level is correct, but the jet seems rather large—a number 30, I should think. Would a 27 or 28 cure this? I always drive on as little throttle and as much air as possible.—W.B.R.

We think your machine will pick up a great deal better if you give it more opening on the throttle and considerably less air, although the petrol consumption does seem decidedly abnormal. We think it is better to drive, not with as much air as possible, but rather with the air lever in the position at which the engine pulls best. Modern high compression engines are very prone to carbonise exceedingly quickly, and we think you might be able to give half a pumpful every eight miles instead of every six miles. If there is little or no improvement the piston rings should be replaced. As a general rule, a machine is badly carbon deposited at the end of every thousand miles. One other thing might have a great effect on the picking up, and that is the exact amount of advance which is given to the magneto ignition. We should advise you to try various settings, and see whether a great deal of difference cannot be made in that way.

Excessive Overheating.

? I was not satisfied with the running of my new 5 h.p. machine and sidecar received a month ago; the rear cylinder was faster than the front. I took down the front cylinder and cleaned it; valves wanted grinding. Since cleaning I have run the machine 150 miles. The engine got rather too hot occasionally, but not seriously so. On attempting to start the engine the other morning I found the piston had jammed in the cylinder. I injected paraffin and got it to start, but decided to take the cylinders down to see what was the matter. The front piston inside and webbing of crank case were covered with thick, black greasy deposit, and one ring was gummed in its groove. Outside, the piston wall was badly caked with the same deposit. I ran the engine again, and the improvement was marked.

CLIMBING PORLOCK AND COUNTISBURY HILLS IN THE M.C.C. AUGUST BANK HOLIDAY TRIAL.

Can this be due simply to over heating, under lubrication, or over lubrication with good oil? Another point which puzzles me is that when the machine climbs a hill, the throttle and air full open, ignition full advanced, the engine will not knock, but after reaching the top of the hill and accelerating on the other side, if I shut off the throttle without almost completely cutting off extra air simultaneously, the engine knocks badly.—L.H. We fear the symptoms you describe in your letter are the result of excessive overheating, which may have been caused by bad quality oil. There is also no doubt that the front cylinder is getting more oil than the rear, so that it may be necessary to fit a baffle plate so as to reduce this. The last symptom means that the engine naturally does not get over hot until the summit of the hill has been reached. If the hill were longer it would perhaps start knocking before you reached the top. Otherwise, we can only suppose that you attempt to pick up speed with the air lever too wide open, which usually results in knocking.

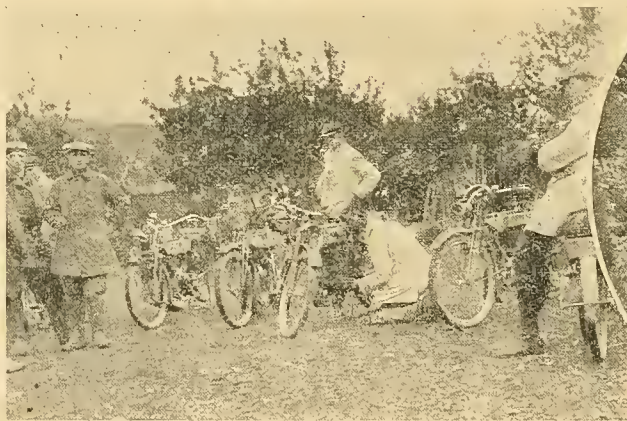
READER'S REPLY.**Regular Running at Slow Speeds.**

In reply to "A.A.U.'s" question re 1911 Douglas, "Regular Running at Slow Speeds," July 20th, I have had the same little trouble, but have always put matters right by fitting a new washer under the inlet pipe of the cylinder which is at fault.—V. H. THORNTON.

EXPERIENCES WANTED.

"C.H.S." (Woodbury, S.O.) The Fedelia runabout.

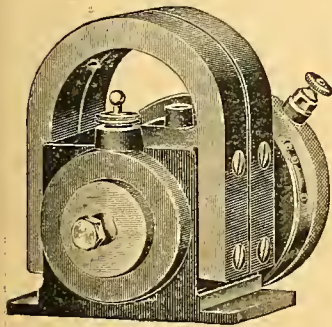
"Y 647." (Yeovil). Ariel coupler with low powered motor cycle.



(1) W. Pratt (two-speed P. and M), who covered himself with glory in the M.C.C. Devonshire trials.

(2) Adjusting belts and tuning up for the ascent.

(3) A Rudge rider suffers a fall at the first corner.



If you
cannot honestly
say that your
magneto is per-
fect fit a

"U.H."

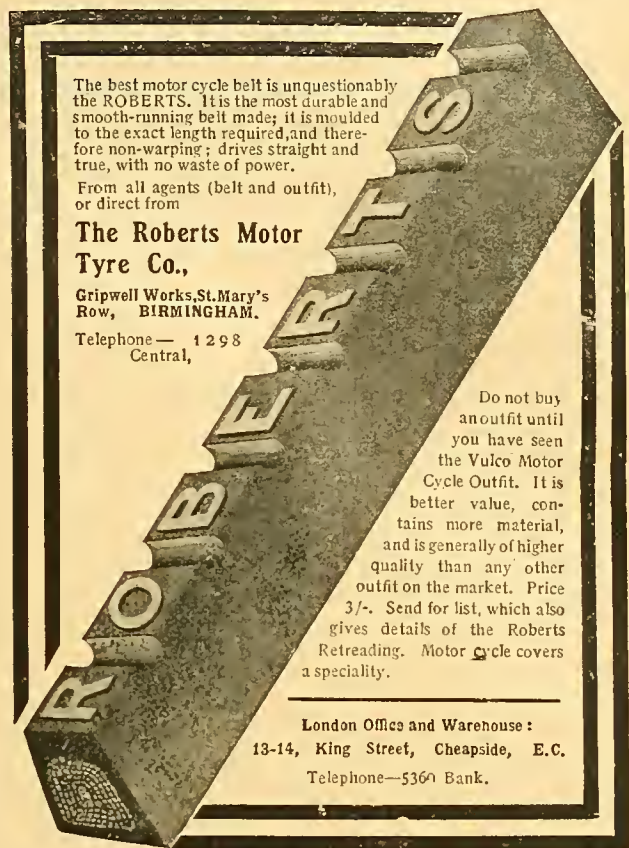
MAGNETO.

It does not require an experienced mechanic to put it into place. It is essentially simple in every way, and yet highly efficient. The task of fitting and dismounting is amazingly simple. Once in position, it needs no further attention, and the motor cyclist in search of a really reliable magneto must on no account fail to send at once for full particulars.

S. WOLF & CO.,
115, Southwark St., LONDON, S.E.

Telegrams:
"Widerstand, London."
Telephone:
5172 Central.

C.D.C.



The best motor cycle belt is unquestionably the ROBERTS. It is the most durable and smooth-running belt made; it is moulded to the exact length required, and therefore non-warping; drives straight and true, with no waste of power.

From all agents (belt and outfit), or direct from

The Roberts Motor Tyre Co.,

Gripwell Works, St. Mary's Row, BIRMINGHAM.

Telephone—1298 Central.

Do not buy an outfit until you have seen the Vulco Motor Cycle Outfit. It is better value, contains more material, and is generally of higher quality than any other outfit on the market. Price 3/-. Send for list, which also gives details of the Roberts Retreading. Motor cycle covers a speciality.

London Office and Warehouse:
13-14, King Street, Cheapside, E.C.
Telephone—5360 Bank.

WHY the RICH Detachable Air Tubes are the BEST and CHEAPEST.

ONCE

USED



Have your
endless or butt-ended
tubes fitted with the
Rich Detachable Joint.

Save you pounds in the riding season.
Send tube with size and 6/- P.O.
Returned same day. Cut out
nearly opposite the valve, or at
a bad place.

Extra charges will be nominal.

ALWAYS

USED

FIRST IN 1904. FIRST EVER SINCE.
Guaranteed air tight.

Have them fitted to your new machine.
PRICE LIST.

Pedal Cycle sizes, 7/6.

HEAVY.

EXTRA HEAVY.

	26in.	28in.		26in.	28in.
1 1/2 ..	12/-	13/-	2 1/2 ..	23/-	25/-
2 ..	16/-	17/6	2 1/2 ..	26/-	29/-
2 1/4 ..	17/6	19/6	3 ..	32/-	35/-
2 1/2 ..	20/-	22/-	3 1/2 ..	38/-	42/-
2 3/4 ..	24in. 6d. less.		24in. 1/- less.		

Larger sizes to order.

M.C. Dept.,

THE RICH DETACHABLE AIR TUBE Co.
CRAWLEY, SUSSEX. (ONLY ADDRESS).

BECAUSE—They are made of the best rubber and of substantial thickness. Have no butt ends to burst. Save you hotel and train expenses. Enable you to keep an appointment. Can change a tube in five minutes. Can repair on the inside with an ordinary piece of rubber. No expensive prepared patches required. No friction of the patch on the cover. Last longer than any other tube. Prolongs the life of cover. Saves a lot of worry, time, and temper.

IMPORTANT—We draw special attention to the trade and users of our tube, to turn the female end, No. 1, in before joining, also to use a small quantity of our lubricant on the male end, No. 2, a little moisture will revive this when once used. Our tubes are often condemned through these omissions. See that you get the instructions, lubricant, and correct sizes.

DON'T GO BY THE FIRST COST, BUT BY THE MONEY YOU SAVE IN USING THEM.

We can show a thousand unsolicited testimonials.

Don't spoil your Holiday by delay with punctures. Carry a Spare.

See you get the correct size and instruction card.

If you cannot obtain them from the trade, write direct. Sent per return post.

For further particulars, write for Booklet.

The RICH Cover.



NON-SLIPPING AND RELIABLE.

PRICE LIST.

Size.	Wired Beaded Cover.	Plain Beaded Cover.
26 x 2 ..	30/-	32/-
26 x 2 1/4 ..	34/-	36/-
26 x 2 1/2 ..	38/-	40/-

BEST VALUE ON THE MARKET.

TRY ONE.

OTHER SIZES TO ORDER.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts and Hants Channel Islands.

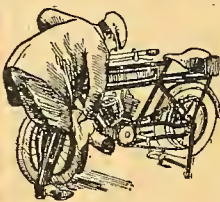
SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

For MOTOR BARGAINS



THAT
STAND
THE MOST
CRITICAL
TESTS

Keen buyers should call and examine the big stocks of all best makes at

WAUCHOPE'S

The latest productions in the best and most famous 1911 models, and the most reliable second-hand machines renovated, improved, and put into thoroughly satisfactory condition for the road. New or second-hand. Every machine a satisfactory bargain that will stand the most critical tests.

TO-DAY'S LIST INCLUDES:

4234.	3 1/2 h.p.	1909 Standard	TRIUMPH	£29 0
4238.	6 h.p.	1909 Twin	MATCHLESS	30 Gns.
4247.	3 1/2 h.p.	1911	ZENITH-GRADUA	£47 10
4249.	3 1/2 h.p.	1911	BAT	40 Gns.
4250.	3 1/2 h.p.	1910	SCOTT	£45 0
4252.	2 1/2 h.p.	1911 3-speed	NEW-HUDSON	40 Gns.
4253.	2 1/2 h.p.	1911 model E	DOUGLAS	£44 0
4260.	2 1/2 h.p.	BRADBURY		10 Gns.
4261.	3 1/2 h.p.	1908	BROWN	£12 10
4263.	6-7 h.p.	1910	T.A.C.	£55 0
4264.	3 1/2 h.p.	1911	BROWN	£35 0
4268.	3 1/2 h.p.	1910	TRIUMPH	38 Gns.
4269.	3 1/2 h.p.	1911 free-engine	RUDGE	£43 10
4270.	3 1/2 h.p.	1911 free engine	RUDGE	£45 0
4276.	1 1/2 h.p.	MOTOSACOCHE		£12 10
4277.	1 1/2 h.p.	1910	MOTO-VELO	£22 10
4278.	3 1/2 h.p.	1911 2-speed	N.S.U.	£37 10
	5 h.p.	1911	REX Sidette	48 Gns.
	7 h.p.	1911	REX Sidette	65 Gns.
4205.	2 1/2 h.p.	1910 Two-speed	F.N.	£23 10
4207.	3 1/2 h.p.	1910	Tourist REX	£32 10
4208.	7 h.p.	1910 Two-speed	V.S.	£45 0
4215.	2 1/2 h.p.	BROOKLANDS and sidecar		£16 10
4216.	3 1/2 h.p.	1910 Standard	TRIUMPH	37 Gns.
	4218.	7 h.p.	1909 Two-speed V.S. and sidecar.	
4219.	3 1/2 h.p.	MATCHLESS-J.A.P.		£25 0
4220.	5 h.p.	1911 Standard	INDIAN	48 Gns.
4226.	3 1/2 h.p.	1910	MIDGET Bicar	£22 10
4220.	8 h.p.	1910 Twin	BAT	£45 0
4180.	2 1/2 h.p.	BRADBURY		£8 10
4181.	3 1/2 h.p.	1908	BROWN	£22 10
4198.	3 1/2 h.p.	1909	MINERVA	£25 0
4200.	7 h.p.	1910 Two-speed	MATCHLESS and Lowen sidecar	65 Gns.
4151.	3 h.p.	QUADRANT Tricar		10 Gns.
4154.	5 h.p.	1910 Two-speed Twin	ROC	40 Gns.
4160.	2 h.p.	1908	MOTO-REVE	£15 0
4093.	7 h.p.	1910 Two-speed	V.S.	45 Gns.
4040.	7 h.p.	1910 Two-speed	INDIAN	£47 10
4123.	2 1/2 h.p.	1910	DOUGLAS	£30 0
4133.	2 1/2 h.p.	ARIEL		£8 10
4135.	5 h.p.	1907 Twin	REX DE LUXE and sidecar	£22 10

Get a copy of our list, which is full of money-saving bargains in big abundance. Send details of present machine, and receive by return our cash offer for same in part payment of any new model.

WAUCHOPE'S

9, Shoe Lane, Fleet St.,
LONDON, E.C.

Telegrams: "Opifceer, London."

Phone: 5777 Holborn.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given; c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Ifife and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

1908 Moto-Reve, 2h.p., twin, magneto, Druids, excellent condition; £13.-23, Melrose Av.; Monk-seaton.

1910 Bradbury, 2-speed gear, perfect condition; £40, or near offer.—No. 8,156, The Motor Cycle Offices, Coventry.

3 h.p. Quadrant motor cycle, in excellent condition and going order, accumulator ignition; bargain, £5.—Bailey, 120, Park Rd., Wallsend-on-Tyne.

TRIUMPH (August, 1909), 1911 piston, new Palmer cord back, and Whittle belt, Clincher studded front, separate generator lamp, horn, tools, perfect; 29 guineas.—Booker, Wrexham, Stoke Ferry.

TRIUMPHS, Hammers, B.S.A., Royal Enfield motor cycles, lightweights, 2 speeds, free engines; write, wire, or 'phone for immediate deliveries.—Turvey and Co., The Motor House, Sunderland. Tel.: No. 626.

2 1/2 h.p. Minerva, m.o.v., accumulator ignition, brand new 55/- steel studded on back, Palmer on front, first-class going order; £6/10, or offers; will swap for 3-speed push cycle and £3/10.—Dyer, Ghyllwoods, Cocker-mouth.

1911 T.T. Triumph, brand new, as sent from makers, accept £48; 1910 T.T. Triumph, very fast, accept £40, or nearest offer, owner unable to ride, doctor's orders.—Hugh Wood, Rainton House, Fence Houses.

3 1/2 h.p. N.S.U. late 1909, magneto, Whittle belt, ad-32 justable pulley, B. and B., b.h.c., new rings and bushes this season, and magneto thoroughly repaired by makers, steel studded tyre, new tube; nearest offer to £20.—Tait, Stillington, Durham.

FOR Sale, 6h.p. Matchless-Jap, 1911 model, 2-speed gear, not out of crate; retail price £70, will accept £62 cash, reason for disposal, owner buying car; Bradbury, 3 1/2 h.p., 1911 model, new, not been run, £46 cash; Triumph, 3 1/2 h.p., magneto, 1909 model, complete with lamps and spares, in splendid condition, £30 cash.—Apply, Lockerbies, Cycle and Motor Works, Carlisle.

SECTION II.

York and Lancashire.

3 1/2 h.p. Rex, h.b.c., perfect order; cheap.—13, Chester field Rd., Gt. Crosby.

FREE Engine Triumph, just delivered; £55 for cash.—Cross, agent, Rotherham.

BARGAIN.—3 1/2 h.p. Rex, very low, new tyre; £9.—269, Manchester St., Oldham.

P. and M., 1909, perfect condition; what cash offers?—Vero, Market Place, Batley.

1911 Triumph, free engine; 1911 Bradbury, can deliver immediately.—Lord, agent, Rochdale.

1911 F.N., 5.6h.p., 2 1/2 Palmer cords; perfect order; £33.—Wilkinson, Wortley Rd., Armley, Leeds.

ENFIELD Lightweight.—Sole agents for Manchester and district, Newton's, Blackfriars St., Manchester.

The Halifax Motor Exchange

LARGEST REX DEALERS.

16, WESTGATE, HALIFAX.

'Phone, 766. Telegrams, "Perfection."

Business Hours, 9 a.m. to 6 p.m.

AUSTRALIAN AGENT.—Allen, 6, Westbourne Street, Petersham, N.S.W.

EXCHANGES CONSIDERED.

NEW 1911 MACHINES IN STOCK.

1911 5 h.p. Two-speed REX DE LUXE	£63 0
1911 7 h.p. sidecar	80 Gns.
1911 3½ h.p. BRADBURY	£48 0
1911 3½ h.p. Two-speed BRADBURY	£55 0
1911 3½ h.p. RUDGE-WHITWORTH	£48 0
PASSANGER COMBINATIONS	
5½ h.p. Twin REX DE LUXE, magneto ignition, Roe clutch, handle starting, and new rigid sidecar	£27 10
5½ h.p. N.S.U., free engine, N.S.U. sidecar, very smart turnout	£33 10
5½ h.p. Two-speed REXETTE, carries three	£25 0
Brand New 1910½ Twin REX DE LUXE, 1911 fittings, and new 1911 de luxe sidecar	£59 15
6 h.p. Two-speed REX Litette, w.c., very smart and powerful	£29 10

5 GOOD THINGS.

1. 1910 REX, 3½ h.p.,

84½ x 89, cantilever seat, h.b. control, Bosch magneto, 26 x 2½ in. non-skids, stand, carrier, tools, spares, and bag, brand new. Maker's price, £48; our price,

34 Guineas. Makers' Price, £48.

2. 1910 New Twin REX,

Bosch magneto, cantilever seat, 26 x 2½ in. Continental non-skids, h.b. control, stand, carrier, tools, spares, and bag. Maker's price, £53; our price,

42 Guineas.

3. 1910½ 5 h.p. Two-speed Twin REX DE LUXE,

brand new, 1911 cylinders, forks, M.O.V., magneto, and other 1911 fittings, fully guaranteed, 26 x 2½ in. non-skids.

£54 10s.

4. New 1910 3½ h.p. REX,

Plate clutch in rear hub, free engine, pedal starting, rubber non-skids, Bosch magneto, stand, carrier, tools, spares, and bag. Maker's price, £54 6s.; our price,

43 Guineas.

5. The EXCHANGE SIDECAR,

best upholstered wicker body, well plated and enamelled, well sprung, Continental motor cycle tyre, and quick detachable fittings.

£4 19s. 6d.

LIST ON APPLICATION.

SECOND-HAND MACHINES IN STOCK.

1911 3½ h.p. Tourist REX	£36 0
1910 7 h.p. Twin REX, M.O.V.	£37 10
1910 T.T. TRIUMPH, grand machine	£38 10
1910 Twin REX, special M.O.V. engine	£29 10
1910 3½ h.p. Magneto REX, 84½ x 89	£32 10
1910 5 h.p. Magneto REX	£33 10
1910 5 h.p. REX DE LUXE, fine sidecar machine	£12 10
1910 3½ h.p. REX, very fast, special machine	£27 10
1909 5 h.p. REX DE LUXE	£38 10
1908 3-6 h.p. REX Lightweight, magneto	£16 10
1907 5 h.p. Twin REX, spring forks	£16 10
1907 3½ h.p. Magneto REX, spring forks	£19 19
5½ h.p. Twin REX DE LUXE, Roe clutch, spring forks	£24 10
3½ h.p. Late Type Two-speed HUMBER	£32 10
QUADRANT, 3 h.p., nice order	£11 10
3½ h.p. Two-speed BROWN	£16 10
2½ h.p. J.A.P., light and handy	£10 0
6 h.p. J.A.P., twin, magneto, free engine	£26 10
3 h.p. FAFNIR, 26 wheels, vertical engine	£10 0
F.N. Magneto Lightweight	£16 10
Four-cylinder F.N., spring forks	£19 19
3½ h.p. Magneto QUADRANT, spring forks	£24 0
EASY PAYMENTS FROM £3 DEPOSIT.	

MOTOR BICYCLES FOR SALE.

HUMBER Lightweight, as new, £29; 2-speed 5h.p. Rex and sidecar, £27; 3½ h.p. Rex, footboards, splendid hill-climber, new tyres, £24; Mot.-Reve, splendid condition, £19; 1910 free engine Triumph, £42; other bargains in stock.—Hainsworth, Branch Rd., Batley.

MOTO-REVE, 1908, 2h.p., twin, magneto, engine just thoroughly overhauled by makers, unused since, bought passenger machine, belt, adjustable pulley, unused Lucas lamp, horn, spares; 17 guineas; approval.—Apply immediately. Dr. Brynshaw, Wellgarth House, Arnsley, Leeds.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

HOBART, 2½ h.p. in crate (overstocked); first cheque £32.—Wheeler, agent, Chester.

2 h.p. Moto-Reve, new; cost 32 guineas, best cash offers.—Fox, Lichfield Golf Club, Staffs.

1909, Triumph, beautiful condition throughout, little used; £50.—R. Else, Leewood, Matlock.

PHELOX and Moore, Triumph, Zenith, and Douglas, prompt deliveries of new 1911 models.—Moss, Wem.

TRIUMPH, 1911 free engine model, practically new, unpunctured, only ridden few hundred miles; bargain, £49.—Moss, Wem.

CHATEL-MINERVA, 3½ h.p., perfect running order, spares; £10 cash.—Scurlett, 55, Lichfield Rd., Stafford.

1910 Ariel, free engine, excellent condition, tyres splendid; £35, near offer.—Maciver, Heswall, Cheshire.

ZENITH-GRADUAS, 3½ h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

BRADBURY'S.—All models in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

DOUGLAS, 1911, 2½ h.p., model D, new and perfect, only ridden 30 miles; £35.—Woolley, Field House, Sandbach, Cheshire.

KERRY, 2½ h.p., green, light, low, 26 wheels perfect, written guarantee; buying car; sacrifice 9 guineas.—Palmer, Staveley, Derbys.

TRIUMPH, 1910, standard, excellent condition, engine just overhauled by Triumph Co.; £35 cash.—Sharnan, Market Place, Brackley.

To Bradbury Agents wanting immediate delivery.—W. Barnes, Ashbourne, Derbyshire, can supply 1911 machines from stock on small commission.

3 h.p. N.S.U., 1908, accumulator, less ignition system, good order, £11; engine and carburettor for same, separate, £5.—Lavender, Bishop's Castle, Salop.

TRIUMPH, 1911, free engine, new Easter, very little running in perfect order lamp, and accessories; best offer secured.—Bacon, Wellington, Salop.

MOTOSACOCHE, late 1910, 1911 improvements, new Whittle belt, free engine (from handle-bar), splendid condition; nearest £22.—Moore, College St., Long Eaton.

1908 Triumph, splendid condition, new piston just fitted, engine overhauled by makers last September, new lamp, spare tyre, belt, etc.; £26.—Mains, Gray Farm, Mottin.

ARIEL, 1910, 3½ h.p., free engine, variable gear, decompressor, Kempshall back tyre and spare, complete kit of tools, Lucas lamp; £29, no offers; bought new.—James Wiley, Darlston.

1910 Moto-Reve Lightweight, 2h.p., good running order, sacrifice 16 guineas; 1910 Royal Enfield, 2½ h.p., guaranteed perfect, Bosch, Palmers, Brooks, bargain, 26 guineas.—Jones, Brynswale, Llanfairpwll.

MINERVA, 3½ h.p., magneto, 1910 Arzac, new Midland back tyre, Michelin front unpunctured, low riding position, carrier, footrests, perfect throughout; £18, or near offer.—Rev. Owen, Hope Village, Mold.

ARIEL, 3½ h.p., just delivered, not been on road, spring seat, variable gear, free engine, patent decompressor or easy starting, and upholstered sidecar, leather upon, etc.; £48, no offers.—67, Foregate St., Chester.

1909 4-cyl. F.N., 5-6 h.p., h.b. control, every refinement, not done 200 miles since July, 1910, condition like new, watch, mirror, speedometer, long footboards, with specially fitted tool and spares boxes, 3 lamps fitted, numerous spares; what offers? owner bought at—Mack, Norman Rd., Ripley, Derbys.

CHATEL-LEA, 3½ h.p., powerful, Simms magneto, excellent machine; also 3h.p. Brown, re-built with new parts, carburettor, saddle, tyres, tubes. Matchless silencer, motor-ets, foot brake, all new, bargain; cash offers for other above; ex-changes; all latest models at special prices.—Witte, Watson, Motors, Ripley, Derby.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

1911 Bradbury, unriden, too late to stop delivery; £40.—2, King St., Leicester.

1911 F.E. Triumph, run 500 miles, absolutely as new; £50.—Higgs, St. John's St., Stamford.

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FARRAR'S HALIFAX SIDECARS.



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It is admitted by experts that, owing to the unique design, far less power is required to propel Farrar's Sidecars than any other style on the market.

NOTE our front arm which grips the sidecar CENTRE. Nothing lopsided about this attachment.

All our Sidecars are now fitted with Farrar's quick detachable joints and cranked back axles, refinements found on very few other makes.

MODEL "DE LUXE"	£5 5
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MODEL "E," with reversible child's seat	£6 10

ALL COMPLETE WITH MUDGUARD & TYRES.

Discount to the Trade.

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SPRUNG LIKE A CAR.

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ENGINES.

6-7 h.p. Twin Antoine, fine puller	£5 10
5-6 h.p. SAROLEA, brand new, 1910 model, fitted magneto, silencers, driving pulley, etc.	£14 14
3½ h.p. GORICKE and Bosch Magneto	£8 10
3 h.p. Water-cooled Auto-moto	£4 10
1½ h.p. DE DION, air-cooled	£1 15
Phelon and Moore Engine and Frame	£5 10
1½ h.p. HUMBER, water-cooled	£6 10
2½ h.p. MINERVA, good puller	£3 10
2 h.p. SIMMS Engine (vertical) and Frame	£2 10
3 h.p. DE DION, variable pulley	£2 5

Other engines accepted in part payment.

NEW CARBURETTORS.

1911 B. and B., complete	25/-
1910 Amac, variable jets	22/-
5/- allowed for old carburetter.	
Second-hand Amac, h.b. control	12/6
Longuemare, Amac, and others	5/- each

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MOTOR BICYCLES FOR SALE.

1911 Standard Triumphs, two just arrived, immediate delivery; exchanges entertained. — Plastow, Grimsby.

ENFIELD Lightweight, late 1909, not ridden 1,000 miles; £25, or near cash offer.—Owen, Sleaford, Lincolnshire.

ZENITH-GRADUAS, 3½ h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester.

DOUGLAS, Model D, in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester.

TRIUMPH, just overhauled makers, and fully equipped at cost of £14, bargain, £35.—Nixon, 38, Reservoir Rd., Birmingham.

REX, 3½ h.p., very fast, not run 1,000 miles, good reason for selling; £15, or offer.—Hemsley, Mount St., Ashby-de-la-Zouch.

1910 Bradbury, done about 500 miles, all accessories; £37/10, no offers; wanted, rigid sidecar.—Larrington, Moulton, Spalding.

DOUGLAS and Motosacoeche.—Get particulars before buying elsewhere; prompt delivery.—Midland Cycle Depot, Hales St., Coventry.

FOR Sale, Rex 3½ h.p. motor cycle, in first-class condition; £8 cash, cheap.—Danson, The Mill, Barton-on-Humber, Lincolnshire.

B.S.A. Motor Bicycles; immediate delivery.—Watkins, the B.S.A. agent, Showell Green Corner, and Stoney Lane, Sparkhill.

DOUGLAS (1910), excellent condition throughout; approval arranged; great bargain, 25 guineas.—Morris, photographer, Bourne.

ROYAL Enfield, 1911 (June), model 150, Brooks, Dnnlops, not soiled, guaranteed.—Harch, Wenlock House, Witham Bank, Boston.

HUMBER Birmingham Depot, 78, New St. Tel.: Central 7298. T.A.: Dependable, Birmingham.—All 1911 models in stock for immediate delivery.

HUMBER Depot.—We have a few bargains to offer.—1911 2-speed Humber, condition as new, £40; 1911 lightweight demonstration machine, £31; 1910 twin Norton, 5½ p., 2 speeds, free engine, £33; Calthorpe Precision engine, practically new, £39; Humber, 1909, just overhauled, brought up to date, and re-enamelled at works, £30.

HUMBER Depot.—Repairs executed on the premises. Phone, call, or write to 78, New St., Birmingham.

1911 2 h.p. Humber Lightweight, 2 months old, Palmer tyres, no fault; £33, or nearest offer.—Box No. 7749, The Motor Cycle Offices, Coventry.

3½ h.p. Birmingham Quadrant, perfect order, all spares, £2 2 accumulators, low, fast, good climber, forbidden riding; £15.—Binks, Benedicts Sq., Lincoln.

BRAND New 1911 Bradbury and Premier, had trial run only; sacrifice, £39 each.—Clifford, Eastwood, Notts. Humber 2½ h.p. T.T. Lightweight, £40.

3½ h.p. Triumph, clutch model, new August, 1909, 32 condition as new, just overhauled and new tyres fitted; £36.—Motorist, 37, Clarendon St., Coventry.

REX Motor Cycle, 6½ h.p., just been re-bushed and new pistons fitted, h.b.c., new tyre on front, cantilever seat, just the thing for sidecar; bargain—188, High St., Harborne.

3½ h.p. Motor Cycle, just been overhauled, h.b.c., B. 2 and B. carburetter, new tyres and belt, adjustable pulley.—188, High St., Harborne.

ADVERTISER, having paid deposit on 1911 3½ h.p. Premier, free engine, but unable to take delivery, can arrange for transfer of same for £45.—Bates, 46, Bowden Rd., Smethwick.

3½ h.p. Genuine Coventry Riley, in running order, 1 belt, footrests, belt rim foot brake, Ukantes stand, lamp, horn, etc.; trial; £9.—112, Arbury Rd., Stockingford, Nuneaton.

INDIAN, 3 h.p., 1910, new February, 1911, just overhauled by makers, £37/10, including spare tube; Triumph, 1909, perfect condition, very fast, £30.—Guyver's Garage, Stratford-on-Avon.

BRADBURY, 1910, perfect condition, £30; Phelon and Moore, 1909, just overhauled, with Millford sidecar, castor wheel, and new back Kempshall tyre, £39.—Guyver's Garage, Stratford-on-Avon.

1911 3½ h.p. Free Engine Excelsior, run 600 miles, Palmer cord tyres, Dnnlop belt, spares, £30; also 1911 Montgomery spring wheel coach-built sidecar, £8.—Jenkins, 15, Aylestone Rd., Leicester.

1909 3½ h.p. Brown Motor Cycle, in good order; any trial; h.b.c., B.B. carburetter, spring forks, Bosch magneto ignition, good tyres and spares; £26, deposit system; Mabon clutch.—Apply, E. Clarke, builders, Tealby.

REX 5 h.p. De Luxe Twin, 2 speeds, free engine, most excellent machine, 1909 model, bought new June, 1910, good sidecar attached, has just completed tour in Wales without a falter; £38.—Baxter Jun., Parade, Birmingham.

CLYDE-J.A.P., 4 h.p., £42, been 7,000 miles without mechanical stop, 120 to gallon, very silent, speedy, reliable, accessories as new, or exchange Clyde, 2½ h.p., reason selling friend rides Clyde, 2½ h.p.; Shamrock-Gloria 1, 2, 2½ each, only run 40 miles.—"Penaard," Birstall Hill, Leicester.

10% DISCOUNT

from any of the following machines for spot cash.

SINGLE-CYLINDER REXES.

3½ h.p., 1910, with 1911 spring forks	£35 0
3½ h.p., 1910, black finish	£32 0
3½ h.p., 1910, grey finish	£32 0
3½ h.p., 1909, Tourist, very good	£28 0
3 h.p., 1908, Featherweight magneto	£18 0
3½ h.p., 1906, Tourist, M.O.V., spring forks	£14 0

TWIN-CYLINDER REXES.

7 h.p. de Luxe, two speeds, M.O.V.	£48 0
5-6 h.p., 1908, two-speed, and sidecar	£32 0
5-6 h.p., special model, 1909, magneto	£27 10
5-6 h.p., de Luxe, clutch model	£24 0
5-6 h.p., two speeds and free engine, Bosch	£28 0
5-6 h.p., de Luxe, 1908, two-speed model	£28 0
5-6 h.p., de Luxe, 1908, two speeds, special, good	£29 10
5-6 h.p., 1908, two-speed de Luxe, 1909 engine	£32 0
5-6 h.p., 1907, Tourist, Bosch magneto	£21 0
5-6 h.p., 1907, Lloyd's variable gear, Bosch	£23 0

N.S.U.'s.	N.S.U.'s.	N.S.U.'s.
5 h.p. Twin, Bosch magneto	£19 0	
5½ h.p. Magneto, 2 speeds	£25 0	
1908 Lightweight, Bosch magneto	£17 0	

OTHER MAKES. OTHER MAKES.

3½ h.p. 1910 Cluth Triumph, very fine	£45 0
6-7 h.p. Twin Antoine, Bosch, B. & B.	£21 0
1911 New Hudson, three speeds	£47 0
3 h.p. Triumph, M.O.V., very good	£18 0
3½ h.p. Falmir, M.O.V., grand gear	£12 0

SIDECAR COMBINATIONS.

5-6 h.p. Clutch Model Rex and new sidecar	£23 0
5-6 h.p. 2-speed 1908 Rex and Sidecar	£23 0
One ditto	£32 0
7-9 h.p. two-speed Rex and Sidecar	£52 0

All fitted with Magneto and Spring Forks.

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26 x 2 and 26 x 2½ in. wired-edge covers	12/6
Continental, rubber non-skids, 26 x 2½ or 2½ in.	30/-
Hutchinson, ribbed tread, 26 x 2½	18/6
Continental, beaded, 26 x 2	18/6
Tubes, all sizes, guaranteed	9/6

£4 DOWN SECURES ANY OF THESE. BALANCE 6/- WEEKLY.

3½ h.p. Brown Bicar, 26 in. wheels	£12 0
3½ h.p. Falmir, M.O.V.	£12 0
3½ h.p. 1906 Rex, M.O.V., spring forks	£14 0

£6 DOWN SECURES ANY OF THESE. BALANCE 7/6 WEEKLY.

1908 N.S.U. Lightweight, Bosch magneto ..	£17 0
3 h.p. Triumph, M.O.V., 26 in. wheels	£18 0
1908 Magneto Rex, low and smart	£18 0
5-6 h.p. Twin Rex, Bosch magneto	£21 0

CARS AND TRICARS.

6½ h.p. Peugeot Car, two-seater	£35 0
5½-6½ h.p. Rextette, two speeds, a beauty	£24 0
One ditto, re-varnished	£20 0
6 h.p. Rover Tricar, good gear	£17 0
4½-5½ h.p. two-seater Alldays car	£16 0

MISCELLANEOUS BARGAINS.

1911 Coronet Sidecar, coach built	£4 17 6
Forecar Attachment, good	35/-
F.K.S. 58/- Lamp set	30/-
Cowey Speedometer, only done 582 miles ..	£3 3
Mills-Fulford Castor Wheel Sidecar	£8 6
Vertical Frame, with 26 in. back wheel, etc.	£1 15
Prested accumulators, new, 15 amp.	9/6
Tricar Frame, suit 6 h.p. engine	35/-
Lycett's Tulular Carriers, new	4/11
New Lycett's Saddle, coil springs, L/109 ..	15/-
New Frame for vertical engine	30/-
New Prested Midget Trembler Coils	15/6

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Triumphs, Rexes, Minervas, N.S.U.'s, Douglas's, Moto-Reves, and other magneto machines.

Cash waiting.

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WILTON Cycle Co.
VICTORIA, S.W.—See bargains below; all best makes in stock.
WILTON—Bradburys in stock, free engine, £54/10; 2-speed, £55.
WILTON—Clyno; sole S.W. agents; trial by appointment; early delivery.
WILTON—Matchless; sole S.W. agency; early deliveries.
WILTON—1911 Kerry-Abingdon, 3½ h.p.; £45.
WILTON—1911 Moto-Reve, 2½ h.p.; £45.
WILTON—New Enfield; £36.
WILTON—Bradbury, 3 weeks old, 1910 standard model, all accessories, as new; £35.
WILTON—F.N., 4-cyl. 4½ h.p., good order; £25.
WILTON—Humber, 3½ h.p., 1910 standard, accessories; £25.
WILTON—Exchanges and instalments, reasonable terms.
WILTON—1910 Moto-Reve, 2 h.p., with accessories; £25.
WILTON—7½ h.p. Brown, twin, Bosch magneto, B. and B. carburetter, just overhauled; £32.
WILTON—1909 5½ h.p. Sarclea, Chater-Lea, 4 speeds, new Druid forks, B. and B. carburetter, Bosch magneto, new Rom on back; £30, bargain.
WILTON—3½ h.p. Excelsior, B. and B. carburetter £8/10; 2½ h.p. Precision-Enfield, £6/10.
WILTON—Triear, 6 h.p. International engine, water cooled, Renold patent 2-speed gear, Renold silent chains, wheel steering, 760x90 tyres; £30.
WILTON—Humber triear, chain driven, free engine, good order; £10/10.
WILTON Cycle Co., 110 Wilton Rd., Victoria, London, S.W. 'Phone. 5115 Westminster.
EDMUNDS and Wadden, Weybridge—Clearance sale The house for genuine bargains.
1911 Free Engine Triumph; £55.
1911 T.T. Triumph; £45.
1910 V.S., and sidecar, 7-9 h.p.; £43.
1910 Standard Triumph; £34.
1910 Bradbury; £34.
1909 F.N., 4-cyl.; £25.
1910 Chater-Lea Racing Mount; £26.
1910 Motococche; £18/10.
4 h.p. Peugeot, magneto; £18.
1910 Douglas; £25.
EDMUNDS and Wadden, The Brooklands Motor Cycle Exchange, Weybridge.
£18—Moto-Reve, 1910, magneto, 2 h.p., twin; bargain—24, Albert St., Regent's Park.
MOTOR Cycles, second-hand, all prices; write for lists—H. E. Kettle, Smaiden, Kent.
MINERVA, 3½ h.p., Brown and Barlow, tyres good, reliable; £15—34, Balfour Rd., Ilford.
MINERVA, 4½ h.p., twin (develops 6 h.p.), little used; £30.—Gray, Retreat, Theydon E. Is., Essex.
MOTOSACOCHE, good condition, girder forks, 2 belts; £10.—785, High Rd., Leytonstone.
2-SPEED Humber, 6 weeks old, must be sold; best offer—785, High Rd., Leytonstone.
14 h.p. Lightweight F.N., under-geared pulley, B. and B. carburetter, spring forks; £20, or near—785, High Rd., Leytonstone.
MOTO-REVE, all grey, late 1910, almost new; seen evenings—2, Tugela St., Perry Hill, Cutton.
1911 3½ h.p. 2-speed Humber, brand new; £44; appointment—Eastleigh, Cookham Rise, Berks.
1911 Rex, 3½ h.p., tourist, brand new, ridden 50 miles; £33.—56, Pulborough Rd., Southfield, S.W.
1910 Douglas, perfect condition, any trial; £24; just overhauled—56, Pulborough Rd., Southfield, S.W.
£6—2½ h.p. Minerva, in excellent condition and running order—21, Ridley Ar., West Ealing.
PREMIER, late 1910, 3½ h.p., been very little used; £40.—Westcliff Motor Garage, Westcliff-on-Sea.
24 h.p. F.N., splendid machine for learner, guaranteed in first-class condition—199, King's Rd., Chelsea.

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Latest 1911 Models

TRIUMPH, FREE ENGINE	£55 0
TRIUMPH, STANDARD	£48 15
B.S.A., 3½ h.p. Standard	£50 0
B.S.A., 3½ h.p., Free Engine	£56 0
INDIAN, 7 h.p., Two-speed	£75 10
REX, 3½ h.p., Tourist	48 Gns
REX, 3½ h.p., Free Engine	48 Gns
REX, 5 h.p., Free Engine	51 Gns
REX, 5 h.p., de Luxe, 2 Speeds	60 Gns
REX, 7 h.p., de Luxe, 2 Speeds	65 Gns

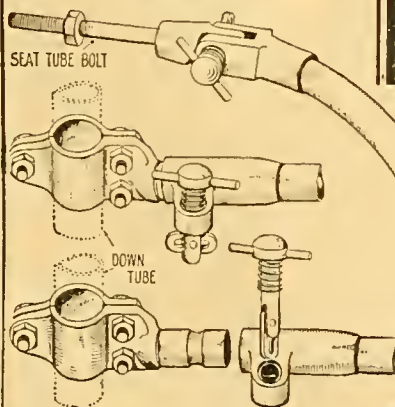
SPECIAL.

HUMBER, 3½ h.p., 1911, 2 Speeds	£45 0
ARIEL, 3½ h.p., 1911, Decompressor	£42 0

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We have a good stock of guaranteed machines and sidecars. List free on application.

P.M.C. "QUICKFIT" Couplings FOR SIDECARS.



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With our Quickfit Couplings any sidecar can be attached in sixty seconds and detached in forty seconds, single-handed. No tools required, SAFER than ordinary fittings—no nuts to come off or bolts to "strip." The strain on frame tubes is greatly reduced. PRICE 30/- the set of three couplings, to fit any make. 5/- allowed on old fittings (any make).

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5 h.p. Twin, h.b.c., adjustable pulley; selling at bargain price.—9, King's Parade, Church End, Finchley.
TWIN Rex, 5 h.p., clutch, handle starting; £20; exchange small car.—17, St. Leonard's Rd., Hove.
1911 4-cyl. F.N., splendid condition, all spares.—Wishart, Orchard View, Bridge Rd., Chertsey.
1911 Douglas, 2 speeds; £40; owner going abroad.—Apply, Capt. Wilton, Read's Garage, Sheerness.
1907 2½ h.p. Minerva, in very fine condition, many refinements, lamp, two belts, spares; £12.—Below.
1909 L.M.C., 3½ h.p., 2 speeds and free engine, spring forks, stand, carrier, Bosch magneto, B. and B. carburetter, h.b.c.; excellent condition; £28.—Below.
1910 5 h.p. Tourist Rex, condition perfect, Lucas lamp, horn, etc.; £36.—Below.
1911 3½ h.p. Premier, latest type, Mabon clutch, Whittle belt, as new throughout; £38.—Below.
1910 F.N. Lightweight, 2½ h.p., 2-speed and free engine model, perfect order and condition; price, with tricycle conversion set, £30.—Below.
1911 Humber 3½ h.p., 2-speed model, quite like new, fitted with Whittle belt, speedometer, lamp, horn, watch, mirror, etc., tools and spares; £44.—Below.
1910 P. and M., 2-speed 3½ h.p. model, new September last, condition perfect; £46.—Below.
1910 Triumph, 3½ h.p. roadster model, perfect in every detail; £35.—Below.
1910 Triumph, 3½ h.p. free engine model, Lucas horn and lamp; £43.—Below.
1911 Rex, 3½ h.p. Tourist model, as new throughout; £36.—Below.
1910 Chater-Lea, 5 h.p. engine with overhead valves, Chater-Lea new spring forks, Jap carburetter, Bosch magneto, both h.b.c., Mabon clutch, 26x2½ tyre, Davison's tank, with gauges, all possible refinements; £55.—Below.
1910 Motococche, magneto ignition, spring forks, Whittle belt, a splendid little machine; £20.—Below.
1910 5 h.p. Rex de Luxe, and Chater-Lea sidecar, all tyres as new, complete accessories, ready for the road; £45.—Below.
1910 Douglas, new September last, in perfect condition inside and out, equipped with lamp and horn; £28.—Below.
1911 7 h.p. Rex Speed King, with Tourist spring forks, stand, carrier, and saddle, finished grey; £38.—Below.
3½ h.p. Quadrant, spring forks, Bosch magneto, B. and B. carburetter, h.b.c., Whittle belt; £16.—Below.
1910 Rex, 3½ h.p., clutch model, soiled in showroom only; £40.—The Eastern Garage Co., 418, Rounford Rd., Forest Gate. Tel.: Stratford 10. P.A.: Eggaruco, London.
1910 3½ h.p. Kerry-Abingdon, perfect order, accessories, and spares; sacrifice £32.—Mott, c/o 6a, High St., Hampstead.
LATE 1910 Scott, perfect order; bargain, £42.
1911 Humber lightweight, magneto, perfect, spares; £28 10.
1910 5 h.p. Indian and sidecar, grand order; £40, near offer considered.
1911 Rex, 5 h.p., 2-speed, free engine, and sidecar, absolutely new condition; owner wants cash, £55.
REX, 3 h.p., £3/10; Brown, 3½ h.p., £8/10.—Gardner, 6a, High St., Hampstead.
EAGLES—Triumph standard, late 1909, had little use, non-skid tyres, spare cover, all accessories; £30.
EAGLES—N.S.U., 3½ h.p., magneto, spring forks, h.b.c., excellent condition; £19/10.
EAGLES—Minerva, B.S.A., 2½ h.p., m.o.v., spring forks, adjustable pulley, h.b.c.; £11/10.
EAGLES—Triumph, 3 h.p., 1905, Hellesden ignition, B. and B. carburetter, in good order; £8/10.
EAGLES—Minerva, 3 h.p., m.o.v., magneto, adjustable pulley, h.b.c., very low built; £16/10.
EAGLES—Triumph, 1911, standard model, for immediate delivery; £48/15.
EAGLES—We have a few brand new single-cylinder N.S.U.'s just delivered, gear-driven magneto, improved carburetter, h.b.c., Shamrock belts, 1911 spring forks and other improvements, complete with tool case, full set of tools, stand, etc.; 3 h.p. £27, 3½ h.p. £31 nett cash; deferred payments arranged.
EAGLES and Co., High St., Acton, N.S.U. West London district agency—Early delivery of 1911 models; liberal allowances for machines in part payment.—Tel.: 556 Chiswick.
F.N., 5 h.p., 1911, in perfect order; £30.—Earl's Court Motor Co., adjoining Earl's Court Station, S.W.
3 h.p. m.o.v. Chater-Fairair, new piston, cylinder by makers, perfect condition.—Gosnold, draper, Folkestone.

MOTOR BICYCLES FOR SALE.

5 h.p. Peugeot, engine new. Chater-Lea frame, wheels, etc., 2½ tyres; £20.—Butler, 22, Rosemont Rd., Acton.

SINGER, 3½ h.p., 1911, 5 months old, very little used; bargain, £36 cash.—Rawson, South View, Belmont, Sutton.

1910 Lightweight, 2½ h.p., exceptionally low and racy, do 40 m.p.h.; £18.—176, Hainsault Rd., Leytonstone.

£8/10.—4½ h.p. twin Sarolea, fast, h.b.c., ½ Whittle belt, good condition.—A. Covell, 16, Mounson Rd., Redhill.

DOUGLAS, 1911, model D, 2-speed, free engine, not ridden 800 miles, faultless; £40.—Walker, West St., Harwich.

DOUGLAS, 2½ h.p., late 1910, bargain, guaranteed, splendid condition.—Southey, 53, Chapel Rd., Worthing.

TRIUMPH, 1910, little ridden, splendid condition, all accessories; £56/10.—51, St. Sutton St., Clerkenwell, E.C.

KERRY, 2½ h.p., accumulator, h.b.c., reliable machine, splendid climber; £12, offers.—Seen, 140a, Camden Rd., N.W.

1911 Quadrant, 3½ h.p., as new, spare Whittle, tube; £39, offers.—Lecdale, 5, Kersley Mews, Battersea Park.

2½ h.p. Minerva, low, long bars, reliable; £9/10.—24 Walford, 38, Dorchester St., New North Rd., Hoxton.

4 h.p. Excelsior, with forecarriage, 2 speeds, handle starting, excellent condition; £12.—Scott, Clarendon, Surrey.

3½ h.p. Very Powerful Minerva, B. and B., h.b.c., Palmer cords; trial; £12/10.—Herington, Merston, Chichester.

WANDSWORTH.—V.S., 5-6 h.p. twin, magneto, h.b.c., Truffault spring forks, adjustable pulley, good order; £23.

WANDSWORTH.—F.N., late 1909, 5-6 h.p., 4 cyls., magneto, spring forks, guaranteed as new; sacrifice £28.

WANDSWORTH.—N.S.U., late 1908, 3½ h.p., m.o.v., magneto, h.b.c., Gradua gear pulley, nice order; £17/10.

WANDSWORTH.—Roc, with sidecar, 5-6 h.p., twin, magneto, 2 speeds, nearly new; bargain, £36.

WANDSWORTH.—F.N. Lightweight, late 1909, magneto, spring forks, nearly new tyres, perfect; £15/10.

WANDSWORTH.—Indian, latest 1910, 5-6 h.p. twin, m.o.v., magneto, h.b.c., spring forks, as new; 38 guineas.

WANDSWORTH.—Griffon, 2½ h.p., m.o.v., fine machine, cheap, £12/10; exchanges.—Wandsworth Motor Exchange, Ebner St., Wandsworth.

TRIUMPH, 3½ h.p., bought 1908, 1911 sidecar, perfect condition; £29.—271, Lauderdale Mansions, Maida Vale.

SACRIFICE.—3½ h.p. Peugeot, spring forks, magneto, B.B., h.b.c., headlight, perfect; £16/10.—Stclair, East Molesey.

DOUGLAS, 1911, ridden 630 miles, Jones speedometer, valves, spares, etc.; £34.—Brewer, 14, Goldstone Villas, Hove.

TRIUMPH, free engine, 1911, straight from works July 24th; no premium; £55.—Lawson's, 225, Edware Rd., W.

F.N., 4-cyl., 5 h.p., fast, splendid condition, good tyres; £19, sidecar £5; no offers.—10, Woodview Gardens, Archway Rd., N.

5-6 h.p. 4-cyl. F.N., enamelled cream, central carburettor, in splendid order; £25.—F.N. Repairs Dept., Highbury.

2½ h.p. Minerva, m.o.v., good engine but requires overhauling; what offers?—Hunt, 50, Meadow Rd., Shortlands, Kent.

QUALITY.—1909 Moto-Reve-Minerva, as new, new tyre, etc.; £18/10, or exchange.—111, Walton Rd., East Molesey.

3½ h.p. Magneto Minerva splendid condition, spares, 32 lamp, horn, etc.—Brown, 32, Girdlers Rd., Brook Green, London, W.

SINGER, magneto slightly out of order, otherwise perfect; £5/10, or useful exchange.—208, Camberwell Rd., London.

6 h.p. Chater-Lea, twin, B. and B., Whittle, 2½ Palmers, very low; £18/10.—40, Replingham Rd., Southfields, S.W.

BRADBURY, 2½ h.p., perfect condition, just overhauled, spring forks, new belt; £12.—White, 48, North Hill, Highbury.

3½ h.p. 1907 Ariel-Minerva, perfect condition, had little use, non-skid tyres, spare cover, all accessories; Arlington Rd., Surbiton.

3½ h.p. V.S., Bosch, 1911 B.B., Truffaults, guaranteed perfect; £15/10; offer 6.—The Hollies, St. Andrew's Rd., Barking.

7 h.p. 1911 2-speed Blue Indian, practically new condition; £61, no offers.—Kruzer, 25, Canonbury Park North, Canonbury.



World's Records

—WITH THE—

HELLESEN DRY BATTERY IGNITION SYSTEM AT BROOKLANDS.

Mr. F. A. McNab
riding a

3½ h.p. TRUMP-JAP
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Covering 110 miles 297 yards.

100 MILE RECORD

Time:—109 min. 8½ sec.

Mr. McNab used an ordinary standard HELLESEN Dry Battery and "H. H." COIL taken from everyday stock, which, as usual, gave perfect satisfaction. This performance again proves the superiority of the "HELLESEN" system over every other form of ignition, yet, although the best system, it is the cheapest.

Install this system on your motor cycle or car. We will give you every assistance willingly.

Catalogues sent free—anywhere.

A. H. HUNT,
115-117, CANNON STREET,
LONDON, E.C.

MOTOR BICYCLES FOR SALE.

3½ h.p. Brown, new May, 1910, 2 accumulators, 2 speed, fine condition, good tyres; £21.—16, Albert Rd., Wimbledon.

DE DION, Chater-Lea, 3½ h.p., excellent condition; trials given; £12; exchanges entertained.—164, Broadfield Rd., Catford.

5 h.p. 1908 Twin Rex, free engine, adjustable gear, magneto, excellent condition; £20.—Sund, Hypatia, Belgrave Rd., Wanstead.

2½ h.p. J.A.P., fast machine, grand condition; sacrifice, £11; will ride 50 miles.—Turner, 78, Church Rd., Willesden, London.

TRIUMPH, 1909, Michelin studded tyres, new condition, spares and accessories; £30.—Taylor, 112, New King's Rd., Fulham.

1910 Standard Triumph, first cheque £37 secures; 3½ h.p. magneto Brown, h.b.c., £22/10.—Adams, Motor Works, Woodbridge.

BRADBURY, 2½ h.p., splendid goer, good order, £9; Rex, 3½ h.p., fast, reliable, good condition, £10.—Walker, West St., Harwich.

F.N., 4 h.p., 4-cyl., 1909, magneto, spring forks, low, fast, perfect; £23/10, no offers.—12, Terrace Rd., Upton Manor, Plaistow, E.

TOTTENHAM.—Bradbury, 3½ h.p., 1911, standard £48; clutch model, £54/10; 2-speed model, £55; delivery from stock.—Below.

TOTTENHAM.—Triumph, 1911, clutch model, £55; standard, £48; delivery from stock.—Below.

TOTTENHAM.—Rudge-Whitworth, 1911, clutch model, £55; standard model; delivery from stock.—Below.

TOTTENHAM.—Humber, 1911, 2-speed model; delivery from stock; £50.—Below.

TOTTENHAM.—Triumph, 1911, standard model; delivery from stock; £48/15.

TOTTENHAM.—Fafair, 4 h.p., Simplex, new engine and magneto, Whittle, spring forks; £27/10.—Below.

TOTTENHAM.—Kerry, 5 h.p., twin, free engine, and coach-built sidecar; £20.—Below.

TOTTENHAM.—Kerry, 5 h.p., twin, Bosch magneto, rebored, rebushed, and new pistons fitted; £20.—Below.

TOTTENHAM.—N.S.U., 5 h.p., twin, Whittle, magneto, low built sidecar Chater-Lea, spring forks; £33.—Below.

TOTTENHAM.—Rex, 1909, 5 h.p., twin, tourist model, all as new; £28/10.—Below.

TOTTENHAM.—Rex, 1910, 3½ h.p., tourist model, slightly soiled; £32.—Below.

TOTTENHAM.—Rex, 3½ h.p., single-cyl., 1909, magneto, grand machine; £25.—Below.

TOTTENHAM.—1910 Motococche, just overhauled by makers; £25.—Below.

TOTTENHAM.—Triumph, 3½ h.p., perfect order, with sidecar; £20.—Stamford Hill Motor Co., 128, High Rd., Tottenham. Phone 1922.

1911 Humber Lightweight, from stock; your old machine taken in part payment.—Boyle, 23, Grand Parade, Highbury.

6 h.p. Twin Magneto, B. and B., Matchless pulley, all as new; £25, or exchange twin lightweight.—Glenora, Worcester Rd., Sutton.

1908 Motor Cycle, 2½ h.p. Kerry engine, low, footboards, spring forks, good running order; £10.—Putney Garage Co., High St.

2½ h.p. F.N., new magneto (not converted), 1911 24 Amac, low position, belt driven; £16.—Tabbs, White House, Hemeel Hempstead.

MOTOSACOCHE, 1 h.p., magneto, h.b.c., just been thoroughly overhauled, in splendid condition; £16, view.—Kenilworth Garage, Putney.

2½ h.p. F.N., 1910, 2-speed, Palmer cords; exchange for 3½ h.p. or take £50 lowest.—Norris, Ordnance Rd., Enfield Wash, Middlesex.

5 h.p. Sarolea-Chater, Brown and Barlow, h.b.c., and sidecar, good condition; £15.—Derrack, 41, Leonard St., Silvertown, London.

V.S., 7 h.p., 1910, 2-speed, splendid condition, guaranteed sound, spares; £42.—Box L4,044, The Motor Cycle Offices, 20, Tudor St., E.C.

1910 Triumph, with Mabon clutch, free engine, in splendid condition, lamp, horn, spares; £40.—Battersby, Dunbar, Woodside Park, N.

TRIUMPH, 3½ h.p., 1909 pattern, Mabon, free engine, spare tyre and belt, and accessories; £32.—"St. Valery," Cavendish Rd., Sutton, Surrey.

1910 Phelon-Moore, 2 speeds and free, splendid condition and order, £26, no offers; sidecar, used vice, £5.—2, Pemdenon Rd., Croydon.

TRIUMPH, 3½ h.p., 1908, lamp, Whittle, Palmer cord back, £25; Mabon clutch, fit Triumph, wanted Dover, etc.—Lewington, Enfield Wash.

6 h.p. Twin Rex, beautiful sidecar machine, extremely low built; £18, bargain, or near offer.—A., 3, Woodstock St., Barking Rd., London, E.

B.S.A.—Early deliveries of these splendid mounts from the Cripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

THE MOTOR CYCLE

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ADDRESS: 20, TUDOR STREET, LONDON, E.C.

The Six Days' Trials.

IT has been our privilege to attend every trial the Auto Cycle Union has ever held. Almost without exception each one has been more severe than its predecessor, which is only right if we are to continue progressing. Last week's trial in Yorkshire has been no exception, and it proved far and away the stiffest ever held. On the whole the organisation has been really good for such a huge task, and the work of the officials has been very painstaking.

The hotel accommodation, both as regards headquarters and luncheon stops, has left a good deal to be desired, but it is always difficult to find room for a large number of people, and the fact that the Harrogate season is at its height had a great deal to do with the unsatisfactory arrangements. A mistake has certainly been made in announcing previously the names of the observed hills. That the engines should be allowed to be cooled down, gears lowered, and adjustments made at the foot is entirely wrong. Several competitors certainly took some of the hills on the run, but got little or no credit for so doing. But this is the true test of the hill-climbing abilities of a motor cycle. No tourist is satisfied to have to wait at the foot of every severe hill or commence shortening belts and altering gear-ratios.

As regards the result of the trial, there is one thing absolutely certain, and that is that change-speed gears are now undoubtedly reliable. *The Motor Cycle* has advocated their use for eight years, and is rejoiced to see that its work in this direction has borne fruit. The Auto Cycle Union has done the right thing in selecting a course on which these fitments were practically indispensable, and it is our pleasure to record that gear trouble has been practically non-existent. No

one who has not been over the course can realise its severity, yet the gears have stood the test, and engines have kept cooler and have endured the strain even better than was anticipated. One of the lessons of the Junior T.T. Race was the wonderful advance made in the perfecting of the variably-gear twin-cylinder medium weight, and it will be recalled that we predicted that this machine would sooner or later become a serious rival to the popular $3\frac{1}{2}$ h.p. single cylinder. The performances of this type of machine in last week's trial have proved that our prediction was not far short of the mark, practically all the starters finishing successfully. With such convincing demonstrations of speed and reliability what more does a prospective buyer want. Fittings have been good, and in the main lamps remained rigid, but horns have been proved to be the most flimsy of accessories. There is one point, which we refer to in all seriousness, and that is that notice should be taken of motor cycle clothing. The average overall mackintosh suit serves its purpose well when new, but becomes stained, torn, and absorbent with too great rapidity. We do not suggest that such articles should actually be entered for the trial, but note might be made of their condition before and after the test. The trial has been a great success, and the A.C.U. deserves the heartiest congratulation. The system of awarding marks must certainly be revised another year. Last week a competitor who was unfortunate enough to puncture near a control lost a gold medal, whereas failing on one of the test hills did not involve loss of the premier award. There has been a good deal of bad luck in this, as there has been in every trial ever held, but bad luck can never be eliminated, and those who have suffered it have our most sincere sympathy.

TWO NEW CARBURETTERS.

MR. LAWRENCE J. KETTLE, 27, Northumberland Road, Dublin, informs us that he has been getting exceptionally good results from the "Connolly" carburetter, of which we annex a diagrammatic illustration of the mixing chamber.

The carburetter consists of a cylindrical chamber W, an admission valve, a disc D, and a spindle S, of which the valve V is a part.

The method of its working is as follows: The engine on its suction stroke causes, through suction, the diaphragm or disc D to be depressed towards the petrol union P by the atmospheric pressure on the side of the diaphragm furthest from the opening I. This carries with it the spindle S, which moves the fuel admission valve from its seat F, and allows petrol to enter the chamber; at the same time air enters through the ports A, and is mixed with the petrol; the mixture is then drawn into the engine through the inlet port I. The fuel admission valve can only open the amount controlled by the locking device R. When the suction on the diaphragm or disc ceases the valve is returned to its seating by the agency of the spring B. It will be noticed that this carburetter is of the simplest possible kind, and that it is practically impossible for the jet to get stopped up.

In the course of his experiments, Mr. Kettle informs us he succeeded in getting from 15 to 20 per cent. better petrol consumption on a standard type of machine, with which he used a sidecar carrying a twelve stone passenger. In fact, under these conditions, he states he could run eighty-five miles to the gallon. Another advantage of the carburetter is that it works in any position.

The C.A.P. Carburetter.

The C.A.P. carburetter, the invention and design of Mr. Harold J. Cox, is an entirely new departure in carburetters for motor cycle engines, the most important features being the horizontally arranged jet chamber and the absence of "bottom air." These features, combined with the adjustable jet, special valves, and general design, have proved themselves, after prolonged road tests, to give excellent results.

The carburetter is formed of two main parts—(1) the jet or vaporising chamber, (2) the float or constant level chamber.

The jet chamber is of an entirely new construction. In the centre of its length is situated a combined adjustable jet and spraying cone. On each side of this, and placed equi-distant, are the air and throttle valves. The main air intake is protected by a fine gauze of large diameter. Inside the valves, which are controlled in the usual way from the

handle-bars, are placed the springs which return the valves to their closed positions, this position effectually protecting them from dust and wet. The valves are arranged so that they open in opposite directions, the air valve opening anti-clockwise, and the throttle valve opening clockwise. By this arrangement the current of gas passing through to the engine is deflected over and towards the jet, thereby effecting good suction on partial throttle. The valves themselves are made in the form of a tube passing at right angles through a tube so that when in the open position they virtually constitute a part of the tubular way through from atmosphere to engine. This is a very important point, and one worthy of special attention. With full air and throttle there is an absolutely straight, unobstructed passage from the atmosphere to the engine devoid of any turns.

stood by referring to the drawings than by a description. As will be seen, the mouth of the jet is trumpet shaped, the size of the small hole at the bottom of this being .04in. bore. Directly over the jet, and axially in line with it, is situated the jet adjusting screw with its conical point and spraying cone. The point of this screw fits right into the .04in. hole when screwed down. As this is unscrewed it allows petrol to flow into the conical space between the mouth of the jet and the point of the screw. These surfaces being parallel to one another the petrol is split up more and more as it rises, until, at last, it emerges from the jet in the form of a mist, as can be seen by looking into the carburetter with the engine running. The jet itself is very easily removed by unscrewing one nut.

Prolonged tests were made of this gas plant during the winter months, and very satisfactory results obtained. The machine to which it was fitted—a 1907 3½ h.p. m.o.v. Quadrant—was easier to start, more powerful, kept cooler, could be throttled down to a mere puff, and accelerated to full speed on full air by using the throttle valve only. This latter is a great point in its favour, and it was only found necessary partially to close the air for picking up after slowing down on corners or in traffic.

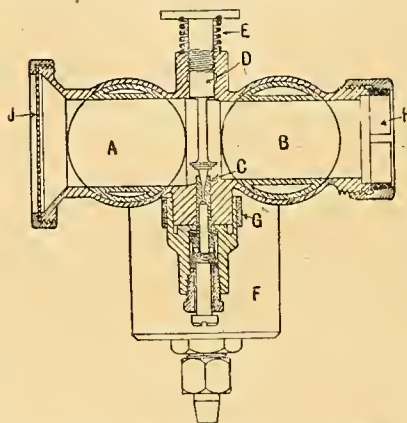
Under ordinary touring conditions, with the jet adjusted to pass sufficient petrol to give an explosive mixture on full throttle, it was possible to drive on full air all the time, oblivious of other levers. In action it was automatic, but it should be clearly understood that it is not designed, described, or sold as an automatic carburetter.

Petrol consumption, over 145 miles of give and take roads, on a raw Saturday afternoon last December, 1 gallon ½ pint, or, to put it roughly, nearly 140 m.p.g.

It is very pleasing to the inventor to record that more than one competitor used it in this year's T.T. races, and that several motor cyclists have ordered one, even before any, except the experimental models, were made, simply on the strength of a verbal description.

The C.A.P. has already shown itself worthy in competition work this year, and, it will be remembered, was fitted to the Norton machine with which Mr. P. Brewster did so remarkably well at the Bristol hill-climb.

The device is now on the market, and enquiries should be addressed to the C.A.P. Carburetter, 102, Colmore Row, Birmingham.

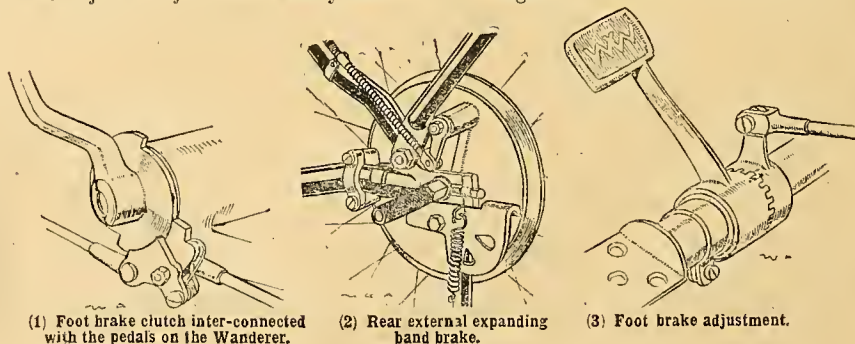


Sectional elevation through centre of jet chamber.

- | | |
|-------------------------|--|
| A. Air valve. | F. Float valve. |
| B. Throttle valve. | G. Band clip. |
| C. Jet (adjustable). | H. Contracting lock ring for induction pipe. |
| D. Jet adjusting screw. | J. Dust gauze. |
| E. Locking spring. | |

The float chamber is secured to the jet chamber by means of a band clip, which allows the chamber to be moved into various positions and makes it easily detachable from the body. The needle valve is of the inverted type, properly guided, and provided with a slot at one end for grinding purposes. The valve is all made in one piece, and the float, carefully designed to float vertically, is secured in position by a castle nut, which screws on to the valve, and is held in position by a split pin.

The adjustable jet is more easily under-



(1) Foot brake clutch inter-connected with the pedals on the Wanderer.

(2) Rear external expanding band brake.

(3) Foot brake adjustment.

THE ALBION DISC CLUTCH HUB.

THE Albion Engineering Co., Ltd., Tower Works, Upper Highgate Street, Birmingham, are placing upon the market a very cleverly arranged hub for motor cycles, containing a disc clutch, which has so many neat points that it cannot fail to be of interest to our readers.

The external appearance of the hub itself is shown in fig. 1, and with a total width of about 7½ in. over all its weight comes out at some 12 lbs., which, considering its robust construction and great strength, is by no means excessive. It is suitable for powers from anything up to about 7 h.p.

Fig. 2 illustrates the component parts of the hub, whilst fig. 3, which is a half section through it, indicates its general arrangement, and in conjunction with the following description will make its operation quite clear.

The clutch itself consists of twenty-four steel plates, one series of which is directly coupled to the flange from which the belt

and upon which they are secured by a cover plate and lock-nut. On the external periphery of the sleeve are half a dozen

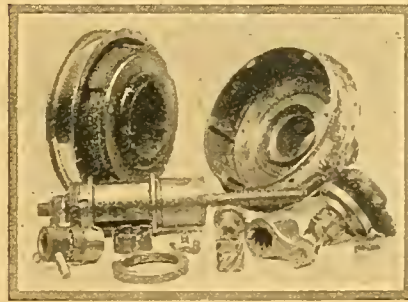


Fig. 2.—The clutch shown disassembled.

keys which fit into slots cut on each alternate clutch plate. On the right-hand side of fig. 2 is shown the interior of the wheel hub shell, in which the attachment of the plates—in this case by keys on the internal periphery of the shell—is made clear. The clutch plates are held together by half a dozen helical springs which bear against the end plate, which is much thicker than the frictional plates, and is furnished with three ears which pass through the three slots cut in the sleeve, and against the ends of which press the three pins of the ball bearing thrust collar through which the clutch is operated. This thrust collar is illustrated in fig. 2, and is, when the hub is assembled, situated inside the inner sleeve, through the three slots of which its points emerge. The collar is operated by a push rod actuated by a quick thread drum, shown on the extreme right-hand side of fig. 3.

The frictional area of the clutch is 275 square inches, and that it embodies very admirable points as well will be clear from a consideration of fig. 3, whence it will be seen that it provides an absolutely direct engagement between the belt rim and the hub shell. There is, of course, a

complete absence of end thrust. Another very excellent feature is that the whole of the clutch, as shown in fig. 2, can be withdrawn from the hub by undoing a single lock ring, and we may say that these same good points characterise a hub two-speed gear in which the clutch is similar to the above, and which the Albion Co. are now in process of producing. Attention is also directed to the fact that the engine can be started by the pedals when the back wheel is at rest upon the ground, as the belt rim shell is connected through the internal sleeve to the chain wheel on the right-hand side, as shown by fig. 3. The free-wheel for the pedal gear is not, as usual, included in the chain wheel, but is fixed completely inside the hub, where it is impervious to mud and dust. The free-wheel, although of comparatively small diameter, is very strong, and has very large wearing surfaces. The clutch hub illustrated is intended for use with the usual type of brake attached to the special belt rim.

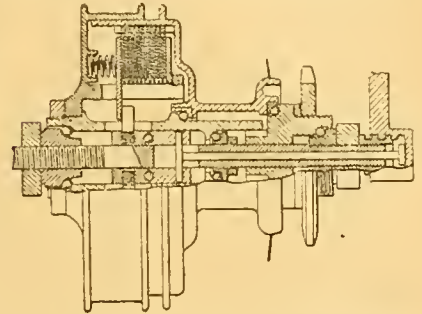


Fig. 3.—Part sectional drawing of the Albion hub clutch

A second model is, however, made with an internal expanding brake, which is completely enclosed, and operated by a rod on the outside. In both hubs ball bearings are provided at every point, and the shell holds sufficient oil to enable it to be run for a considerable time without any attention.

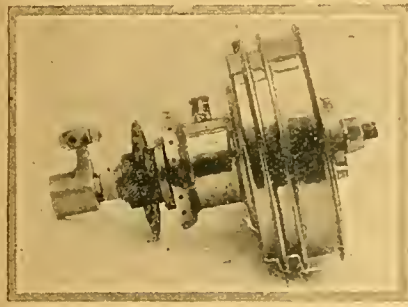
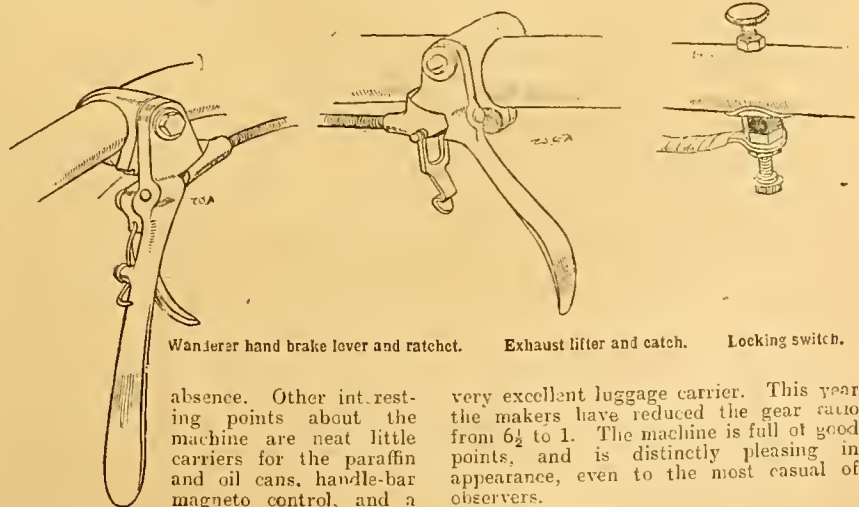


Fig. 1.—External view of Albion clutch, complete.

rim is spoked, whilst the other series are similarly coupled to the shell of the wheel hub. The manner of the attachment of these plates is made clear in fig. 2. Referring to that part of the photograph which depicts the plates of the clutch, it will be seen they are assembled on a sleeve which has three slots cut into it,

LATEST WANDERER IMPROVEMENTS.

Several interesting little improvements have been incorporated in the 3 h.p. twin-cylinder Wanderer motor bicycle, sold by the Service Co., Ltd., 292-293, Holborn, W.C. Heavier flywheels and connecting rods are now fitted, and in consequence, we are informed, the machine is much faster. The rear band brake is now much larger in diameter, and is operated by means of a ratchet grip lever on the handle-bar, allowing the brake to be left on while a long, steep hill is being descended. The pulley rim brake is worked by a pedal, the angle of which is adjustable. This pedal is situated on the footrests, and in the event of the footrests becoming damaged a trip may be put into action and the brake converted into a back-peddalling one. Further improvements are a stand which, when out of use, springs up automatically into position, and a locking switch, which can be made to short circuit the magneto and then permanently tightened, so that the machine cannot be used during the rider's



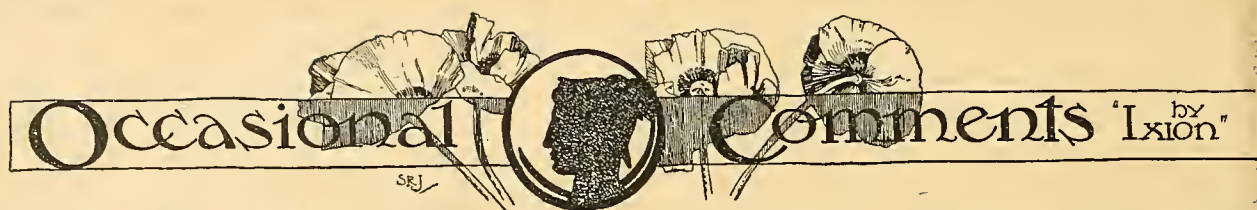
Wanderer hand brake lever and ratchet.

Exhaust lifter and catch.

Locking switch.

absence. Other interesting points about the machine are neat little carriers for the paraffin and oil cans, handle-bar magneto control, and a

very excellent luggage carrier. This year the makers have reduced the gear ratio from 6½ to 1. The machine is full of good points, and is distinctly pleasing in appearance, even to the most casual of observers.



Occasional Comments ^{by} Ixion

The Six Days' Accommodation.

An amateur competitor in the A.C.U. Six Days' Trials writes me as follows:

"I daresay you noticed that the A.C.U. specially invite private owners to compete in their Six Days' Trials, implying that to compete will make a very jolly week's holiday. Personally I am always pleased to see amateurs riding in these events—their performances mean more than those of trade riders, who bestride specially picked and tuned machines, and who have previously familiarised themselves with every inch of the course—especially the hills! But I do consider amateurs ought to be warned that the trials cannot possibly form 'a pleasant holiday.' I am not thinking of the difficulties of the road, the hustling at the checks, or the limitations of a close time schedule, but simply of the headquarters' accommodation, which deprives the men of all ease and comfort in the short intervals between their exhausting rides.

"This year the headquarters were at a small hotel, which in the ordinary way could probably house thirty or forty people in tolerable comfort. Competitors, officials, press men, trade representatives, etc., must compose a total of at least 100, and though many of them were sleeping out over shops, etc., the discomfort was most pronounced. The over-burdened staff could not possibly minister to our needs, at meals we often waited ten minutes between courses, the bath rooms were turned into bed rooms, etc., etc. Much the same applies to garage. Forty of the machines were crammed into a small two-chambered laundry, entered by a single narrow door 3ft. 6in. in breadth, while the remainder were tightly packed into three small and odorous stables. All our work during the daily adjustment period (7.30 a.m.-8 a.m.) was done in the open, and the heat wave did not render the work an easy task. The arrangements were simply scandalous."

[Note.—The amateurs who have been induced to enter by the suggestion that the trials would provide a pleasant holiday seem to have a genuine grievance. I make no doubt that it is difficult for the A.C.U. to secure suitable accommodation in August, and suggest that July would in consequence be a better month. The garage accommodation at the headquarters in the Isle of Man was inadequate, although no complaint could possibly be made respecting the hotel.]

Concealed Tapiess Oil Pumps.

I notice the trend of design is all in favour of concealed oil pumps sunk in the tank, and without doubt this pattern attains a neat and homogeneous appearance. But I have heard countless wails during the season of the shortcomings of these pumps. They leave the lubrication system without any visible indicator, and when a machine commences to run badly the unlucky owner cannot be sure whether his engine is mechanically amiss, or whether shortage of oil is the sole trouble. The novice is likely to seize his piston,

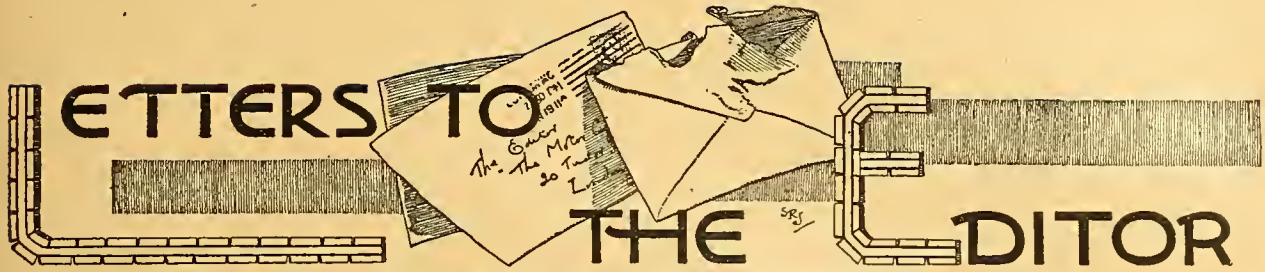
fail on hills, etc., because of the eccentricities of these concealed pumps. If the pumps were both simple and reliable, I would not say a word against them, but in most cases the "automatic" valve at the pump foot is of a delicate and complex nature. The makers I patronise have presented me with no fewer than five of these valves this year, and at the moment of writing the sixth is misbehaving. Nor is this surprising, as a single small fragment of grit, entering with the unfiltered oil, is sufficient to put the valve *hors de combat*. In the worst instances these valves may lead to sad trouble. When they are disorganised by a scrap of grit, the handle offers the usual resistance, but only half the usual quantity of oil gets through, and the engine begins to give trouble. Presently the rough usage still further disorganises the valve, and the seams between the pump and the tank burst under the pressure of the pump piston. Honestly, I have heard so many complaints this year that I have hankerings after the ancient and ugly outside pump, with sight glass and two-way tap. I know several riders who have fitted such pumps to their smart 1911 models in sheer desperation.

Shoddy Tyre Pumps.

At the risk of being styled a chronic grumbler I should like to ask whether a £50 motor bicycle is not worthy of a decent tyre pump? Inflating a 26in. by 2½in. cover is hard work in a heat wave, even if a big garage pump is available, but when we try to use the pumps provided on some machines—! Mine is undersized, and really only suitable for a push "bike." Its connection is about as stout as valve tube rubber, and is staunchly secured to its screw ends by bits of tinfoil. These pumps cost very little when contracted for by the thousand. Some firms I know supply folding foot pumps, with first class connections and barrels of reasonable dimensions, and these possibly cost a little more, but they are worth it. *Si sic omnes*.

A Tip about Overhead Valves.

Overhead valves are becoming quite the rage, and not every user is aware of one of their eccentricities. The slender tappets employed to operate these valves wear with some rapidity, and it is as necessary to keep the gap between valve and rocker small as with the side by side valve. The necessity of continually adjusting the *exhaust* valve tappet tight up to its work would be obvious to anybody, but a little consideration is needed to see that the same applies to the inlet valve. Last week my inlet tappet wore down perhaps ⅜in., and as I had very little time to spare, I delayed to adjust it. Meantime the engine ran very sluggishly and overheated. I rashly imagined that the maladjustment of the tappet would tend to keep the engine cool, as a smaller charge of gas was being inhaled. I overlooked the fact that this maladjustment had altered the timing of my inlet valve, and this was the sole cause of my trouble.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Sidecars and Change-speed Gears.

[5824.]-Referring to the many letters which have appeared in your valuable paper *re* gears and sidecars, I have been patiently waiting for someone to mention the never-failing qualities of the Zenith-Gradua gear. I cannot believe your correspondent could have had experience with a Gradua, or he would not write as he did.

As regards "Ixion's" remarks in a recent issue as to the two adjustable fasteners in one belt to save shortening on the road, the Zenith belt adjustment is just ideal, as all that is needed is to undo one nut, adjust your belt by increasing the distance between the back wheel and pulley (which is done by a quarter-turn of the gear handle), and tighten your nut again, and away.

After about 8,000 miles with a $3\frac{1}{2}$ h.p. and sidecar, I have nothing but praise for it. I have no interest in the firm, bar that of a satisfied owner.

The belt I was using was a one inch intermediate Watawata.
EDWARD COX.

The Vicious Dog.

[5825.]-Many of your correspondents have described various ways of dealing with vicious dogs. One or two have confessed to partial success only, but a correspondent [letter 5290] in a recent issue, lays claim to "most satisfactory and unflinching" success by a generous use of a "fairly stout walking stick of oak or ash with a U-shaped staple" (replacing the ferrule) to which he attached a slender dog chain divided into three parts.

You fasten this to your handle-bar (in the manner described in the letter, if you like), and then—Why, then, when you are in the midst of traffic or greasy roads with treacherous tramlines, or when jolted out of your saddle on our suburban roads, why, then, as a Newfoundland suddenly darts out at you, just remove this instrument and apply it to the dog.

Has your correspondent, sir, and have those others who have suggested similar methods of dealing with (vicious) dogs, followed out their directions under circumstances such as those described above? I, a short time ago, followed out the suggestion of merely raising the arm in a threatening attitude. The method was certainly successful, but not at all agreeable. My machine slipped to one side of the road and myself to the other, to "the horrified surprise and rapid rout" of the Newfoundland attacking me.

I have come to the conclusion that the only safe and sound method is to stop and address a word of warning, etc., to the owner of the dog, and insist upon the dog being held back till I am well away. If I cannot discover the owner, I generally find that the dog will not go for me again as it seems satisfied with its first protest.
G.C.

A Sidecar Suggestion.

[5826.]-With reference to the leaderette, "A Sidecar Suggestion," in a recent issue, we might add that we have experimented in conjunction with manufacturers of flexible metallic tubing with a view to utilising this tubing for the exhaust pipes of motor cycles, and we must say the results have been far from satisfactory owing to the difficulty of maintaining the joint between the tubing and the thimble connection. We beneve all these connections are soldered, and as we are informed by one of the leading manufacturers of flexible metallic tubing that there is no other method of doing it, we have been obliged to abandon the idea. You will quite see that the slightest overheating would cause the

solder to run. We might mention that only a few weeks ago we supplied one of our Clair silencers for a sidecar, but in this case the pipe work was more or less a fixture, the rider in question scarcely ever using his machine separately. We think possibly a suitable steel pipe could be utilised connected to the ordinary silencer by means of a union nut. One could have the ordinary small silencer fixed to the motor cycle for solo work with a threaded outlet pipe, and have a large silencer fitted under the sidecar frame as you suggest, and it would mean but a few minutes to attach the union nut to the outlet of the small silencer. We are of opinion there is a good deal in your suggestion, and are quite willing to let any of your readers have a silencer on approval for trial. J. C. LYELL AND CO., LTD.

[Our suggestion was a *flexible connection*, not necessarily by means of the Flexible Metallic Tubing Co.'s piping.—Ed.]

Businesslike Methods—The Other Side.

[5827.]-I notice a letter in the last issue of *The Motor Cycle* giving "the other side of the question," and am greatly interested.

A friend of mine recently (1911) purchased from the makers a certain $2\frac{1}{2}$ h.p. lightweight. He has had a lot of trouble with it from the first in many ways—leaky tank, defective accessories, etc. The only satisfaction he can get from the company is to be told that he has driven it badly—which I know is not the case—and other unpleasantness from an extremely bumptious director of the company.

For myself, I purchased a $1\frac{1}{2}$ h.p. machine second-hand from the Service Co. (no connection other than satisfied user), and these people have laid themselves out to give me every satisfaction, and most courteously, too, yet it was only an accumulator machine, and of low price.

The climax was reached the other day when I had the pleasure of towing home this celebrated $2\frac{1}{2}$ h.p. "no gymnastic" machine.
C. R. GRIFFIN.

THE SIX DAYS' TRIALS IN YORKSHIRE.



H. V. Colver ($2\frac{1}{2}$ h.p. Enfield) leading a string of competitors over the water splash near Coxwold.

A Home-made Lubricator.

[5828].—*Re* Messrs. Best and Lloyd's new drip feed lubricator and your remarks relating thereto. I have had a very similar instrument in use for about 3½ years. It was originally a J.A.P. sight feed lubricator which from some cause, which I could not understand, at the time, had "gone on strike," but having got the lubricator apart to make the additions I found the horizontal tube to the needle valve choked with sawdust.

The pump I "concocted" out of an old pattern cycle inflator, and the completed article, which I have found to be a most useful accessory, differs from Messrs. Best and Lloyd's only in minor details. I have no gauze at the bottom, but a 3in. steel ball acting as valve. The plunger or bucket is an inverted inflator washer fixed between two steel plates which on the downward stroke allows the oil to pass from the fact of the valve at the bottom being closed. Immediately, however, the plunger rod is pulled the leather washer expands and brings all before it, and, naturally, by suction, draws in a fresh charge past the ball valve. I thought at the time I made the alteration that the substitution of the pump barrel for the small down tube in the tank would interfere with the automatic action of the drip, but in this I was mistaken.

Of course the needle valve requires to be regulated according to temperature of the air. WOOD.

Road Hogging.

[5829].—I feel I should like to call your attention to an incident that happened recently. I was driving a car containing four passengers along the road between Whitney and Willersley on the main road from Hereford to Hay. On coming to a double bend in the road I noticed a cloud of dust rising over the hedges about 200 yards in front. I pulled in close to my own side and glanced at the speedometer which registered just 17 m.p.h. The next moment a motor cyclist came round the corner on his wrong side at a terrific speed, not less than 40 m.p.h. He swerved violently to avoid me, and I swerved right over on to the grass and proceeded to pull up as I was pretty certain he would not be able to get round the corner.

The next instant another motor cycle with two riders came round the corner at the same speed. They were so close that they actually brushed the front mudguard of the car, although I had driven over a foot on to the grass. The first cycle managed to get round the corner somehow, but the second one ran into the hedge about thirty yards farther on.

There is no sense nor reason in this sort of thing. My master (who is a doctor) and I went back to see if anyone was hurt. No was was hurt, but they were considerably shaken and the cycle damaged. I remonstrated with the rider of the first cycle on his abominable conduct in taking corners at such a speed and endangering the lives of other users of the road, and he was most insolent, and remarked that we were on our wrong side and travelling at about 40 m.p.h.

Now I pulled up within five yards without effort with a car weighing 24 cwt., and containing five people. Could such a thing have been done if I had been travelling at more than 17 m.p.h. I have driven thousands of miles, and I say it could not. My master and I pointed out to him his own tracks which were on our side within two feet of the grass, and also the marks where they had both swerved and torn up the stones in the road, showing clearly that they must have been travelling at a terrific speed.

I have never yet met a more unspeakable cad. When we had clearly proved to him that he was entirely in the wrong he had not a word of apology for his abominable conduct. Such cads disgrace the name of motorists. The other two riders did not say anything, as they were pretty badly shaken, but their method of using the road is equally to be condemned with the other. I am sorry for the passenger as, of course, he had no chance of doing anything in the matter.

I may say I own and drive a motor cycle, therefore, I speak without prejudice, and in the hope that others who may be endangering lives in the same way as these two will, when they read this, try to remember that they can get no end of pleasure out of a motor cycle without the slightest danger or inconvenience to other users of the road.

I must apologise for taking up so much of your space, but it is such a bad case of road-hogging that I do not think it right to let it pass unnoticed. Had I been driving a horse instead of a car there would have been an awful smash.

E. C. MORRIS.

That Fibre Bush.

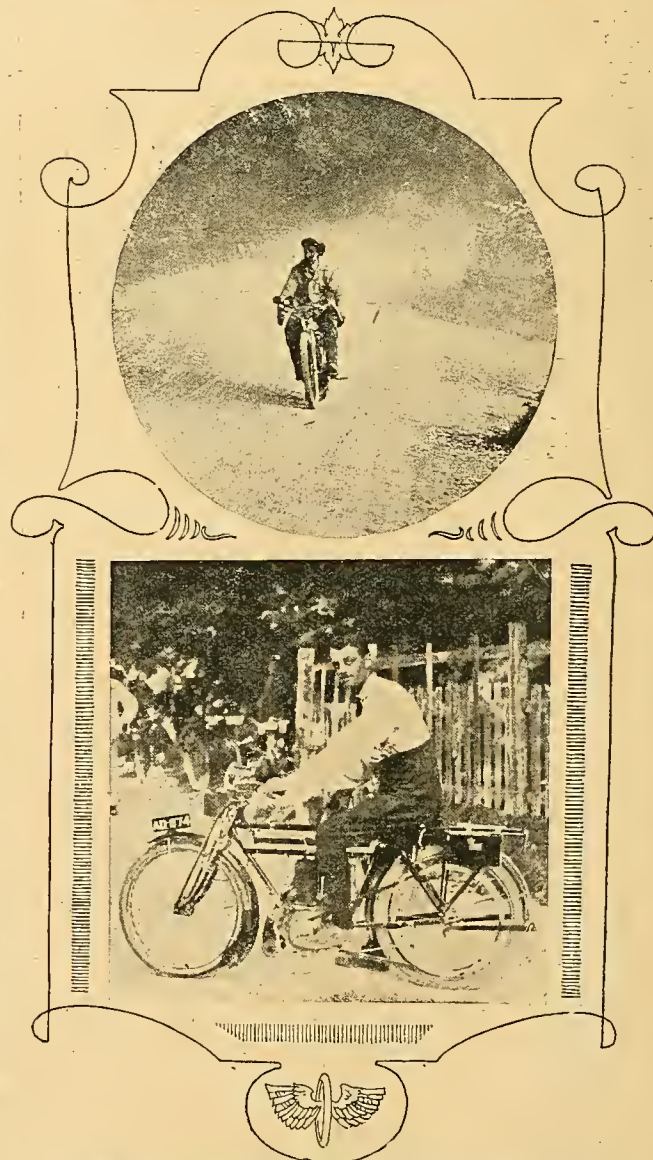
[5830].—Two or three times lately I have been unable to start my machine owing to the swelling of the fibre-bush on the pivot of the bell crank lever in the magneto machine. I do not remember the same thing on a previous machine. It is a very trifling point, but on the first occasion was not located at once. Is all fibre liable to this objection, or can the makers obviate the trouble by allowing a shade more clearance? I have heard of other cases besides my own.

AB 668.

SUMMARY OF CORRESPONDENCE.

F. R. Davis wishes to thank the rider of a P. and M. for his assistance between Staines and Sunbury on the 7th.

THE HAMPSHIRE M.C.U. INTER-CLUB HILL-CLIMB.



(1) A rider of a 5 h.p. Indian, who made fastest time in the inter-club hill-climb held recently at South Harting, near Petersfield.

(2) Rolphe (T.T. Premier) who was only 1 sec. slower than the Indian rider.

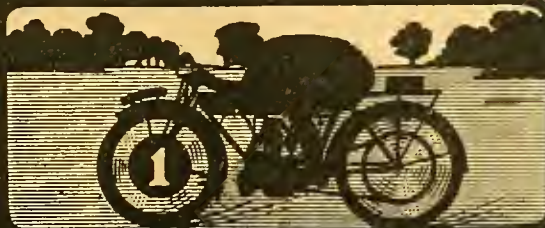
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ALL PREVIOUS RECORDS BEATEN

by Mr. C. R. Collier, at Brooklands, Aug. 11th,
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1 Kilometre in 25 secs. = 89.48 Miles Per Hour.

1 Mile in 39½ „ = 91.37 „ „

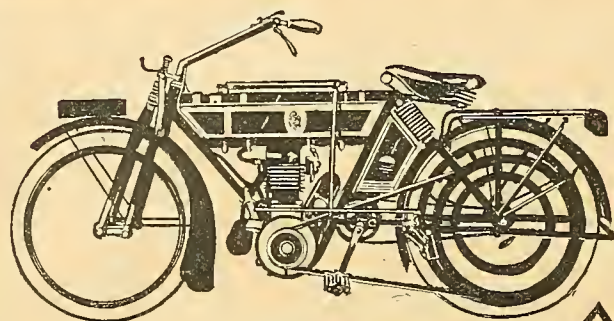
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all accomplished on

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ANGLO-AMERICAN OIL CO., Queen Anne's Gate, WESTMINSTER, S.W.



3 1/2 h.p. N.S.U. Model de Luxe.

Specification of 3 1/2 h.p. Model de Luxe.

85 x 88 engine, double row ball bearings to engine shaft, gear driven, Bosch magneto, handle-bar control, M.O.I.V., low frame, internal expanding brake and belt rim foot brake, spring forks. Long comfortably arranged handle-bars, rear half of back mudguard detachable, stand, carrier, tool case, etc. Can be fitted with two-speed gear and free engine pulley at extra cost.

You might as well buy a "star" machine when you are about it.

A few successes do not make a "star": it is consistent success season after season, both in private service and open competition.

What matters to you is the pleasure and service that your money can procure in a particular machine. The long

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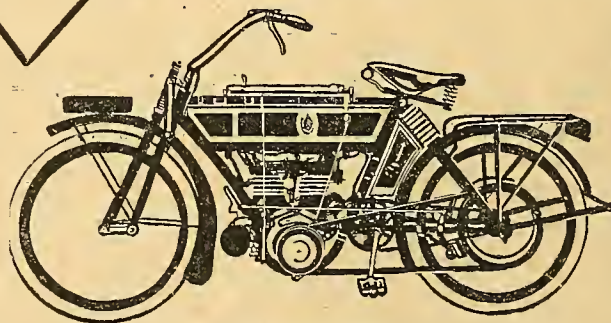
the motor cycle has entered. Get our Catalogue, see the machines and

we have no doubt you will feel *abundantly* justified in *preferring* an

N.S.U. to any other.

N.S.U.**N.S.U.****Specification of 3 h.p. Twin-Cylinder N.S.U.**

Twin-cylinder engine, 396 g.c.m., 58 x 75 mm., M.O.I.V., gear driven; H.T. Bosch magneto, new pattern carburetter, drive by 3/4 in. v belt, spring frame, new type spring forks, new type petrol and oil tanks, divided mudguards, automatic spring stand, two brakes, 6 in. wheels fitted with 2 in. tyres, engine clearance 6 in., gear ratio 6-1. Delivered as standard with under-geared pulley of improved design.



3 h.p. N.S.U. Twin-Cylinder.

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SIX DAYS

HARROGATE
AS A CENTRE

RELIABILITY TRIALS

(Continued from page 852)

Second Day, Tuesday, August 15th.—Harrogate to Kirkby Stephen.

Kirkby Stephen, Aisgill, Askrigg, Searth Nick, Bedale, Baldersby Gate, Thirsk, Knaresborough, Harrogate.

After lunch at Kirkby Stephen, the competitors followed a fairly good road, for which they were genuinely thankful, and, save for a patch of loose metal on a bridge on the railway just after leaving Kirkby, the surface was quite good. There were, however, numerous steep pitches, mostly on the down grade. The valley is sadly reminiscent of the railway accident early in the year at Aisgill, which we passed. The scenery was particularly lovely from Askrigg to Searth Nick, and on the way to the latter Bolton Castle was passed—a fine old ruin in which Mary Queen of Scots was incarcerated. Searth Nick is off the main road, and a special *détour* was made to include it.

The surface was terribly rough, but the stones could be dodged by riding on the grass at the side until an official car, which is fond of doing these things stuck for some minutes, and made people ride among the "boulders." As regards gradient, it was longer, but probably not steeper, than Punchard Hill, the correct name of the place where the men were officially observed this morning.

It was a lovely spot, shaded by trees, and from which a fine view could be obtained over the valley. Many people have grumbled about the surface to-day, but it must be remembered that the route through Arkengarthdale and over Tan Hill is a main road, given in the Contour Book, and Searth Nick is just the hill that some people ride up and write to the papers on their achievements, and then object to climbing it in competition. It proved, however, to be moderately easy, and the only failures were those of Colver (2½ h.p. Enfield), Busby (3½ h.p. Precision), and Slatter (2½ h.p. Alcyon). Maurice (3½ h.p. Premier) came up with a spare belt in his mouth, much to everyone's amusement. Holroyd (Motosacoche) pedalled, but got up. Pratt and Shaw on their P. and M. climbed the hill on top gears.

The day's run has certainly been somewhat stiff. The awful surface of Tan Hill was a severe test, and there were

numerous steep pitches to be negotiated which have not been specified. Nothing so steep and long as Sutton Bank has been encountered to-day, and talking of Sutton reminds me of Gray's performance yesterday. His Rudge had a dry skid at the corner above where I was standing, turned round pointing down the hill, then was turned up again and continued without the rider dismounting. From Searth Nick, Leyburn, Thirsk, Topcliffe, Boroughbridge, and Knaresborough presented no difficulties.

There was some grumbling as regards the distance of the Brough check from Leyburn. The distance on the route card was given as twenty-seven and threequarter miles, but a number of competitors afterwards proved by their distance recorders that the exact distance was thirty-one miles. This, of course, led to several competitors being late, and many marks were lost thereby. W. Creyton unfortunately suffered three punctures in succession, which caused him to arrive thirty minutes late at the next control. The loose condition of the roads accounted for a great many tyre troubles, O. C. Godfrey (Indian and sidecar) not being free from this worry. Poor Applebee, ever unlucky, noticed that his engine was running freely after climbing up to Tan Hill Inn, and, dismounting, found that the rear belt pulley had been torn from the wheel rim. He was towed home by a farmer's cart, and had to retire.

Competitors had to touch Appleby and return by the same route. It is said that some of the stragglers, hearing that there was no check at Appleby, turned before reaching that place, and enquiries are proceeding in consequence.

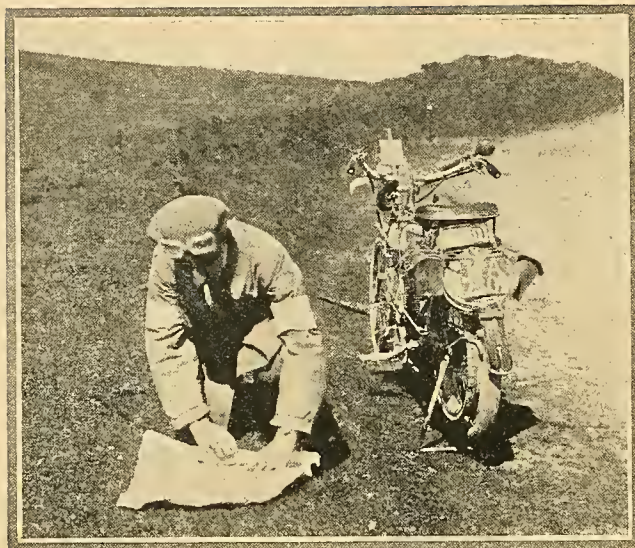
An Irate Farmer.

There was an amusing incident just before the last check on this day. A number of riders found that they were some time ahead, and they were all amused at the energy of V. Busby, the Steelhouse-Precision rider, who actually took the cylinder off and scraped away the carbon, eventually checking in to time, his task completed. C. P. Finn reported on arrival at Harrogate that he had collided with a cyclist who rode out of a byroad, and whom he was unable to avoid, but not much damage resulted.



J. H. Slaughter (3½ h.p. L.M.C.) and H. G. Dixon (3½ h.p. New Hudson) on Wass Bank.

A.C.U. Six Days' Reliability Trials.—



N. D. Slatter (2 h.p. Alcyon) repairs a puncture on Tan Hill on the second day of the Six Days' Trials.

Near Kirkby Stephen, Eggington and Cooper, while taking a corner, suddenly encountered a herd of cattle. Eggington hit one and finished in the ditch. Cooper lectured the farmer in charge on the subject of loose cattle on the highway, which so roused the ire of the latter that he started to chase the offender, and had not Cooper's engine fired the result may only be conjectured. The other competitors who had now arrived were much amused by the incident.

Official List of Failures on Arkengarthdale Hill.

L. S. Parker, C. P. Finn, V. Busby, W. H. Eggington, F. W. Applebee, W. Creyton, and T. Silver.

Tuesday. Marks Lost for Reliability Only.

A. C. Robbins, 35; C. C. Cooke, 25; V. Wilberforce, 2; P. W. Moffatt, 3; Jack Baker, 3; C. Williams, 3; C. P. Finn, 10; G. T. Gray, 7; H. M. Jameson, 5; W. T. Munro, 1; G. Castagnoli, 48; S. J. Woolley, 11; H. Graham Dixon, 7; H. E. Ashley, 63; W. H. Eggington, 23; P. J. Evans, 5; N. D. Slatter, 30; S. Crawley, 2; W. Creyton, 19; A. P. Maurice, 4; T. Silver, 12; S. Fontaine, 18; J. S. Holroyd, 5; J. Tassell, 10; and F. Smith, 6. F. W. Applebee and H. F. S. Morgan retired.

Thirty-seven competitors had lost no marks on Monday's and Tuesday's runs.

Third Day, Wednesday, August 16th.

Harrogate to Scarborough, *via* York, Garrowby, Great Driffield, Skipsea, Bridlington, and Filey, returning by Whitby Blue Bank, Pickering, York, and Wetherby. 193½ miles.

To-day's run was the longest in the trial, and on account of its length somewhat monotonous, but the two test hills, though stiff, were ordinary main road acclivities, which every modern machine ought to climb. We are now halfway through the trial, and looking back on the last three days, I am pleased to say the organisation has been good on the whole. Every morning the machines are started at eight o'clock by Mr. Nisbet, and previous to that hour they are taken from their lock-up houses, and are placed opposite the various stations in the yard which are marked with their numbers. Competitors may thus spend thirty minutes on preparations and adjustments. The men are despatched in different order every morning. Wednesday morning was dull and somewhat cold, and the first part of the run through Knaresborough to York was quite easy. The tramlines in the city were freshly watered, but fortunately there was not very much of them, and it is my pleasant duty to relate that the way through was well marked, as has been the case all along the route, thanks to the fact that an official car is sent ahead every morning to see that the arrows are in place.

For thirteen miles out of York the road was good and over flat country; then Garrowby Hill loomed into view. It is a sudden rise over the flank of hills which break the monotony of the great plain in which York is situated. The surface is fair, and I do not think the gradient is much worse than 1 in 8. Consequently there were few incidents. Holroyd (Motosacoche) got up comfortably with pedal assistance. Slatter's little Alcyon made quite a good ascent. Smith (Clyno) and Godfrey (Indian) made excellent performances, while Tassell's Matchless was another passenger machine which did almost as well. Of the fastest motor bicyclists, Weatherill (Zenith), Edmond (Premier), Pratt (P. and M.), and Newsome (Triumph) may be mentioned as shining conspicuously. Finn (Enfield) ran alongside. On this occasion I handed over the Scott to a colleague, and, thanks to the courtesy of Mr. John Gibson, I was given a seat on his Little Briton car, with which he has done valuable work for the A.C.U.

Blue Bank Hill.

This ascent from the valley at the head of which Whitby lies rises abruptly from the village of Sleights on to the moors, and has a maximum gradient of about 1 in 7. Finn (Enfield) was the only competitor who had to dismount. Holroyd on the diminutive Motosacoche climbed the hill well with pedal assistance. Quite a conspicuously good ascent was made by Pratt, who climbed the steepest portion on top gear. All the other competitors made clean ascents. There was a large number of spectators who had come from Whitby specially to see the event. The run from the summit of this long hill consisted of sixteen miles of beautiful moorland, over which the sun shone brightly, making the purple heather look its best.

Wednesday was in striking contrast to the blazing sun of the two previous days, the conditions overhead were none too promising, and it was distinctly cold. The road surfaces were exceedingly good, and the long run along the coast with all too brief glimpses of the North Sea was much enjoyed.

The first to stop this morning was W. F. Newsome, who suffered a back wheel puncture. Really the luck seems to be all against the Triumph team this year. In York crowds had collected along the streets to witness the long procession



A. J. Stevens on Arkengarthdale Hill. This photograph gives a good impression of the state of the road at this point.

Two competitors
on Blue Bank,
traversed in
Wednesday's run.



of competitors, and many were the comments of the man in the street, as to which type of machine he considered best. Most certainly the buzz buzz of the Scotts excited their admiration, and the ease with which the competitors with change speed gears got away after stopping for the check was duly appreciated.

Along the Coastline.

The second check was at Great Driffield, and for the second time, unfortunately, the mileage on the A.C.U. cards was found to be incorrect, as several competitors arrived too early, and their chances of a gold medal were jeopardised thereby. At a meeting in the evening the judges decided not to deduct marks for errors at this check. The coast line was reached at Skipsea, and then the competitors struck due north, passing through Carnaby and Bridlington. Here two riders retired—P. Grout, through the connecting rod brasses of his Douglas giving out, and F. Smith (Clyno), who experienced trouble with his experimental four-speed gear and decided to give up, not because it was an irreparable breakdown, but simply because he felt too ill to set about putting matters right immediately. He has been off colour for over a week, and was in bed until the day prior to the start. Effecting a repair in the afternoon he returned to Harrogate by road. The sea was noticeably choppy as Bampton and Reighton were passed, and a glimpse of the waves dashing over Filey Brig attracted the riders' notice. All ran regularly to Scarborough; in fact, it was remarked how splendidly the machines were behaving on this gruelling day's run.

After an excellent lunch at the Cambridge Hotel, a move was made *via* Burniston, Falcon Inn, High Hawsker, to Whitby (check), then to Ruswarp and Blue Bank, the second observed hill.

On the mountain road a curious thing happened. Crossing a patch of stones in a bunch, A. J. Sproston, O. C. Godfrey, and G. T. Gray all drew up simultaneously with cuts in their tyres. Godfrey's tyre had a 3in. gash, and, borrowing a gaiter, he first used his bootlaces to secure it, and later, when it gave way again, his mother's waist belt was utilised! Mrs. Godfrey vows she will inspect the tyres before she ventures with her son again. Eventually a gaiter lent by Mr. John Gibson, who was passing, enabled Godfrey to reach Harrogate with a minimum loss of marks. The return run was *via* Pickering, Malton, York, and Wetherby, only an occasional puncture spoiling the riders' enjoyment. S. J. Woolley was delayed by a broken inlet valve—the second to-day. His *confère*, J. H. Slaughter, good-naturedly returned several miles to hand over his own spare. Nearing Harrogate, a mile of newly spread tar considerably checked the competitors' speed. The crowds to witness the arrivals had noticeably increased.

At the end of to-day's run seven more had spoilt their hitherto perfect scores, and the number of retirements now totalled seven.

Wednesday's Marks Lost.

W. T. Munro, 43; S. J. Woolley, 88; H. E. Ashley, 15; A. J. Sproston, 16; and O. C. Godfrey, 44. F. Smith (four speed gear wrong) and P. Grout (connecting rod) retired.



Competitors
leaving Kirkby
Stephen control.

A.C.U. Six Days' Reliability Trials.—**Fourth Day, Thursday, August 17th.**

Harrogate to Settle and back, *via* Allerton, Manleverer, Boroughbridge, Ripon, Pateley Bridge, Grassington, Linton, Settle, Hawes, Aysgarth, Kettlewell, Bolton Bridge, Blubberhouses, and Norwood Edge. 177 miles.

Sixty-nine competitors were started from Harrogate this morning by Mr. Davies, of the Kempshall Tyre Co., whose car has been of great assistance to the A.C.U., and were



E. W. Merrall and P. Shaw, both riding $3\frac{1}{2}$ h.p. P. and M.'s, on Tan Hill, on Tuesday, the 15th inst.

timed out by Mr. Straight. While the men were getting their machines ready, Mr. Nisbet announced through the megaphone that, in view of the railway disturbances, there might be a shortage in petrol, and consequently riders were advised to carry as much as they could, as it might be difficult, if not impossible, to get any more. As a further precaution, the A.C.U. officials asked Mr. John Gibson to take a few tins aboard his car, and he arrived at both hills in time to be of service in this respect. B. H. Davies suffered a seized engine bearing one hundred yards from the finish last night—an incident which so disheartened him that he said he would retire. However, this morning pluck and perseverance prevailed, and he freed the bearing and started.

The early part of the morning's run was over ordinary country to a point just outside York, thence the route went *via* Allerton and Manleverer to Boroughbridge, the first check, and through Ripon to Pateley Bridge, immediately after which Greenhow Bank is encountered. Here numerous competitors stopped to alter their pulleys or shorten their

belts, and in some cases to pour water over their engines to cool them quickly, which certainly appeared to be a dangerous proceeding. The P. and M. team was busy as usual with the cleaning rag, so that after this attention the enamel and plating were resplendent. Berwick (Humber) stopped at the foot, and, like several others, ran back some distance to get a good start. Castagnoli (L.M.C.) made a standing start and climbed the hill in admirable style. P. G. Evans (Humber) went straight up without stopping at the foot. Greenhow Hill is certainly severe, as it rises abruptly from the end of the village, is steep at the outset, and mounts up in a series of steps for two and a half miles. The surface is good as a whole.

Those who were not fortunate enough to make clean ascents were: Fontaine (Quadrant), who stopped on the first steep section; Woolley (L.M.C.); H. G. Dixon (N. Hudson), who failed quite near the top, due to the fact that there was a blowhole in his cylinder through which the compression was escaping; Busby ($5\frac{1}{2}$ h.p. Precision); and Clark ($3\frac{1}{2}$ h.p. Dene), the latter coming to a standstill on the second steep portion. News came to hand at the foot of Greenhow that Slaughter (L.M.C.) had retired near Boroughbridge through a broken connecting rod.

After the hill had been surmounted the route lay over moorland country, which included several stiff ascents to Grassington, and through fine scenery to Linton, Gargrave, and Settle, where lunch was served. Three miles from the latter town F. Dover ($3\frac{1}{2}$ h.p. Premier), was forced to withdraw from the competition through a faulty plug which could not be withdrawn from the valve cap, and two and a half hours were wasted in sending it to a repair shop. After lunch the route lay through Horton-in-Ribblesdale and Hawes to Aysgarth, where the check was in charge of Mr. A. A. Scott, the clever designer of the machine which bears his name. Very soon after this village the road begins to ascend preparatory to going over Kidstones Pass, which reaches a height of 1,376ft. The severity of the climb lies chiefly in its length, the worst gradient being probably not worse than 1 in 6. The surface is rough, but quite rideable, and not to be compared with that on Tan Hill, which was traversed on Tuesday. On the whole, the competitors did well at this point, taking it into consideration that it was severe, and that people thought it was worse than it was.

The whole day had been gloriously fine and sunny, and the view from the top, down from which a strong wind was blowing, was glorious. Clark, who failed on Greenhow, made quite a good ascent; Babington (7-8 h.p. Bat) made a very good showing; Tassell (Matchless and sidecar) was brought to a standstill through a slipping belt; Parker (Scott) came up slowly; Houghton ($3\frac{1}{2}$ h.p. Bradbury) baulked Shaw (P. and M.) and failed; C. T. Newsome ($3\frac{1}{2}$ h.p. Rover) swerved, nearly fell, but recovered smartly; Busby (Precision) dismounted, and ran and then stopped; Wells ($3\frac{1}{2}$ h.p. Bradbury), Baker ($3\frac{1}{2}$ h.p. Triumph), Woolley (L.M.C.), and Jameson ($3\frac{1}{2}$ h.p. Zenith), all came to a standstill on the stiffest portion; Holroyd (Motosacoche)

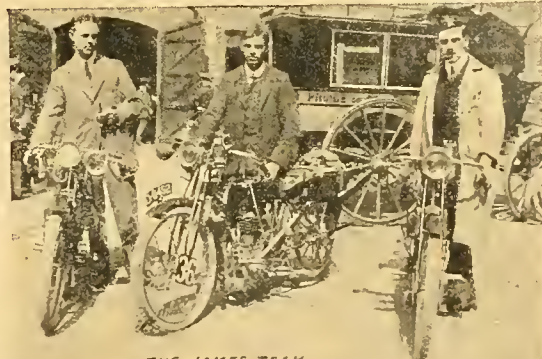
The
market place,
Driffield,
through which
town the
competitors
passed on the
third day's
run.



Teams of Riders who competed for the A.C.U. Special Team Prizes.



THE RUDGE TEAM.



THE JAMES TEAM.



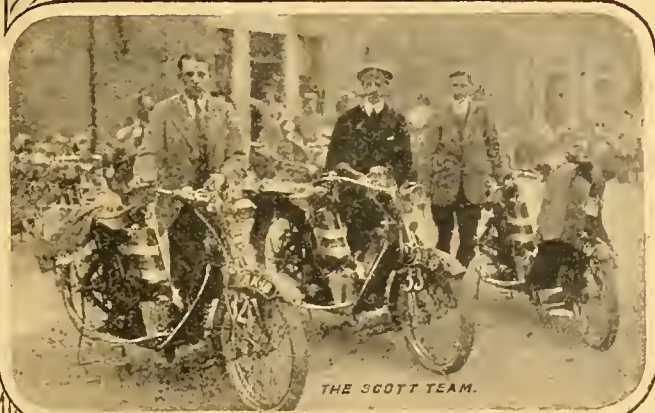
THE BRISTOL B & M.C. TEAM.



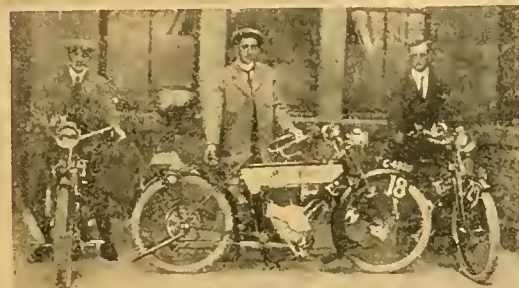
THE ZENITH TEAM.



THE L.M.C. TEAM.



THE SCOTT TEAM.



THE P & M TEAM.



THE ROYAL ENFIELD TEAM.



THE HERTS COUNTY TEAM.

The trade team prize was won jointly by the Douglas and P. and M. teams. The Yeovil M.C.C. carried off the club team award.

The A.C.U. Six Days' Reliability Trials.—

pedalled till he could pedal no more, and stopped; Finn (Enfield) and Williams (Triumph) dismounted; Ashley (L.M.C.) was hampered by an empty sidecar. Many failures were due to those who had change-speed gears not knowing how to use them, and dropping into the low gear too late.

A notable feature of Kidstones Pass was the number of bad *caniveaux* which were found on both sides. Halfway down the pass the road became much better, and lay through Kettlewell to Burnsall, where we noticed an interesting quadcar bearing the registration letters A.K. It was driven by an 8 h.p. twin Chater-Lea engine, and had a three-speed gear box and chain drive, all wheels were sprung. The seat was of wicker, and probably the whole did not weigh more than 4 cwt. It would be interesting to hear further details from the owner. The dust was white and thick as flour and most unpleasant. The King was expected in Bolton Abbey, and the competitors passed through a large crowd which was awaiting him. After Blubberhouses there was a steep ascent known as Church Hill, in which there were two or three hair pin bends, which caused many to dismount. Gray who was late came off at several corners while trying to make up time. Abbott had trouble with his carburettor and oil pump, and at Kidstones was behind time. Norwood Edge was the last hill of note to be ascended.

Thursday's Marks Lost.

Marks were lost to-day by the following: Abbott (Bradbury), 3; Castagnoli (L.M.C.), 12; Ashley (L.M.C.), 32; A. P. Maurice (Premier), 16; and S. Fontaine (Quadrant).

Fifth Day, Friday, August 18th.

Harrogate to Otley, Bingley, Heaton Woods, Colne, Settle, Burnsall, and back *via* Brown Stay Ridge, Masham, and Boroughbridge. 172½ miles.

Friday morning was rather dull, and a strong westerly wind was blowing, which would affect the riders perceptibly on all the hills as far as Settle. Many competitors were attending to their valves this morning, as the run was to be the stiffest of the six days. I made a rather late start, and just before leaving the hotel Maurice (Premier) came into the yard and reported that magneto troubles had caused him to retire. On account of the strike, 2s. 6d. per gallon had to be paid for petrol. Most people seem to agree that the Auto Cycle Union made a great mistake in choosing Heaton Woods as the observed hill, when Keighley Gate was far more suitable for the purpose, and in my opinion there is no doubt that the longer hill was the better. The early part of the morning run was over easy country, which became pretty on reaching Otley. The fact that Keighley Gate was ignored by the officials seemed to be good enough reason for *The Motor Cycle* to take note of the performances. The hill rises directly out of the town of Ilkley, and is fairly steep even at the beginning. Then come several steep sections, approached by sharp corners. From the steep portion where my observations were made there was a fine view of the surrounding country, and also of the major portion of the hill. The wind blew strongly down the course, and at times a fine rain fell. Newsome (Triumph) was the first man to dismount, his pulley being set to too high a gear, and he was baulked by another competitor. His first attempt at restarting on the

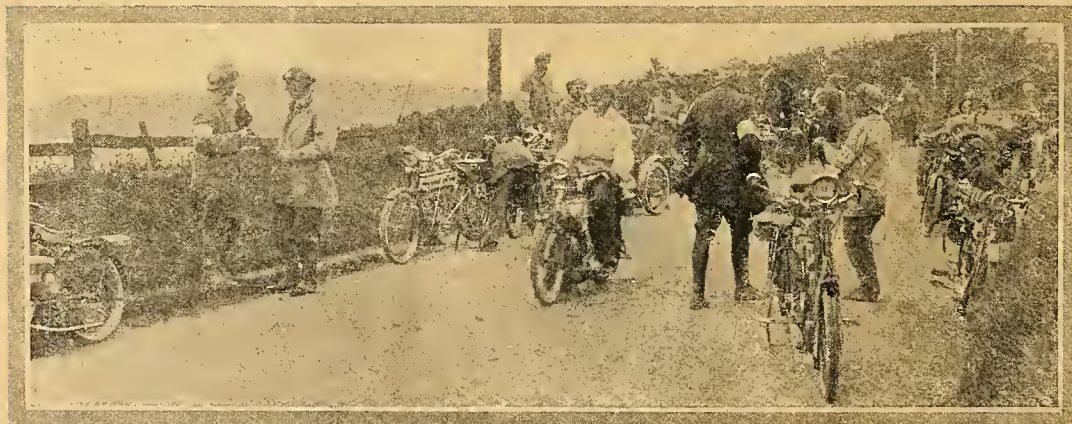
clutch was a failure, as he ran into the bank. Godfrey (Indian and sidecar) made, as usual, a good ascent, but was baulked by the machine in front of him. Tassell (Matchless and sidecar) stopped, and baulked Weatherill (Zenith), Duke (Zenith), Crawley (Triumph), Fontaine (Quadrant), who pedalled, Slatter (Alcyon), Haslam (Zenith), and Edmond (Premier), but they all managed to avoid the obstruction. Horeys managed to surmount the steep portion by a lot of laborious pedalling. Moffatt (Douglas), Silver (Quadrant), Davies (Rudge), Williams (Triumph), and Baker (Scott) skidded on the loose surface and ran into the bank, but restarted in good form. After two attempts, Dixon (Hudson) and several others stopped lower down the hill, one of these being Finn (Enfield). Among other unfortunates were Ashley (Roc), Eggington (Zenith), who skidded and turned right round, Boddington (Precision), Jameson (Zenith), and Ruscoe (Forward).

Some Unlucky Accidents.

Heaton Woods was a short stiff hill among woods which is said to resemble the hairpin corner at Ramsey. Wells failed through his belt coming off at starting, but his second attempt was successful. Silver, Creyton, Finn, Baker, Fontaine, and Burney failed to make clean ascents. The road over the moors was very rough, and on this section steep ascents and descents abounded. One drop at Wilsden was exceptionally steep, and the road into Colne was in itself a severe test, and in addition to the hills and rough surface gates had to be opened, and to make matters worse a heavy shower was encountered. Cooper, while crossing the moors, struck a big stone which threw him right on to the grass; these boulders and gulleys require careful watching. Berwick (Humber) struck the big *caniveau* on Keighley gate and completely smashed up his rear wheel, so that he was forced to retire, thus spoiling the chances of the Humber team, which up to that point had lost no marks. Nearing Colne one and a half miles of tramlines were encountered. Colne was the third case of incorrect measurement on the route card, and the wet lines were not appreciated by those who were anxious to make up time. Coming into Settle Pollock (James) crashed into the wall of a bridge, hurting his hand badly and cutting his knee.

A Surprise Hill and its Victims.

Lunch was served at Settle, where the petrol arrangements were excellently managed by Mr. Hackblock, of the West Yorkshire Automobile Co. Abbott arrived late owing to more carburettor trouble and two punctures; Fontaine (Quadrant) was also delayed through tyre troubles. He had hurt his leg in the Scottish trials, and had to remove a bandage to strengthen a weak place in his cover. After leaving the main road at Hellifield a byroad was struck with good surface but with many bends. Riding back from the Burnsall check to Pateley Bridge, the hill leading to Skytholm Moor took us completely by surprise, so we decided to take notes of the performances. The rise commences with left-hand hairpin bend on a gradient of 1 in 6, and the undermentioned failed, but it should be added that the competitors tackled the ascent with hot engines and were unprepared: Clevton, Colliver, Greaves, Sawyer, Baker, Stevens, Slatter, Finn, Cooper, Colver, Tessier, Gray, Ashley, Houghton (who had four attempts), Bushy, Wells, Whitworth, and Grange. In



A group of competitors outside the Scarborough controls.

The A.C.U. Six Days' Reliability Trials.—

some cases batches of riders attempted the climb and impeded one another. Jesse Baker and Merrill restarted from the points at which they were hindered and finished the climb magnificently.

From here to Pateley Bridge there was a splendid run over the grand undulating road which leads to the summit of Greenhow. Descending this slope, the men entered Pateley, to find part of the main street up. There were three hundred yards of bumping over stone setts, which became steeper and steeper until competitors reached Brownstay Ridge, a really stiff ascent, which appeared to be much worse than Keighley. The gradient was about 1 in 5. There was one bad corner with the usual gully, and the surface was rather rough at the summit. The following machines did not make clean ascents: Baker (Triumph), Finn (Enfield), Silver (Quadrant), Woolley (L.M.C.), Fontaine (Quadrant), Eggington (Zenith), Atkinson (Hudson), who had altogether thirteen punctures and was in a hurry, Duke, Colver (Zenith), Parker (Scott), and Abbott (Bradbury). Curiously enough, the majority of the machines made remarkably good performances, and some, although this was the last hill-climb in the trial, appeared to be going better than ever. Baker's failure was due to the breaking of a belt. In Masham a competitor had to pay as much as 3s. a gallon for petrol.

Babbington punctured just short of the control here, and was almost reduced to tears, while Atkinson suffered the last of his punctures near Boroughbridge.

Everyone agrees that to-day's run has been the most severe of all. Much sympathy is felt for Berwick, whose retirement is reported above, and for Duke on his failure to climb Brownstay, thus spoiling the chances of the Zenith team on the last observed hill of all.

The Last Day's Run.

A circular run from Harrogate, passing Harewood, Selby, Market Weighton, Great Driffield, York, and Wetherby, 124½ miles.

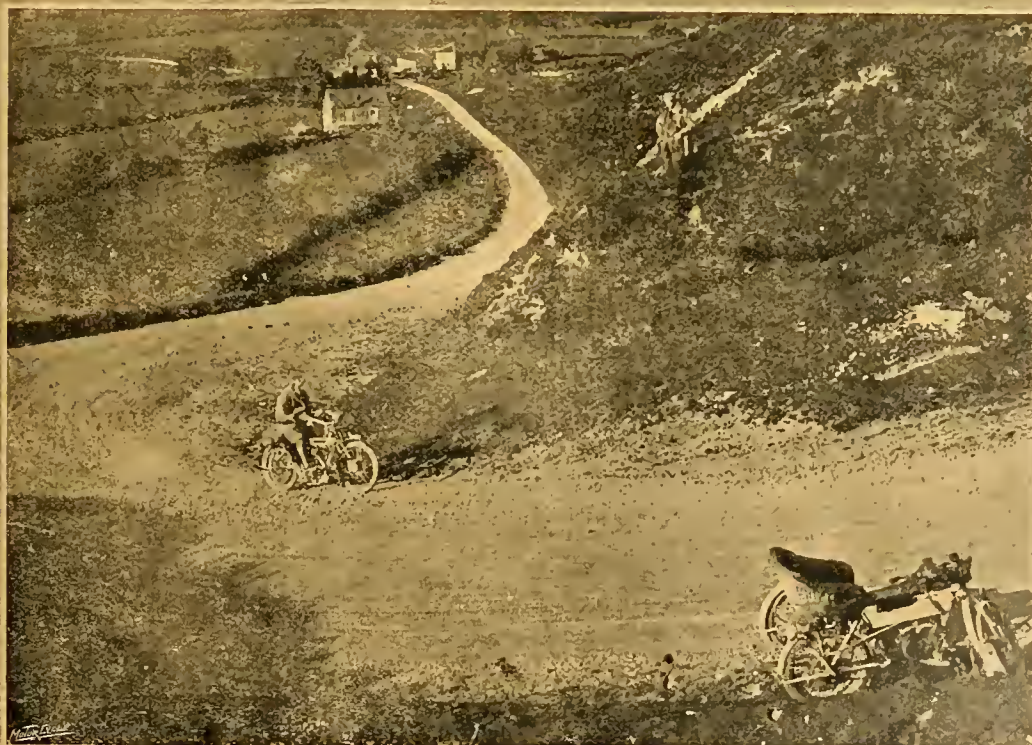
To-day's run has been a mere holiday jaunt compared with its predecessors; in fact the only reason for its existence was to make up the mileage to 1,000. Sixty-five competitors

left the starting point on a beautifully fine morning, which as usual, developed into a warm sunny day. The Leeds Road was taken as far as Harewood. Godfrey, Robbins, and Cooper were our companions for many miles. The machines of all of them were running well; in fact, the same may be said of all the surviving motor bicycles, which have stood the severe test admirably.

Near Selby about thirty or forty competitors drew up outside the town, as they were, as usual, ahead of time, and the interval was spent in cleaning up and making adjustments. Wilberforce found nothing to do to his Douglas, so he lay on the grass and basked in the sun. Philipp and the other Scott riders did likewise. B. H. Davies, however, was busy with his belt. His arrival created a stir, as one sleeve of his coat was black with oil, some kind person having spilt a tin of this "matter out of place" over it. Petrol was pretty dear at Selby, and, in consequence, the threepenny toll was not appreciated. How much more annoyance, therefore, was caused by another threepenny toll which was encountered unexpectedly a few miles further on, the high gate of which was guarded by a policeman. Taken as a whole the roads were excellent, a little twisty at first, but more often than not smooth and straight, and there were practically no hills. The dust, however, was very trying.

At Market Weighton one or two riders, myself among them, stopped for petrol, which was on sale at a chemist's shop, suggestive of some remote place in Italy or Austria, not only on account of the fact that it was bought from the local druggist, but of the cost, which was 2s. a gallon. The run to York after the Great Driffield check was over a straight, smooth, though rather loose road, and the miles flew quickly by. Of incidents there were practically none. Cooper, who always appears to have an affinity for loose animals on the highway, had an exciting chase after a runaway horse. Robbins had a puncture, and Silver several.

The catering arrangements at the luncheon stops have been, on the whole, very indifferent. York Station was guarded by soldiers, and the whole neighbourhood upset by the strike. Petrol was 3s. a gallon. All the sixty-five starters arrived safely at Harrogate, the first man coming in at 3.30 p.m. Of the seventy-seven starters on Monday,



W. T. Munroe
(3½ h.p. 3-speed
Rover) on
Salter's Bend—a
pretty curve on
the return from
Blue Bank.



W. E. Grange (3½ h.p. two-speed Bradbury), followed by S. J. Woolley (3½ h.p. L.M.C.), on the first stiff part of Brownstay Ridge, the last observed hill.

L. S. Parker (3½ h.p. Scott) and H. E. Ashley (3½ h.p. L.M.C.) on the steepest part of Kidstones Pass.

there were only twelve retirements, so that the general behaviour of the machines may be regarded as excellent, and a striking advance upon any former demonstrations of reliability, notwithstanding the increased severity of the test.

The following competitors retired for reasons stated:

J. H. Crickmore (2½ h.p. Premier), second day, owing to fall.

A. D. Arter (3½ h.p. James), first day, engine trouble.

P. Grout (2¾ h.p. Douglas), third day, engine trouble.

F. Banks (3½ h.p. Invincible), second day, tyre troubles.

J. H. Slaughter (3½ h.p. L.M.C.), fourth day, engine trouble.

F. Dover (3½ h.p. Premier), fourth day, ignition troubles.

H. Berwick (3½ h.p. Humber), fifth day, buckled wheel.

F. W. Applebee (3½ h.p. N.S.U.), second day, belt rim came adrift.

A. P. Maurice (3½ h.p. Premier), fifth day, ignition trouble.

H. F. S. Morgan (8 h.p. Morgan runabout), second day, broken driving-shaft between clutch and gear box.

F. Smith (5-6 h.p. Clyno sidecar), third day, owing to ill health.

H. J. M. Hughes (6 h.p. N.S.U. sidecar), first day, failure to climb hill.

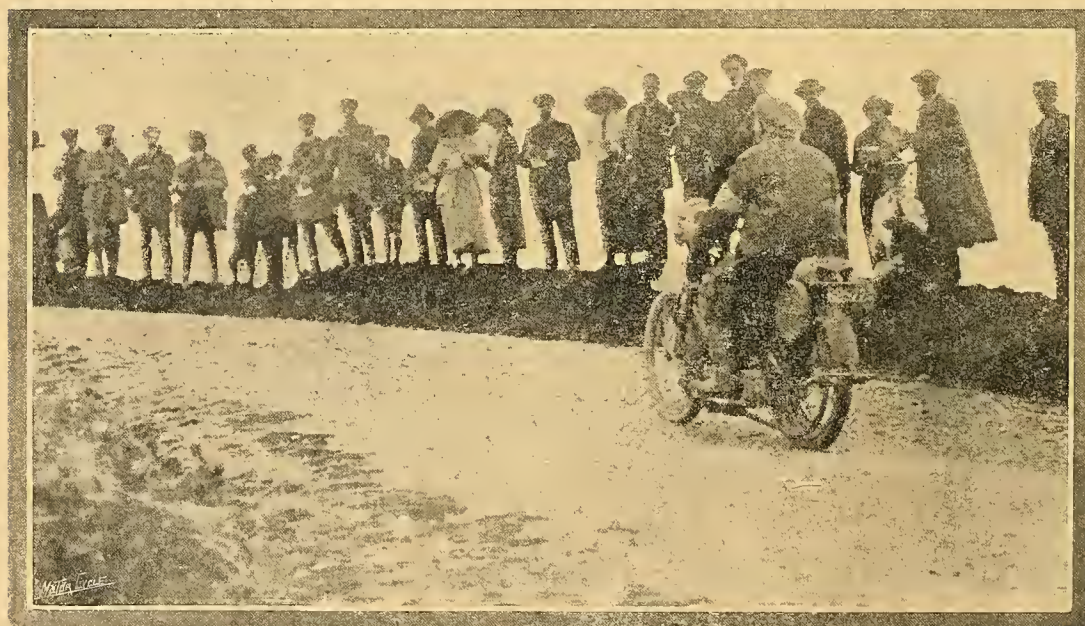
THE TEAM PRIZES.

The Douglas and P. & M. riders declared joint winners.

The findings of the judge, Professor Archibald Sharp, as to the performances of the various teams in the trial are as follow:

TRADE TEAM PRIZE.—The team of Messrs. Douglas Bros. and of Messrs. Phelon and Moore, Ltd., lost no marks for reliability, did not fail on any hills, and finished with the machines in good condition, and are bracketed as equal. The riders were: G. L. Fletcher, P. Phillips, and P. W. Moffatt, all riding 2½ h.p. twin-cylinder two-speed Douglas's; P. Shaw, W. Pratt and E. W. Merrall, riding 3½ h.p. single-cylinder two-speed P. and M.'s. Nine teams competed.

CLUB TEAM PRIZE.—The best performance was by the Yeovil and District M.C.C. team. Riders: P. W. Moffatt; (2¾ h.p. Douglas), Jack Baker (3½ h.p. clutch Triumph), and C. Williams (3½ h.p. T.T. Triumph). Baker failed three times and Williams once on the test hills. Four teams competed representing the N.W. London M.C.C., Herts County A.C., Sheffield and Hallamshire M.C.C., and Yeovil and District M.C.C.



A. Clark (Dene-Precision) ascending Keighley Gate, one of the steepest hills on Friday's route.

GENERAL IMPRESSIONS AND OBSERVATIONS OF THE TRIALS.



W. Cooper (3½ h.p. Bradbury) and S. Wright (2½ h.p. Humber) on the rough surface of Tan Hill. Both these competitors gained gold medals.

Undoubtedly the most severe six days' reliability trial not excluding the Scottish trial was the general opinion, yet thirty-three were successful in gaining the premier award.

At least half a dozen competitors lost gold medals owing to puncturing in close proximity to a control, and being late in arrival. Hard luck indeed!

The scenery was magnificent, although owing to the undulating nature of the course, and the myriad of twists and hairpin bends, necessitating a watchful eye on the road, competitors were unable to appreciate it to the full.

Which was the more unfortunate, to be obliged to retire on the first day or the last?

Brownstay Ridge, the last observed hill, is known locally as Bedlam—quite an apt naming, so the riders think.

Only four riders of single-gear machines successfully climbed the ten test hills. They are worthy of special mention: S. Crawley (3½ h.p. clutch model Triumph), H. E. Ashley (a private owner of a 3½ h.p. L.M.C.), S. T. Tessier (5 h.p. Bat-Jap), and E. Babington (7-8 h.p. Bat-Jap). One cannot sufficiently appreciate the merit of these performances without an inspection of some of the hills.



A competitor on Kidstones Pass. Note the loose condition of the surface.

Crawley and Babington lost their gold medals owing to punctures when nearing a control, Ashley retraced his wheel marks some two or three miles to act the part of Good Samaritan to another L.M.C. rider and was late in consequence at the next control, leaving Tessier, the solitary winner of a gold medal, with a single geared machine.

Until Friday there were four teams in keen competition for the special team prize without a single mark lost. They were the representatives on Zenith, Humber, Douglas, and P. and M. machines. Berwick's buckled wheel in crossing a gully at Keighley Gate, and Duke's failure on the very last test hill owing to screwing his gear so low that the free engine came into operation, were unfortunate accidents that would have tried the patience of Job.

Some of the unobserved hills caused more failures than others under official surveillance. This suggests the desirability of withholding any announcement as to the observed climbs in future, which would automatically put a stop to the practice of cooling engines at the foot of every test hill, and constantly altering gear ratios, tightening belts, and making other necessary adjustments.

W. Cooper and W. E. Grange used the first of the new Rom belts. They were of lin. section, and they told us that throughout they had given no trouble. Cooper also used Rom tyres, even the rear one of which was practically unmarked at the finish.



The check at Pickering. W. Creyton, W. F. Newsome, and J. H. Slaughter may be seen in the foreground.

The Triumph team used a new pattern Dunlop cover, the tread of which is composed entirely of lozenge-shaped rubber projections, the continuous central rib not appearing on the new cover.

W. Pratt's P. and M. is probably the fastest of its kind ever seen. It took the major portion of the test hills on top gear. We noticed a newly-designed double-barrelled piston-controlled carburetter with an ordinary single jet on the P. and M.'s. These machines were always spick and span, and glittering in the sunlight.

Petrol was only obtainable at famine prices on the last two days. Fortunately, Mr. Straight had made adequate arrangements with the Shell and Pratt's spirit agents beforehand, and, thanks to Mr. J. R. Baines, competitors were supplied to the end of the week and for their journey home at 1s. 9d. per gallon, although 2s. 6d. was Friday's local price and 3s. 9d. on Saturday. Mr. Baines did other useful work in superintending the erection of arrows.

The A.C.U. decided to rule out two checks at Driffield and Brough owing to the distances on the route card—which were taken from the C.T.C. route book—being wrongly stated



S. T. Tessier (5 h.p. Bat-Jap) climbing Scaarth Nick on Thursday last. Tessier was the only single-gearer to climb all hills and gain full marks.

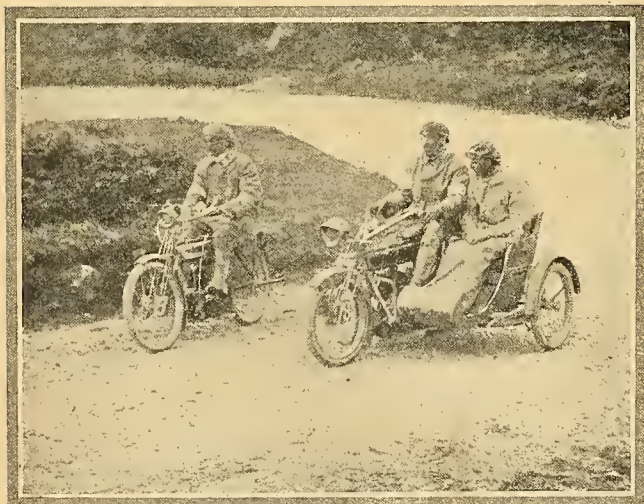
Atkinson and Munroe shared twenty-five punctures on Friday's run alone, mostly caused by small stones. Their determination to keep going is another example of British persistency. It may be added that six minutes is the usual time lost in fixing a repair patch. How many tourists take less than a quarter of an hour?

Every day was fine and bright, and there was only half an hour's rain during the whole week. Competitors have never been so fortunate in this respect.

W. Pratt assured us that none of the P. and M. team suffered an involuntary stop throughout, excepting for two punctures in Shaw's back wheel.

The way the lightweight A.J.S., Douglas, and Forward machines climbed the test hills excited great admiration. The Enfields appeared to be over-gearer.

Slatter (Alcyon) and Holroyd (Motosacoche) are surely deserving of premier awards for completing such an arduous test on their small single-gearer single-cylinder machines. Slatter failed on both hills on Monday, but was successful on all the others. Holroyd, in addition, found Kidstones too steep for him, but both performances must be considered really wonderful. It was no course for lightweights.



A. J. Stevens (2½ h.p. A.J.S.) and J. Tassell (8 h.p. Matchless and sidecar) after rounding the bad corner on Keighley Gate Hill. Tassell failed a few yards further up owing to lack of petrol.

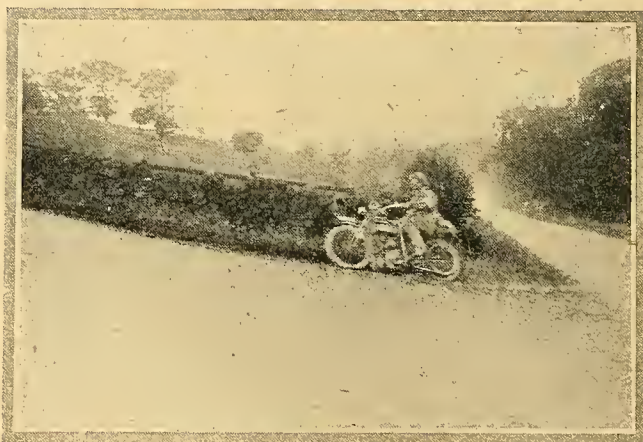
Thanks to the assistance of cars lent by Mr. J. R. Nisbet, Messrs. Humber, Ltd., Mr. Evans, Mr. John Gibson, Hutchinson Tyre Co., and the Kempshall Tyre Co., officials were taken wherever they wanted to go. Each test hill was efficiently observed at every point, and each morning a car preceded the men to see that the arrows were in place.

It was a big task for the A.C.U. officials each day, and the smartness with which the mass of figures was got through evoked general admiration. A little less grumbling on the part of the competitors at loss of marks would have pleased many.

On the second day a group of competitors, desirous of being in fashion, threatened to strike unless the times of the Brough check were ignored.

Though many were the complaints of the noise of some of the machines, the buzz of the Scotts was immensely appreciated. Of their reliability and sweet running we can speak from experience, as a 1911 3½ h.p. Scott carried our representative throughout the six days, with only two stops to clean the carburetter.

J. Tassell's Matchless-Jap sidecar ran most regularly. He wins *The Motor Cycle* private owner's medal for the second year in succession, but he had a most enjoyable run com-



J. Haslam (Zenith) at the right angle bend at Blubberhouses, leading to Otley. There were several failures here, as there is a steep gradient to surmount.

pared with last year's End-to-end on the same machine, when ill-luck with tyres dogged him almost throughout.

Sam Wright was another of the fortunate ones, his lightweight twin Humber never requiring a tool, repair outfit, nor even the belt shortened, which surely constitutes a record.

There were two cases of sidecar axles breaking, and in each case officials of the A.C.U. were more or less injured.

The performance of the Douglas team was undoubtedly most meritorious. For 2½ h.p. twins to climb such precipitous hills so consistently is indeed an achievement of which Messrs. Douglas Bros. may be justly proud.

As a test of accessibility it was intended to time a member of each team while he took out the rear wheel. R. W. Duke took out his Zenith wheel and refitted it in 11½ mins., Arter was also busy with a James, but here the matter seems to have ended, to the delight of the competitors who did not relish the work of providing such useful data.

The majority of the competitors returned to their respective homes by road last Sunday; for that matter, the train service was still very uncertain. Quite the biggest contingent were bound for Coventry and Birmingham. There were representatives of the Triumph, Rover, Douglas, Humber, James, and Enfield among a fast-moving section we accompanied along the Great North Road, but the ranks were considerably thinned at the finish.

TWO UNOFFICIAL TEST HILLS ON FRIDAY'S ROUTE.



On the hairpin corner of Keighley Gate Hill, which was included in Friday's route, and observed by "The Motor Cycle." The riders are P. J. Evans and S. Wright, of the Humber team. There were quite a dozen failures.

The following facts provide food for thought. A competitor who was awarded a gold medal finished with practically all the spokes missing from one side of his wheel. Another was included among the best, although he had a blowhole in his cylinder which hissed ominously. Several gold medal winners failed on one hill. Compare the two following cases: Young Crawley (still in his teens) climbed every hill with a single gear, and was but four minutes late at one control owing to a puncture. He only gets a silver medal, which fate also befel Rabington for precisely similar reasons. The obvious query is, "Which is the more serious—to fail on a test hill or to pick up a nail in the tyre?" The A.C.U. decide differently from everybody else.

A long-distance reliability trial for motor cycles with tool-bags sealed is suggested for next year, punctures not to count.

There were many quick changes of covers. Only half an hour was allowed each morning to prepare the machine for the day's run, it always being under lock and key from the finish to 7.30 next morning.

At the finish, we observed a number of badly battered rims, two or three brake and exhaust valve lifter wires snapped, tyre gaiters in position, spokes bent and missing, etc.

Everybody in Yorkshire called it a "race," and probably took more interest in the event on that assumption. Even a leading Yorkshire daily referred to the trial as "The Great Six Days' Motor Cycle Race."

After the trial a number of machines were weighed, and the figures may be of interest, although several were loaded up with spare cover, tube, and spare parts. Motosacoche, 130 lbs.; $3\frac{1}{2}$ h.p. Bradbury, 200 lbs.; $3\frac{1}{2}$ h.p. Zenith, 220 lbs.; Douglas, 155 lbs.; Enfield, 163 lbs.; 5 h.p. Bat, 253 lbs.; $3\frac{1}{2}$ h.p. clutch Triumph, 215 lbs.; Scott, 234 lbs.; James, 240 lbs.; $2\frac{3}{4}$ h.p. Humber, 159 lbs.; Alcyon, 138 lbs.; Rudge six-speed, 284 lbs.; $2\frac{3}{4}$ h.p. Forward, 161 lbs.; $2\frac{1}{2}$ h.p. A.J.S., 163 lbs.; L.M.C., 214 lbs.; $2\frac{3}{4}$ h.p. New Hudson, 166 lbs.

A cute Harrogate motor cyclist, anticipating the petrol famine, sold his motor cycle and bought as much petrol with the proceeds as he could store. Three days later he sold the whole lot at 4s. 9d. per gallon.

The successful Douglas team used Hutchinson tyres and Lyso belts, whilst the P. and M. team which tied with the Douglas had Kempshall tyres and Renold chains.

The railway strike at York proved an interruption to an otherwise uneventful day's run. Missiles were thick in the air at one time in the neighbourhood of the station, and one, so it is said, nearly hit a competitor.

Mr. G. N. Higgs has reason to be proud of the performance of the little Alcyon in which he is interested. It is true the machine failed on the two first test hills due to a maladjustment of the carburetter, but one this was put right by that capable rider, N. D. Slatter, the machine climbed everything in good form and made quite a creditable performance.

Luckily there are no flints in Yorkshire; were this the case the number of tyre troubles would have been appalling. There were enough as it was, in fact far too many, and there appears to be still room for improvement in motor cycle covers. It is difficult to say that one tyre is better than another.

In the open country competitors kept up a high average speed, sometimes to make up time after a stop, and sometimes to keep a little in hand in case of trouble. This fast driving adequately tested the machines, but there was too much of it, and something ought to be done to keep down the speed within reasonable limits. Probably next year surprise checks will have to be instituted, so as to catch those who are travelling in excess of 20 m.p.h.

Great credit is due to Major Nott-Bower, Chief Constable of the North Riding, for the splendid manner in which he placed his men at dangerous and doubtful points along the route. On Saturday constables with uplifted hand slowed down the men in certain villages, and waved them on again when the road was clear. All those who took part in the trials feel that they owe Major Nott-Bower a deep debt of gratitude.

Mr. P. G. Tacchi, the designer of the T.A.C. four-cylinder motor bicycle, informs us that the adjustable pulley fitted to the N.S.U. two-speed gear, mentioned in our issue of 17th inst., should be known as the T.A.C. adaptation. The device is Mr. Tacchi's design, and a limited number can be obtained from Messrs. Eagles and Company, Acton.

THE A.C.U. OFFICIALS.

The Auto Cycle Union officials to whom the success of the trial is due are mentioned hereunder: Chief marshal, Mr. J. R. Nisbet; judge, Mr. A. Sharp; marshals, Messrs. H. P. Beasley, J. W. G. Brooker, Victor Hart, A. S. Ross, and A. J. Macdonald; secretary, Mr. F. Straight; press steward, Mr. F. A. Hardy.



The hairpin bend at the foot of the steep climb leading to Skyrholme Moor. We observed thirty competitors fail at this corner, the gradient being approximately 1 in 6.

Table showing 1,000 Miles Trial Results at a Glance

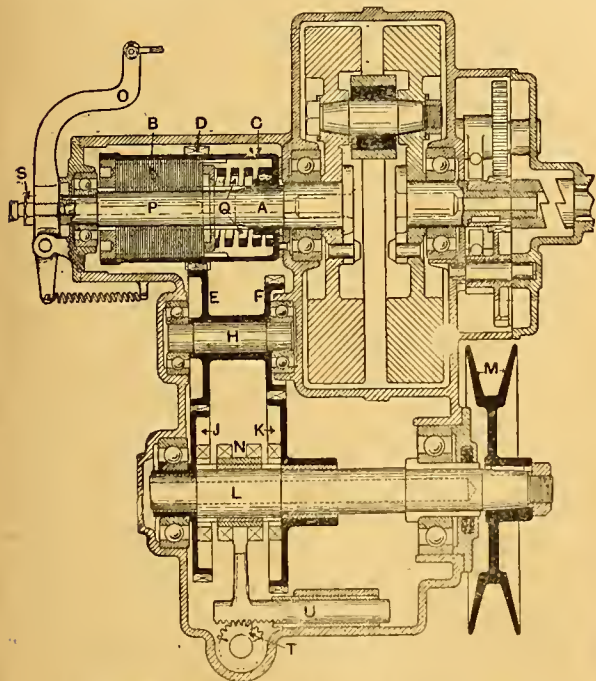
(WITH REVISIONS).

No.	Rider, H.P. and Machine.	Change Speed Gear.	Trans-mission.	Marks Lost.						No. of Failures on Observed Hills.	Remarks.
				Mon.	Tues.	Wed.	Thur.	Fri.	Sat.		
1	*W. Cooper, 3½ Bradbury	N.S.U.	Belt	0	0	0	0	0	0	0	Gold Medal.
4	*E. A. Colliver, 3½ Zenith	Gradua	Belt	0	0	0	0	0	0	0	Gold Medal.
7	*B. H. Davies, 3½ Rudge	N.S.U.	Belt	0	0	0	0	0	0	0	Gold Medal.
8	G. L. Fletcher, 2½ Douglas (2)	Douglas	B. & C.	0	0	0	0	0	0	0	Gold Medal.
9	P. Phillips, 2½ Douglas (2)	Douglas	B. & C.	0	0	0	0	0	0	0	Gold Medal.
15	P. Weatherill, 3½ Zenith	Gradua	Belt	0	0	0	0	0	0	0	Gold Medal.
16	J. Haslam, 6 Zenith (2)	Gradua	Belt	0	0	0	0	0	0	0	Gold Medal.
18	P. Shaw, 3½ P. and M.	P. and M.	Chain	0	0	0	0	0	0	0	Gold Medal.
19	W. Pratt, 3½ P. and M.	P. and M.	Chain	0	0	0	0	0	0	0	Gold Medal.
20	*E. W. Merrill, 3½ P. and M.	P. and M.	Chain	0	0	0	0	0	0	0	Gold Medal.
21	*P. W. Moffatt, 2½ Douglas (2)	Douglas	B. & C.	0	0	0	0	0	0	0	Gold Medal.
25	*G. E. Whitworth, 2½ Royal Enfield (2)	Enfield	Chain	0	0	0	0	0	0	0	Gold Medal.
29	F. G. Edmond, 3½ Premier	Armstrong	Belt	0	0	0	0	0	0	0	Gold Medal.
31	*S. Sawyer, 3½ Premier	Armstrong	Belt	0	0	0	0	0	0	0	Gold Medal.
32	F. Philipp, 3½ Scott (2)	Scott	Chain	0	0	0	0	0	0	0	Gold Medal.
34	*Jesse Baker, 3½ Scott (2)	Scott	Chain	0	0	0	0	0	0	0	Gold Medal.
36	Tom Pollock, 3½ James	Armstrong	Belt	0	0	0	0	0	0	0	Gold Medal.
38	Howard Newey, 3½ James	Armstrong	Belt	0	0	0	0	0	0	0	Gold Medal.
40	B. Alan Hill, 3½ Rudge	Rudge	Belt	0	0	0	0	0	0	0	Gold Medal.
41	G. T. Gray, 3½ Rudge	Rudge	Belt	0	0	0	0	0	0	0	Gold Medal.
44	C. T. Newsome, 3½ Rover	Armstrong	Belt	0	0	0	0	0	0	0	Gold Medal.
51	*J. J. Day, 3½ Bradbury	N.S.U.	Belt	0	0	0	0	0	0	0	Gold Medal.
57	S. T. Tessier, 5 Lat-Jap (2)	Single-gear	Belt	0	0	0	0	0	0	0	Gold Medal.
61	P. J. Evans, 3½ Humber	Humber-Roc	Belt	0	0	0	0	0	0	0	Gold Medal.
62	Sam Wright, 2½ Humber (2)	Armstrong	Belt	0	0	0	0	0	0	0	Gold Medal.
14	H. Greaves, 2½ Enfield	Enfield	Chain	0	0	0	0	0	0	1	Gold Medal.
17	R. W. Duke, 3½ Zenith	Gradua	Belt	0	0	0	0	0	0	1	Gold Medal.
23	*C. Williams, 3½ Triumph	Single-gear	Belt	0	0	0	0	0	0	1	Gold Medal.
52	H. Graham Dixon, 3½ New Hudson	Armstrong	Belt	0	0	0	0	0	0	1	Gold Medal.
55	*W. Houghton, 3½ Bradbury	N.S.U.	Belt	0	0	0	0	0	0	1	Gold Medal.
70	W. F. Newsome, 3½ Triumph	Single-gear	Belt	0	0	0	0	0	0	1	Gold Medal.
79	*J. Tassell, 8 Matchless Sidecar (2)	Nala	Belt	0	0	0	0	0	0	1	Gold Medal.
60	*F. G. Eodington, 4½ Precision	P. and M.	Chain	0	0	0	0	3	0	0	Gold Medal.
66	N. D. Slatter, 2 Alcyon	Single-gear	Belt	5	0	0	0	0	0	2	Special Medal.
73	A. J. Sprston, 3½ Rudge	Rudge	Belt	0	0	16	0	0	0	0	Silver Medal.
12	H. V. Colver, 2½ Enfield (2)	Enfield	Chain	0	0	0	0	0	0	2	Silver Medal.
2	*A. C. Robbins, 3½ Humber	Humber-Roc	Belt	22	9	0	0	0	0	1	Silver Medal.
3	*A. R. Abbott, 3½ Bradbury	N.S.U.	Belt	19	0	0	3	27	0	2	Silver Medal.
5	*C. C. Cooke, 3½ T.T. Triumph	Single-gear	Belt	0	5	0	0	0	0	1	Silver Medal.
6	*V. Wilberforce, 3½ Douglas (2)	Douglas	B. & C.	24	0	0	0	0	0	1	Silver Medal.
10	*R. Owen Wells, 3½ Bradbury	N.S.U.	Belt	0	0	0	0	7	0	1	Silver Medal.
26	W. Heaton, 2½ A.J.S.	A.J.S.	Chain	9	0	0	0	3	0	0	Silver Medal.
27	A. J. Stevens, 2½ A.J.S.	A.J.S.	Chain	5	0	0	0	0	0	0	Silver Medal.
33	L. S. Parker, 3½ Scott (2)	Scott	Chain	0	0	0	0	2	0	3	Silver Medal.
39	C. S. Burney, 3½ Rudge	Rudge	Belt	33	0	0	0	0	0	2	Silver Medal.
42	*H. M. Jameson, 3½ Zenith	Gradua	Belt	0	0	0	0	32	0	2	Silver Medal.
43	*G. W. O. Ruscoe, 2½ Forward (2)	Armstrong	Belt	0	8	0	0	0	0	1	Silver Medal.
48	G. Castagnoli, 3½ L.M.C.	Single-gear	Belt	36	28	0	12	0	0	1	Silver Medal.
53	T. C. Atkinson, 2½ New Hudson	Armstrong	Belt	0	0	0	0	12	0	1	Silver Medal.
58	*E. Babington, 7-8 Bat-Jap (2)	Single-gear	Belt	0	0	0	0	7	0	0	Silver Medal.
68	S. Crawley, 3½ Triumph	Single-gear	Belt	0	0	0	0	5	0	0	Silver Medal.
71	A. Clark, 3½ Dene-Precision	Armstrong	Belt	4	0	0	0	0	0	1	Silver Medal.
81	O. C. Godfrey, 7 Indian Sidecar (2)	Indian	Chain	0	0	44	0	0	0	0	Silver Medal.
22	*Jack Baker, 3½ Triumph	Single-gear	Belt	0	0	0	0	0	0	3	Bronze Medal.
69	W. Ceyton, 3½ Triumph	Single-gear	Belt	0	0	0	0	0	0	3	Bronze Medal.
56	V. Busby, 3½ Steelhouse-Precision	Brampton	Belt	0	0	0	0	0	0	5	Bronze Medal.
35	*C. P. Finn, 2½ Enfield (2)	Enfield	Chain	0	0	0	0	0	0	8	Bronze Medal.
45	W. T. Munroe, 3½ Rover	Armstrong	Belt	0	0	48	0	166	0	0	Bronze Medal.
49	S. J. Wooley, 3½ L.M.C.	L.M.C.	Belt	0	0	88	0	0	0	5	Bronze Medal.
54	*H. E. Ashley, 3½ L.M.C.	Single-gear	Belt	0	55	15	32	0	0	0	Bronze Medal.
59	W. H. Eggington, 6 Zenith (2)	Gradua	Belt	0	0	0	0	19	0	3	Bronze Medal.
74	T. Silver, 3½ Quadrant	Single-gear	Belt	0	0	0	0	7	0	4	Bronze Medal.
75	S. Fontaine, 3½ Quadrant	Single-gear	Belt	0	11	0	20	24	0	6	Bronze Medal.
76	J. S. Holroyd, 2½ Motosacoche	Single-gear	Belt	9	0	0	0	13	0	3	Bronze Medal.
77	*W. E. Grange, 3½ Bradbury	N.S.U.	Belt	11	0	0	0	8	0	0	Disqualified, changed wheel.

* Private owner.

A NEW SIDECAR MACHINE.

THE great popularity of the sidecar has caused manufacturers to turn their attention towards the construction of special machines suitable for hauling these attachments. Singer and Co., Ltd., have just completed the construction of the first Singer sidecar machine with their own make of variable gear. This gear is of

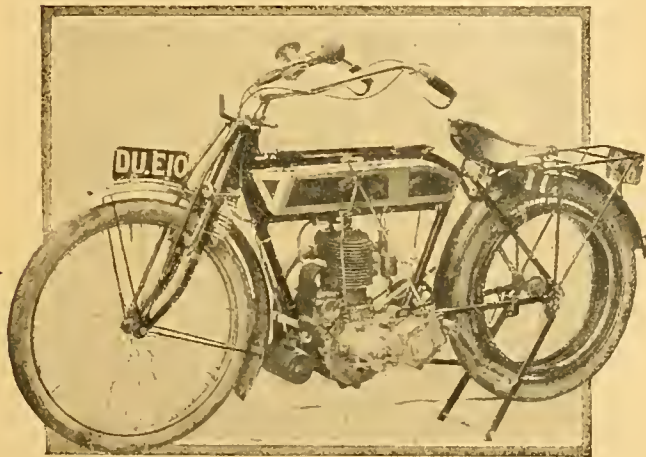


Part sectional plan of the variable gear of the new Singer.

the counter-shaft type, and runs in an oil bath in an extension of the engine crank case; it also includes a multiple plate clutch on the engine-shaft. Reference to the part sectional line drawing of the crank, clutch, and gear cases, which are formed practically by one self-contained casting, shows that the engine-shaft A is extended some distance to the left, and carries on it the plate clutch B. This plate clutch has been so designed that it can be removed bodily in its housing from the engine-shaft in five minutes and replaced in the same

time. We saw it done in less, but we are making an allowance for shop appliances. This is an immense advantage. Surrounding the plate clutch case C is a pinion D, which drives a pair of wheels EF running on a spindle H. These wheels are constantly in mesh with two other gear wheels J and K mounted on the spindle L, which is the final countershaft, carrying on its right extremity the belt pulley M. In addition to the wheels J and K on the shaft L there is a sliding dog clutch N. This dog clutch is, of course, keyed to L and revolves with it, but is free to move laterally. When it is moved to the left it locks J to the countershaft; when moved to the right K is rigidly attached to the same shaft.

This arrangement of gear wheels and number of teeth in them allow for a reduction in the box between the engine shaft and the countershaft, and by fitting pulleys of various diameters one can obtain gear ratios of considerable variation. e.g., with a 6 $\frac{1}{2}$ in. pulley and a 20 in. belt rim the top ratio is 4 $\frac{1}{2}$ and the bottom 6.38 to 1; with a 5 $\frac{1}{2}$ in. pulley 5.22 and 7.35 to 1; and with a 5 in. pulley 5.76 and 8.12.



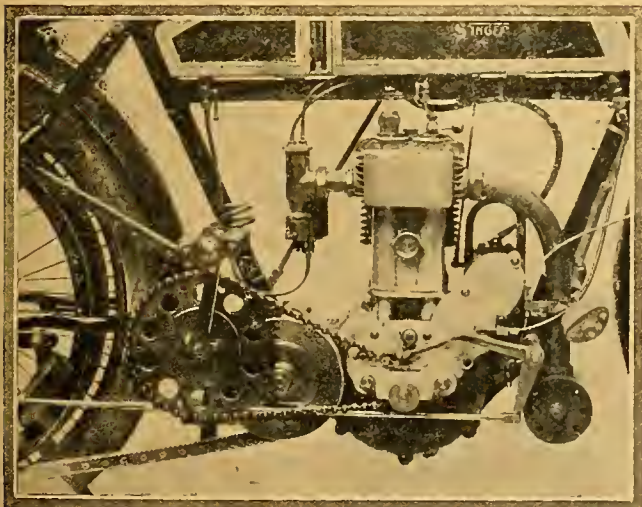
The 1911 $\frac{1}{2}$ model Singer with bottom bracket two-speed gear.

Another interesting feature of this gear is the starting clutch, which is made just like the handle starting used for cars and some motor cycles, but is adapted for pedal instead of manual propulsion. The pedal axle chain wheel is frictionally mounted on its shaft, so that in the event of a back-fire the engine would turn the chain wheel backwards.

Lubrication has been provided for by oil ducts between the engine crank case and the gear box.

Now to describe how the gear changes are operated. On the right of the handle-bar an inverted lever and Bowden cable are connected to the crank O, so pushing inwards the clutch release pin P and compressing the clutch spring Q. This crank has an adjustment by means of a set-pin and lock-nut S. To start the machine from a standstill with the back wheel resting on the ground, the moment the clutch is withdrawn, the gear striking handle, which is carried in a bracket firmly secured to the tank, is pushed from the rider and the low gear slips in without a sound. It must, of course, be placed in the central or neutral position before starting the engine.

To obtain the high gear, the inverted lever on the handle-bar is again lifted and the striking handle turned towards the rider. The striking handle and rod are connected to the pinion T which engages with the rack on the striker shaft U. Several detail improvements are still to be made, but the machine was sufficiently far advanced for us to ride it twelve or fifteen miles as a solo mount. The gear changes with the greatest of ease, and the plate clutch picks up the load excellently. There is no shock or jar in the transmission, and with a gear ratio of 4 $\frac{1}{2}$ to 1 the machine will ascend a 1 in 12 hill with a twelve stone rider at a speed equal to an ordinary belt-driven mount of equal power, thereby proving that there cannot be very much internal friction in the gear.



The large driving pulley is shown in this illustration. The pedal chain is connected to the crankshaft.

CURRENT CHAT

TIME TO LIGHT LAMPS

AUG. 24th	..	8	2 p.m.
" 26th	..	7	58 "
" 28th	..	7	53 "
" 30th	..	7	49 "

Military Motor Cyclists.

On account of the cancellation of the military manoeuvres the War Office has notified motor cyclists that their services will not be required.

The Next Open Hill-climb.

Another class has been added to the Coventry and Warwickshire M.C. hill-climb programme. Class '7 will be for all comers, to enable single and twin-cylinder machines to compete together, and also fixed and variably geared machines. They may be stripped or otherwise. Entries close this week at ordinary fees. to Mr. Geoffrey Smith, 19, Hertford St., Coventry.

The International Matches at Brooklands.

Readers will remember that we published the dimensions of De Rosier's racing Indian immediately after the international matches at Brooklands. We were unable to publish the capacity of C. R. Collier's Matchless-Jap as it was not measured. The J.A.P. has now been calibrated by Mr. T. W. Loughborough the bore being 90 mm. and the stroke 78.4 mm., which means 988 c.c.

Phenomenal Consumption.

A competitor in the Glasgow M.C.C. petrol consumption trial on the 19th inst. rode thirty-five miles on a $3\frac{1}{2}$ h.p. T.T. Triumph with a consumption of 277 miles to the gallon. This must be a record. The second man on an Ariel rode 206 miles per gallon, and the third on a $2\frac{3}{4}$ h.p. Douglas 198 miles per gallon.

The rules read: "Competitors will be provided with petrol at the rate of one pint for 300 lbs., one and a half pints for 600 lbs., and two and a quarter pints for 1,200 lbs.

The Six Days' Lightweight Record.

H. V. Swift, who started for the six days' ride, had the misfortune to run into some cattle when taking a crossing in the dark, and in the smash following he damaged the side of his engine. When the repairs are finished, he informed our representative of his intention to make a fresh start, as his little Douglas ran without any trouble all the time, and at the time of the collision he was well within the record time, and as he had been riding for twenty hours in heavy rain, and over the Welsh section of his task, it speaks well for the quality of his machine.

SPECIAL FEATURES

THE SIX DAYS' TRIALS IN YORKSHIRE.

Graphic Description Numerous Illustrations, and Official Results.

TESTING A NEW TWO-SPEEDER. A NEW SINGER SIDECAR MACHINE.

Amulree Open Hill-climb.

Mr. Percy Tolfree, 47, Falcon Avenue, Edinburgh, has been re-appointed hon. trial secretary in connection with the Edinburgh and District M.C. open hill-climbing on Amulree, on September 18th.

Six Days' Trial Results.

The official results of the above strenuous trial appear on page 880b. As is our usual custom, the thirty-three gold medal winners have been arranged first for ease of reference, the names of the twenty silver medal winners coming next, and the eleven bronze medallists last.

Strike Items.

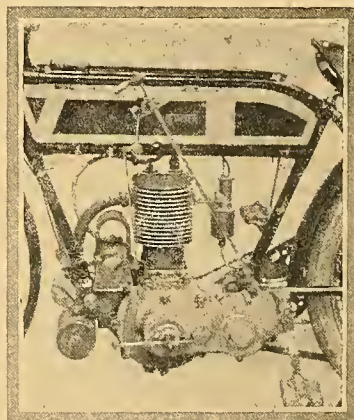
Seven shillings and sixpence a tin was the usual price for petrol last week-end. Motor cyclists on tour could be seen with two-gallon tins of petrol strapped to their carriers.

Visitors to the seaside who had motor cyclist friends and acquaintances and found it impracticable to return home by train last Saturday, found a seat on more than one motor cycle carrier. More converts to the pastime are expected as a result of the strike.

A large firm of cinematograph operators employed a corps of motor cyclists during the recent strike for the purpose of distributing their films to various towns in the North of England.

Non-stop Trial in Wales.

Under the auspices of the Shropshire M.C., a non-stop run to Lake Vyrnwy and back to Shrewsbury was held recently. Only three riders made non-stop runs. The winner proved to be C. R. Oxley ($3\frac{1}{2}$ h.p. Triumph) with 10 $\frac{3}{4}$ m. error in time, followed by H. G. Potts (5 h.p. F.N.), and J. Payne (5.6 A.C. tricar).



Showing the operating levers of the new Singer two-speed and free engine machine, described on the previous page.

Coventry Club's Annual Welsh Run.

The above run was held on Saturday last from Coventry to Aberystwyth via Worcester, Leominster, and Devil's Bridge, and proved most enjoyable. Fourteen competitors left Coventry from 7 a.m. onwards, being started in pairs at one minute intervals. Within a few yards of the starting point two companies of the Munster Fusiliers were met marching into the city to safeguard the property remaining undelivered at the railway station owing to the strike. Lunch was taken at Leominster; tea at Devil's Bridge. All completed the distance within the schedule time of 11 $\frac{1}{2}$ hours, including three hours' compulsory stops for meals.

The return journey was made via Llandloes, Newtown, Clun Valley, and Ludlow next day.

The run was voted a great success, and no one reported delay, except from punctures.

The Six Days' Trials.

An analysis of the surviving machines in last week's 1,000 miles trial will prove instructive to students of design.

Starters, 77.

Finished, 65 84.41%

MEDALS (64).

Gold, 33 51.56%

Silver, 20 31.25%

Bronze, 11 17.19%

GOLD MEDALS (33).

TRANSMISSION.

Belt, 22 66.66%

Chain, 8 24.24%

B. and C., 3 9.10%

CYLINDERS.

Single, 23 69.70%

Twin, 10 30.30%

GEARS.

Variable, 30 90.90%

Fixed, 3 9.10%

SILVER AND SPECIAL (20).

TRANSMISSION.

Belt, 14 70%

Chain, 5 25%

B. and C., 1 5%

CYLINDERS.

Single, 15 75%

Twin, 5 25%

GEARS.

Variable, 15 75%

Fixed, 5 25%

BRONZE MEDALS (11).

TRANSMISSION.

Belt, 10 90.90%

Chain, 1 9.10%

CYLINDERS.

Single, 9 81.82%

Twin, 2 18.18%

GEARS.

Variable, 5 45.45%

Fixed, 6 54.55%

The Olympia Show.

While we are in the throes of the Six Days' Trials, and there remain several weeks of summer weather, it will perhaps sound premature to talk about the show, but we have pleasure in stating that the whole of the space, with the exception of a few stands in the Annexe, has been allotted, and readers may look forward to a record exhibition next November.

Reflex Rear Lights.

The popularity of the offer made by the A.A. and M.U. to distribute 10,000 reflex rear lights free to pedal cyclists is evidenced by the fact that, although the announcement of the Association's intention was only made a month ago, over 10,000 applications for the lights have been received. The list is therefore now closed, and the reflex lights are being sent out as fast as delivery can be obtained. Every care is being taken that the applications are dealt with strictly in the order received. Those applicants whose requests have arrived too late will be notified to that effect.

Turner's Hill, Sheffield.

In our last issue we illustrated Mr. F. Dover climbing Turner's Hill, Sheffield, and accepted our correspondent's statement that this was the first ascent of the hill made on a motor cycle. We have received two letters pointing out the inaccuracy of this statement, and from them it appears that this freak hill was first climbed on Good Friday in 1909 by Mr. C. Wightman, of Sheffield, on a $3\frac{1}{2}$ h.p. Triumph. The Rudge-Whitworth Co. also write that in the presence of several witnesses, whose names and addresses they give, Alan Hill negotiated the hill on a $3\frac{1}{2}$ h.p. Rudge on March 29th last.

Reliability Trial in North Devon.

In our issue of August 17th, under the above heading, Captain E.P.M.T. referred to the M.C.C. standard reliability trial as not being the first to be held over the North Devon route. To clear up any pos-

sible mistakes in the future, Mr. H. Karslake writes us to the effect that the M.C.C. was the first recognised club to organise a trial over this route, that its inclusion in the M.C.C. programme for this year was referred to by the motor cycle press long before Easter, and that the club which first includes a trial in its programme for the year is entitled to a prior claim for originality. It may be added that Mr. I. B. Hart-Davies has several times similarly conducted parties of friends round the hills of Somerset and North Devon, and this was during the last four years, long before the M.C.C. trial was formulated.

FUTURE EVENTS

- Sept. 2—M.C.C. Members' Hill-climb.
 „ 2—Coventry and Warwickshire M.C. Annual Open Hill-climb.
 „ 5—Torbay M.C.C. Annual Open Hill-climb.
 „ 16—Auto Cycle Union Inter-club Championship, in the Midlands.
 Oct. 12—The Motor Cycle Special Colonial issue.
 „ 14—A.C.U. Quarterly Trial (Midland centre) fourth and last of 1911 series.

Southampton to Aberdeen by Motor Cycle.

Mr. Ernest Frasseti wrote to us on Saturday last that he had such confidence in his Indian and sidecar that he intended to travel by road from the Hippodrome, Southampton, to Aberdeen after completing his engagement on Saturday night. There is a great difference between a trip of this kind and one undertaken for pleasure, as it was absolutely essential that he should reach Aberdeen in time for rehearsal on Monday morning. Mr. Frasseti accomplished his object, as in spite of serious lamp trouble he was able to send us a telegram from Aberdeen announcing his arrival there early on Monday.

Climbing the Wrekin.

A. L. Ommaney, who made a successful ascent of the Wrekin Hill—the performance was referred to in "Current Chat," last issue—informs us that he did ride a Rudge variably-gear machine, but the ratio was fixed, and he did not alter it from about 6 to 1, which was the lowest gear but one he could obtain. The machine weighed complete 240 lbs., and the rider 11 stones 10 lbs. Ommaney told us that at the first attempt his front wheel struck one of the protruding rocks in the second gorge near the summit, and he fell, but got up the whole lot at the second trial, steering to the left of the rocks through the first gorge. This brought his tracks on to the dry grass, but he nevertheless succeeded in getting up. The climb was witnessed by five or six motor cyclists, who were clamorous to obtain Ommaney's autograph. He rode down from top to bottom with a lady on the carrier, who must have had considerable confidence in the steersman, as the descent is no child's play. The surface, owing to the continued drought, was, of course, as bad as ever.

Illumination of Number Plates.

The reports published in the daily papers that a motor cyclist of the name of H. Hunter had been convicted at Cobham for not having his rear number-plate illuminated has resulted in many statements reaching us to the effect that such a conviction is illegal. Mr. Hunter informs us that the daily papers were in error, and that he was charged and fined for having his front number-plate placed crosswise. We sympathise with Mr. Hunter in the treatment he received, as it is hard lines to suffer for a trivial matter, but it should be observed that a front number-plate placed crosswise is difficult to illuminate. Then again, in some districts it is hardly safe to be seen with a motor of any kind. Surrey is becoming known for burglaries and assaults on children. *Verb. sap.*

THE SIX DAYS' TRIAL IN YORKSHIRE.



H. Berwick ($3\frac{1}{2}$ h.p. Hummer) followed by W. Creyton ($3\frac{1}{2}$ h.p. Triumph) on Kidstones Pass last Thursday.



O. C. Godfrey (7 h.p. Indian and sidecar) at the top of Brownstay Ridge. His mother is the occupant of the sidecar.

SPEED TRIALS AT CLIPSTONE.

Open Race Meeting organised by the Nottingham and District M.C.C.

THE above trials were held on a mile course in Clipstone Park last Saturday afternoon, the weather at the start being glorious.

The first event was the Club Handicap, the prize (a gold medal) being won by J. H. Watson (3½ h.p. Triumph). The winner of the second event—scratch race for touring models—proved to be H. C. Newman (3½ h.p. Ivy-Precision), who covered a mile in 1m. 0½s.—an average speed of 59.2 miles per hour. J. H. Watson (3½ h.p. Triumph) again proved his racing abilities by securing the prize for the scratch race for I.T. machines. In the scratch race from a standing start, which followed, George Brough (two-cylinder Brough) gained first place. In his heat, however, he was beaten by F. P. Johnson (two-cylinder Matchless), who was disqualified, thus letting the former in for the second round. The last event of all was the special time trial, in which each competitor had a separate run down the course to attempt the record, which is at present held by H. D. Shaw—77 m.p.h. This was not, however, accomplished, George Brough (Brough) being the nearest with 48s.—only 1½s. on the wrong side. L. Smith blew the cylinder head off his Bradbury, and, of course, could not ride. F. P. Johnson (Matchless-Jap) was travelling at a good speed when his wheel got into a rut, with the result that the tyre was wrenched off, and caused a bad spill. Fortunately Johnson was not injured.



F. Johnson at full speed. The photograph was taken just before his front tyre came off, when travelling at nearly 70 m.p.h.

Premier); J. H. Watson (3½ h.p. Triumph) beat H. B. Halford (3½ h.p. Rover).

Second round.—Mitchell beat Newman; Spencer beat Cox; Watson, bye.

Third round.—Mitchell beat Spencer; Watson, bye.

Final.—J. H. Watson beat J. D. Mitchell.

Event 4.—Open Scratch Race.

Heats.—L. Smith (3½ h.p. Bradbury) beat A. F. Cullen (8 h.p. Bat); Geo. Brough (7 h.p. Brough) beat F. P. Johnson (8 h.p. Matchless); W. S. Spencer (3½ h.p. Rudge) beat H. Dawson (3½ h.p. Bradbury); J. D. Mitchell (3½ h.p. Triumph) beat R. A. Johnson (3½ h.p. Premier).

Second round.—Brough beat Smith; Mitchell beat Spencer.

Final.—Geo. Brough beat J. D. Mitchell.

Event 5.—Special Mile Time Trial.

	m. s.	m.p.h.
Geo. Brough (7 Brough) ..	0 48	75
W. S. Spencer (3½ Rudge) ..	0 49½	72.58
H. C. Newman (3½ Ivy-Precision) ..	0 52	69.23
J. D. Mitchell (3½ Triumph) ..	0 52½	68.96
R. S. Buckman (7-8 Buck) ..	0 52	68.70
A. F. Cullen (8 Bat) ..	0 55½	64.51
R. A. Johnson (3½ Premier) ..	1 0	59.4

Brough rode magnificently, and came near to beating record. Stanhope Spencer's speed of 72.58 is several miles per hour faster than the previous best single-cylinder time.



The final heat. Left, J. Harrison Watson (3½ h.p. Triumph), who beat J. D. Mitchell on a similar machine.

In the second event, H. C. Newman and Victor Pratt, both Ivy-Precision riders, were drawn together, but Pratt yielded up his place to his *confrère* in the final.

The following is the tabulated list of results:

Event 1.—Club Handicap.

Heats.—F. P. Johnson (2½ h.p. Humber) beat B. Blanksby (2½ h.p. Douglas); A. E. Lole (4-cyl. F.N.), bye; H. Dawson (3½ h.p. Bradbury) beat A. F. Cullen (8 h.p. Bat), scratch; J. D. Mitchell (3½ h.p. Triumph) beat R. S. Buckman (7-8 h.p. Buck); E. S. Brittain (3½ h.p. Rudge) beat R. A. Johnson (3½ h.p. Premier); J. W. Cox (3½ h.p. Triumph) beat H. B. Halford (3½ h.p. Rover); J. H. Watson (3½ h.p. Triumph) beat N. O. Soresby (3½ h.p. Rudge).

Second round.—Dawson beat F. P. Johnson; Lole, bye; Mitchell beat Brittain; Watson beat Cox.

Third round.—Lole beat Dawson; Watson beat Mitchell.

Final.—J. H. Watson beat A. E. Lole.

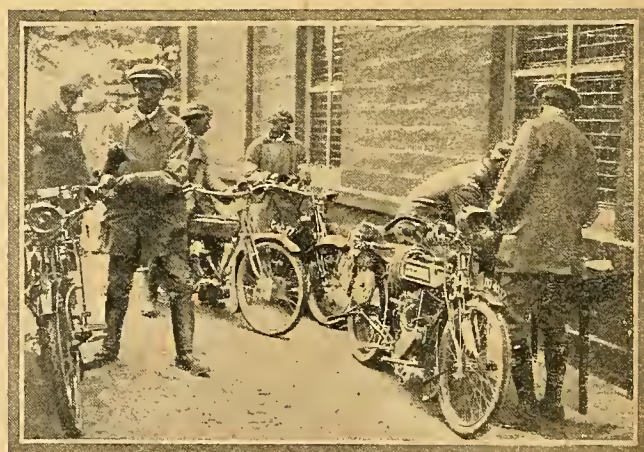
Event 2.—Touring Class Open Scratch Race.

Heats.—H. C. Newman (3½ h.p. Ivy-Precision) beat W. S. Spencer (3½ h.p. Rudge); Victor Pratt (3½ h.p. Ivy-Precision) beat N. O. Soresby (3½ h.p. Rudge); R. A. Johnson (3½ h.p. Premier) beat Harold Petty (3½ h.p. Rex).

Final.—H. C. Newman beat R. A. Johnson

Event 3.—Tourist Trophy Class (Scratch).

Heats.—H. C. Newman (3½ h.p. Ivy-Precision) beat F. P. Johnson (4 h.p. Matchless); J. D. Mitchell (3½ h.p. Triumph) beat N. O. Soresby (3½ h.p. Rudge); J. W. Cox (3½ h.p. Triumph) beat E. V. Pratt (3½ h.p. Ivy-Precision); W. S. Spencer (3½ h.p. Rudge) beat R. A. Johnson (3½ h.p. Premier).



THE FINISH OF THE SIX DAYS' TRIALS.

Competitors signing the checking sheet at the finish of the most severe trial ever organised. The group in the photograph are Owen Wells, T. C. Atkinson, Jesse Baker, and C. S. Burney. Mr. Herbert Syner was in charge here.

New Hudson

3-SPEED MOTOR CYCLES.

THE PERFORMANCE OF THESE MACHINES IS MORE IMPORTANT TO THE SHREWD BUYER THAN ANY ASSERTION WE MAY MAKE.

THE FOLLOWING ARE SOME OF THEIR MAGNIFICENT ACHIEVEMENTS, ACTUAL PROOF OF THEIR RELIABILITY AND EFFICIENCY, PROOF THAT THEY ARE BUILT TO WITHSTAND THE HEAVIEST WORK & MOST RIGOROUS SERVICE

A.C.U. QUARTERLY RELIABILITY TRIALS January, 1911.

FIRST CLASS NON-STOP CERTIFICATE

Kop Hill Climb (Open) April 8th, 1911

TWO FIRSTS { Class 1 Tourist Trophy - 1st & 2nd.
TWO SECONDS { Class 2 Lightweight - 2nd & 4th
Class 7 Variable Gears - 1st.

Two Gold Medals.

Harrogate Hill Climb, Halton Moor (Open) April 15th, 1911.

THREE FIRSTS { Class 4 Lightweight - 1st & 2nd.
THREE SECONDS { Class 5 Touring Singles - 1st & 2nd.
Class 8 All Corners, Singles - 1st & 2nd.

Three Gold Medals.

Three Silver Medals.

Shap Fell Hill Climb (Open) April 17th, 1911.

FIRST (on Time)
SECOND
THIRD

Class 1 Fastest Time.
Class 2 Second & Third.

A.C.U. Quarterly Reliability Trials. April 5th, 1911
TWO FIRST CLASS CERTIFICATES (only six awarded).

Bristol Hill Climb. April 29th, 1911

TWO FIRSTS { Class 1 First & Fastest Time.
Class 1a Fastest Time.

Birmingham Hill Climb April 29th, 1911.

TWO FIRSTS { Class A. First on Time.
First on Formula.

Streatham Hill Climb, Tilburstow April 29th, 1911.

TWO FIRSTS { Class 1. Lightweight.
Class 1.

Kop Hill Climb (Open) 250 Entries. May 6th, 1911.

SEVEN FIRSTS
SEVEN SECONDS { **FOUR GOLD MEDALS**
THREE THIRDS

New Hudson Three-Speeds win **17** places at one meeting.

Glasgow Hill Climb, Stoney Moulin Hill, May 6th, 1911.

FIRST (on Formula) { in Class 1.
SECOND (on Time)

LONDON TO LAND'S END & BACK (550 miles) reliability trial.

J. W. Woodhouse (Double Journey) Silver Medal.

S.E. LONDON HILL CLIMB (Open) May 13th, 1911.

Two Firsts. Four Seconds. Two Thirds.

BROOKLANDS TEST HILL (1 in 4), May 9th, 1911.

OFFICIAL CERTIFICATE (Assessed from Standing Start).

COALPORT HILL CLIMB, May 20th, 1911.

FIRST, SECOND, THIRD { Class 4 Unlimited 1st, 2nd, and 3rd.
Class 1 Lightweight
Three New Hudsons started and finished in first five.

Birmingham Hill Climb (Open) Shelsley Walsh, June 10th, 1911.

***FIRST, *SECOND, THIRD, FOURTH** { Class 1 *1st, *2nd & 4th on Formula.
Class 3 3rd on Formula
* Two best performances of the day for efficiency.

LONDON TO EDINBURGH 24 Hours' Reliability Trial.

GOLD MEDAL After arriving at Edinburgh Mr. Roy W. Walker continued on a Tour of 1000 miles without opening toolbags, and ascended Arthur St. Edinburgh (1 in 34) from Standing Start.

LANCASHIRE HILL CLIMB, Sawley Bank. June 17th, 1911

FIRST Time New Hudson 2½ h.p. Fastest Single Cylinder, beating all 3½ h.p.s.
FIRST Formula **Gold Medal.**

HARROGATE HILL CLIMB June 10th, 1911.

FIRST Class 3. Variable Gears. 1st.

A.C.U. SIX DAYS' TRIALS
Graham Dixon - GOLD MEDAL
Atkinson - SILVER MEDAL
Only Two New Hudson Three-Speeds entered
Both fitted Armstrong gear

RELIABILITY TRIALS

CERTIFICATE

H. O. Beard.

C. SHREWSBURY TO LLANDUDNO AND BACK.

S. W. Moss.

TOP CERTIFICATE

AM TO LAND'S END

MEDALS. Only Two New Hudson 3-speeds entered

MAJOR TOURIST TROPHY RACE, 1st of Man.

(150 miles, including 4 ascents of Snafell.)

H. G. Dixon, 2½ h.p. New Hudson 3-speed. **A.C.U. Gold Medal.**

Average speed **35** miles per hour, including stops.

WENLOCK EDGE HILL CLIMB, A.C.U., MIDLAND CENTRE, OVER 100

ENTRIES, RUN IN HEATS

TWO FIRSTS. TWO SECONDS.

3 CHALLENGE CUPS AND TROPHIES

for Hill Climbing in Two Days' events.

BIRMINGHAM M.C.C. June 10th, 1911

G. PATTERSON, Jun., 2½ h.p. New Hudson 3-speed, wins

CHARLES JARROTT SILVER TROPHY & GOLD MEDAL

Best Performance of the Day for Efficiency.

HARROGATE M.C.C. June 10th, 1911

C. NETTLETON, 2½ h.p. New Hudson 3-speed, wins

THE PILCHER TROPHY. Heaviest Rider on Lowest Powered Machine.

LANCASHIRE M.C.C. June 17th, 1911

HUGH GIBSON, 2½ h.p. New Hudson 3-speed, wins

HAROLD ECCLES CUP & GOLD MEDAL.

Beating all 3½ h.p.s. on Time and Formula.

Auto Cycle Union Third Quarterly Reliability Trials.

NEWCASTLE-ON-TYNE, July 22nd, 1911

2 FIRST-CLASS NON-STOP CERTIFICATES.

Two New Hudson 3 speeds, 3½ h.p., only entered.

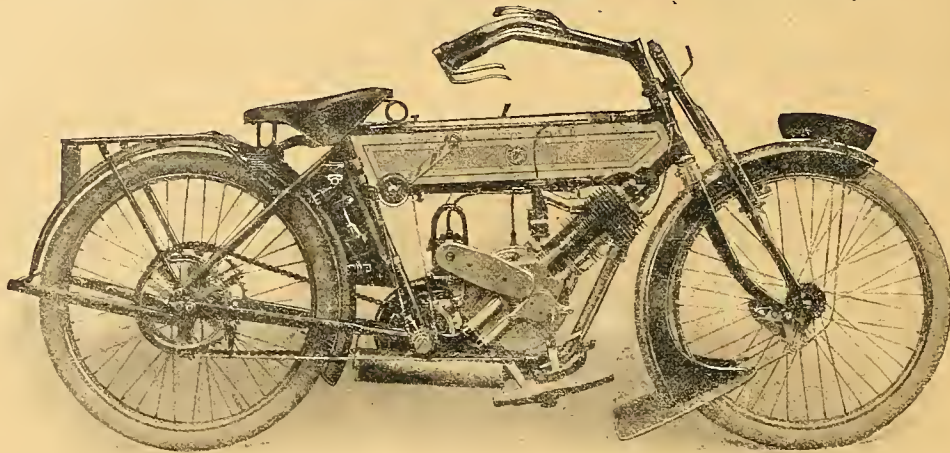
NEW HUDSON CYCLE CO., LTD.,

Works—BIRMINGHAM.

LONDON:
43, Gray's Inn Road, W.C.

In answering this advertisement it is desirable to mention "The Motor Cycle."

The only machine to climb Porlock unassisted in the M.C.C. Devonshire Tour was the Phelon and Moore.



The Perfected Motor Cycle.

Order now for early 1912 delivery.

PHELON & MOORE, Ltd., CHECKHEATON, YORKS.

4, Percy Street, W.

Sensational World's Records.

Mr. C. R. Collier, riding a Matchless machine, fitted with

BOSCH Magneto

established the following sensational records at Brooklands:

FLYING KILOMETRE	- -	Speed: 89.48 m.p.h.	- -	World's Record.
FLYING MILE	- -	Speed: 91.37 m.p.h.	- -	World's Record.
FLYING 5 MILES	- -	Speed: 83.72 m.p.h.	- -	British Record.

Thus again events prove that the only ignition of any standing worth mentioning is the world-famed "BOSCH."

THE BOSCH MAGNETO CO., LIMITED,
40 & 42, NEWMAN ST., OXFORD ST., LONDON, W.

Telegrams:—"Bomag, London."

Telephone:—Gerrard 430 (5 lines).

In answering these advertisements it is desirable to mention "The Motor Cycle"



Scene at the fork of hill before the start of the inter-club hill-climb at South Harting. (See page 386.)

WEEK-END EVENTS.

Mersey M.C.C. Hill-climb.

We have been asked to announce that the Mersey M.C.C. are compelled to cancel the open hill-climb fixed for August 26th, owing to the inability of the committee to obtain a suitable hill with the necessary permission to use it for the purpose advertised.

Hartlepool and District M.C.C.

The result of the reliability trial from West Hartlepool to Keswick is as follows: 1, J. J. Clark ($3\frac{1}{2}$ h.p. Triumph), winner of the Palmer tyre, presented by the Palmer Tyre, Ltd.; 2, H. Durkin (four-cylinder F.N.); 3, Eric Forslund ($5\frac{1}{2}$ h.p. Zenith). The competition was carried out under adverse weather conditions, heavy rain falling practically the whole of the journey.

Chesterfield and District M.C.C.

The official results of the hill-climb which was held at Stone Edge on the 19th inst. were as follow, events 1 and 2 having to be abandoned for lack of entries:

Event 3 (novices, open).—G. H. Hall ($3\frac{1}{2}$ h.p. Triumph).

Event 4 (members).—W. H. Woods ($3\frac{1}{2}$ h.p. Triumph); fastest time, L. Smith ($3\frac{1}{2}$ h.p. Bradbury)

Event 5 (members).—L. Smith ($3\frac{1}{2}$ h.p. Bradbury).

Event 6 (open, singles, 600 c.c.)—L. Smith ($3\frac{1}{2}$ h.p. Bradbury).

Event 7 (open, singles, unlimited).—G. Brough (7 h.p. Brough).

Fastest time of the day.—G. Brough (7 h.p. Brough), 35 $\frac{3}{4}$ s.

Fastest single-cylinder.—L. Smith ($3\frac{1}{2}$ h.p. Bradbury), 38 $\frac{3}{4}$ s.

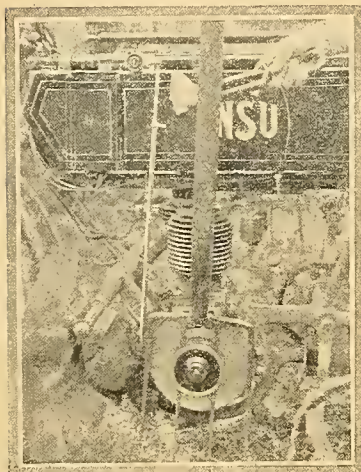
The length of the hill was half a mile.



Competitors in the Chesterfield and District Open Hill-climb at Stone Edge. The riders are: L. Smith, W. H. Woods, J. J. Kelly, George Brough, E. Kelly, R. A. Johnson, and E. S. Brittain.

How to Remove an Obstinate Pulley.

THE other day the writer had occasion to remove an engine pulley which had run upwards of a thousand miles. The pulley in question was on an N.S.U. engine, on the shaft of which is cut two keyways.



Removing a pulley with a garden fork.

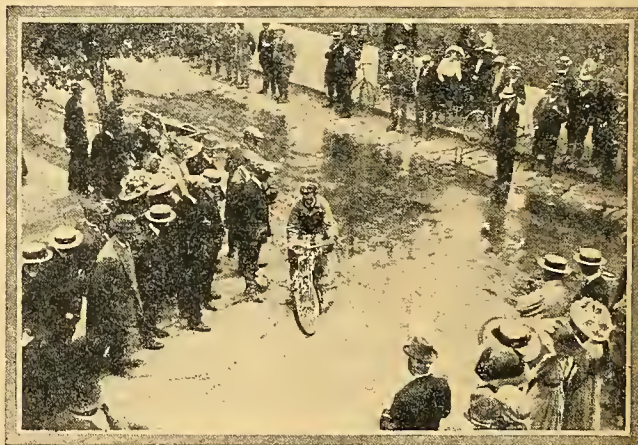
This holds the pulley as firm as a rock; in fact, so firmly that it requires considerable force to remove it. To overcome this difficulty, the makers have constructed an outer nut which screws on to a boss on the pulley and screws it off without difficulty. In the writer's case it was a two-speed pulley which has not any means of detachment. Having unscrewed the locking nut, the

usual methods were employed for the removal. The engine was run on the stand for some minutes, but the pulley remained as firmly fixed as before. Wedges between the crank case and pulley were next tried without success. In desperation an iron crowbar was next tried, by the use of which the crank case was badly scratched and indented, and having no proper pulley drawer or access to a garage possessing such a tool, the writer was at his wits' end how to remove the pulley. The machine was then ridden for six miles with the lock-nut unscrewed, but at the end of the run the pulley was still as firm as ever.

Then a bright idea struck him, and, as the photograph illustrates, this was nothing more or less than a garden fork or prong. This was placed between the belt flanges of the pulley, and one or two smart taps

were given about half-way up the handle of the fork with a heavy hammer. The pulley came away at once. This procedure cannot possibly damage the crank case, as there is no leverage placed on the engine at any point, it all being between the pulley flanges. If the fork is long enough, its points may be stuck in the ground and tapped, as this gives additional leverage.

In the writer's case, this method removed in two seconds a pulley which had defied all other methods for a whole morning, and has never failed to act with other pulleys. In the illustration a plain pulley has been used to show the method more clearly. He has



A.C.U. SIX DAYS' TRIALS.

C. C. Cooke (3½ h.p. Triumph), at the finish last Saturday afternoon. A large crowd collected to see the survivors' return.

since found that if the garden fork prongs are inserted between the back of the pulley and crank case and the top of the handle of the fork tapped smartly with a hammer, the pulley will at once come away. This method, however, places a strain on the crank case, and is only an alternative method for those whose pulleys are too big to allow the fork to pass down between the belt flanges.

PLAIN TALES OF THE HILLS.

As told by a Successful Trials Competitor.

I've come from Yorkshire highways, I've ridden thro' its dales,

Of its steep and stony mountains I can tell you many tales. On the first day Wass and Sutton were the worst I ever saw, Such surface as on Punchards was ne'er met before. Until with engine roaring on my steed so strong and quick, I romped up Searth's acchvity which there they call the Nick. Garrowby was nothing, nor the bank they call the Blue, But Greenhow Hill and Kidstones were stiff, twixt me and you.

When Kids were non-existent, but stones there were galore. Fill the sweeper came and swept 'em, and there still seemed all the more.

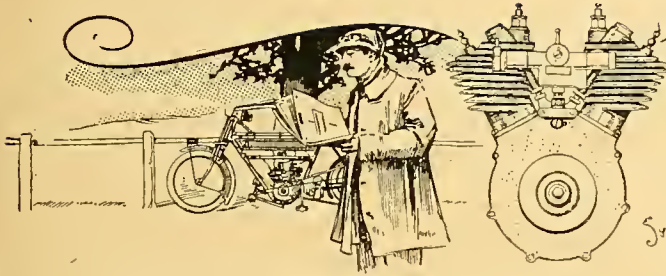
As to Heaton in the Woodland, its stiffness ceased to be, But Keigney Gate and Skyreholme, which the judges did not see,

As the steward said of Zotos, they nearly did for me. With the hill best known as Brownstay my story I will close, As my gallant mount soared skyward I sang as up I rose, For I'd conquered all the steepest of those very dreadful hills, And I never suffered punctures or any other fearsome ills. All that's left to tell you is I'm happy as a cricket To think my sturdy steed and I were good enough to stick it.



A.C.U. SIX DAYS' TRIALS.

F. Philipp (Scott) finishing the ascent of Greenhow Hill, Pateley Bridge.



Testing a New Two-speeder.

By B. H. DAVIES.

IT was obviously my bounden duty to buy a 4 h.p. single-cylinder Indian two-speeder for 1911, seeing that nearly six years ago I suggested in these columns the possibilities of the very gear box this machine embodies as applied to solo work. I get few opportunities of long rides nowadays, but luckily within a week or two of delivery urgent matters compelled me to ride from Northampton to Devon and back. I always like to give a new machine a thorough grueling as soon as possible, comprising if possible a day's ride at high speed and a second day of sheer heavy mud-plugging. Some riders term this process "breaking in the machine," and, of course, it is a fine method of unearthing any weaknesses of design or construction. But I prefer to regard it as "breaking in the driver," for personally I find it takes me some time to become accustomed to a novel mount, and not for 200 or 300 miles does that centaur-like feeling arise which betokens that I and my jigger understand each other.

Advantages of a Change-speed Gear.

Rain was falling in torrents when I left home at 6 a.m., and the value of a change-speed gear was at once manifested. The owner of a single-geared machine would usually, after wrapping himself in eight bearskins and an oilskin at such an hour on a cold morning, discover that his petrol squirt was in the innermost pocket; and after re-dressing himself he would become what Mantalini used to call "a demned moist unpleasant body" in maintaining a ten mile an hour trot to get started.

With a two-speeder you don't bother about injections; you just walk powerfully alongside the stone-cold machine for one yard, and it's off! The rain cleared off after Oxford, and except for dodging milkcarts amid the slimy tramlines of St. Aldate's, and circling round one or two forgotten signposts, I might almost as well have been on a single gear; the one constant advantage of a two-speeder is that you use the machine as a chair when you stop to light a pipe or mop your goggles, and paddle it off again with your feet, without ever quitting the saddle. As the roads dried up, I decided the day befitted the speed test rather than the mud-plugging, and I drove it down to Torquay a trifle in excess of End-to-end record pace.

The Engine developed a Mysterious Thirst.

Only two incidents marked the westward run. The first was the sudden development of a mysterious thirst on the part of the engine, which sopped up $1\frac{3}{4}$ gallons of petrol in the eighty miles between Newbury and Yeovil. I cannot account for this, as I could not detect either flooding or leakage, but anyway the tank ran dry at the foot of a hill just outside Yeovil, and I had to push in. Here the low gear scored, for instead of pushing off uphill, I started downhill without an effort, turned round in the street, and went back uphill.

The second set of incidents occurred on leaving Teignmouth up Shaldon Hill; I had forgotten the severity of the bends, and, in scrapping a biggish ear up the hill, had reason to be grateful for the excellent design of the Indian steering. I diversified the ride by once driving for five miles on the low gear, throttle full open and cut-out shut, till I came to the foot of a long steep hill, where the high gear was slammed in, and the engine accelerated as if it had just had ten seconds' warning for a timed hill-climb. But on good roads in decent weather the low gear seemed a comparatively useless appendage.

Incidents of the Return Journey.

The return journey was destined to prove much more exacting. I wanted to reach Northampton early on Saturday, so left Torquay in sunshine at 4 p.m. on Friday with the idea of sleeping at Lyme Regis.

Before long the rain came down in solid lumps. I rode *via* Teignmouth, and found the use of a low gear when tackling the Haldon Road. Coming from Shaldon, it twists sharply round the corner of a small church, and shoots up for a mile over a steep shoulder. The corner was blocked by two carts and smeared with grease, but I ambled gently round on the low, banged in the high, opened up, and disappeared like a rocket over the summit, where I ran into the heaviest storm I have struck for years.

The engine presently gave a despairing cough and stopped, as it had not been "readied for rain." Diagnosis proved the carburettor was full of mud and water, as I had lost the cap over the float needle; the plug was shorting; the high tension terminal on the magneto and the switch were shorting. As fast as I dried one part another got sopped, and I draw a veil over an extraordinarily prolonged drive into Exeter, consisting of stoppages under every bush and bridge to dry out, followed by a short, mad sprint and another drying effort.

A Haven of Rest in a Country Inn.

In Exeter I dried the machine throughout, protected the terminals with vaseline, and made a new cap for the float needle, but still the machine would not start, though each test proved, with the most relentless logic, that there was nothing wrong. At last I hit on the trouble. My spare plug was not a Hedstrom, and though it screwed easily into the orifice provided, one of its points was shorting against the internal metal of the cylinder. Hence, there was a fine spark when the plug was out, but none at all when in.

It was now only a minute or so to lighting up time, and I was only carrying a toy lamp which was uncharged. Hating to sleep in a town, I pushed on lampless in the gathering gloom in search of a country inn. Pub after pub I paused at, but all were full, and nobody could supply me with even a pinch of carbide.

Testing a New Two-speeder.—

Finally, after the breathless descent of a twisty and precipitous hill in Tartarean inky darkness, I arrived at a haven called Newton Poppleford, where the Cannon Inn did me more comfortably and cheaply than I have ever been done at an English inn before.

Arrayed in some of the landlord's clothes, I devoured a gorgeous supper, and then went out to clean the red Indian.

The Real Joy of a Two-speeder.

Next morning I was faced with many miles of treacherous slime and mud plugging along the greasy roads of Devon and Dorset; I frankly own that on a single gear I should have funk'd the climbing of several precipitous hills on the treacherous grease, especially where the road turns callously back upon itself under trees up a 1 in 6 grade, as is the wont of roads down West. Good examples are the right-angle turn half-way up Trow Hill, and the awkward start of the hill out of Lyme Regis, which begins in an exceptionally narrow, crowded, slippery, and cambersome street.

Here the real joy of a two-speeder became manifest. I could circle these dangerous bends with trailing hob-nailed boots serving as Jacknosed, and presently bang in top and shoot away up the straights. But I blush to say that during the morning's skating practice I twice failed up hills on the low gear; of course, it was only the work of a moment to push off again, but it was considerably disquieting to be baulked on the low gear of a 4 h.p. by very ordinary single-figure grades.

I began thinking furiously, and before the third stiff mountain loomed up the secret was out. Two things were afflicting me. The first was weak mixture, due to the spare jet being smaller than the original. The Indian automatic carburettor widens its choke tube as you open the throttle; the result was I got a weak mixture when I most needed strong stuff. The second was that the automatic oiler had struck work, as the first shove of the hand pump proved. I did not enquire why, for the pump was already buried under four inches of clogged Devon loam, so I was content to use the hand pump at intervals; nor did I bother to reamer

out the spare jet, but only opened the throttle one half, so retaining the narrow choke tube.

After this all went as merrily as a marriage bell till I ran over a packet of pins and perforated my rear tube all the way round. This, of course, occurred in another heavy storm, when repairs were no joy.

In spite of these mishaps, I easily averaged a speed in excess of legal limit between Newton Poppleford and Northampton. Herein shows the contrast between trial riding and freelance work. The tiny troubles I encountered—a drop of pinhole punctures, the shaving of a tiny whorl of rubber off a G. and J. tyre valve, water in my carburettor, fitting a small jet, and an unsuitable plug, would each have sufficed to rob me of a gold medal in a scheduled trial, but in a freelance record ride not one of them need have been reported. Now let me pay my tribute to the Indian's excellences.

Her engine is magnificent from a tourist's standpoint. It needs no humouring and will never run hot. Its gear is simply ideal for a chain-driver; there are only two chains, and each possesses its own simple and positive adjustment; each is encased, and the front chain in particular does not even require cleaning after 450 miles in the mud. The clutch is not a substitute for a variable gear, and could never vastly increase the hill-climbing capacity of a single gear, but it answers admirably for its proper purposes—starting from rest, free-wheeling, and gear-changing.

A Clutch Test.

My pet test of a free engine clutch is as follows, but I do not recommend everyone to try it, as the consequences might be serious if the clutch for any reason refused to slip or was too tightly adjusted: Free-wheel as fast as you dare down a steep hill; towards the bottom let the clutch in with a bang against full engine compression, if you can remain in the saddle, the clutch is a good one, and accurately adjusted. I found the Indian would stand this test. The spring fork leapt at one bound into the list of the two or three really satisfactory forks I know. It levels up the road without a *souppçon* of bouncing, and it steers as easily and as truly as a straight, rigid, racing fork.

CLUB NEWS.**Pontefract M.C.C.**

A speed-judging competition, over a secret course of twenty-four miles, was held on August 17th. The following finished within two minutes of their correct time: 1, Will Bentley (3½ h.p. Triumph and sidecar), 15s. early; 2, H. Craven (Chater-Lea and sidecar), 30s. early; 3, Dr. Moxon (3½ h.p. P. and M.), 105s. slow; 4, H. Holmes (3½ h.p. Triumph and sidecar), 120s. early; 5, H. Bentley (3½ h.p. Triumph and sidecar), 120s. late.

Fleet and District M.C.C.

A hill-climbing contest against the Winchester, Southampton, and Eastleigh M.C.C.'s was held on South Harting Hill on the 16th inst., the results being decided on the A.C.U. formula, and the side whose six best performers secured the best average figure of merit being declared the winner. The fastest times were made by S. T. Figg, of Fleet, on a 5 h.p. Indian, and C. C. Rolph, of Fleet, on a T.T. Premier. The latter made a splendid ascent, and took the corner better than any other rider. T. Dear, on a Rudge, a member of the Hampshire team, got up in 54½s., and secured the best performance on formula. In the result, the Fleet club proved somewhat easy winners. A Bradbury v. Triumph contest which was on the programme failed to materialise owing

to a shortage of Bradburys, and a Triumph v. Indian was substituted. This was decided on time alone, and the Indians just won, chiefly owing to the performance of S. T. Figg, who climbed the hill in 52s. Great credit is due to the officials for the promptitude with which the event was run off, and the formula results announced.

Rider, machine, and club.	Time.	Place on formula.
S. T. Figg (5 Indian), Fleet ...	53s. ...	10
C. C. Rolph (Premier), Fleet ...	53s. ...	3
T. Dear (Rudge), Hants ...	54½s. ...	1
C. F. King (Bradbury), Fleet ...	55½s. ...	4
S. B. Wilks (5 Indian), Fleet ...	56½s. ...	5
N. Kennedy (Triumph), Fleet ...	56½s. ...	2
A. A. Longley (5 Indian), Fleet ...	58½s. ...	9
S. Smith (Triumph), Fleet ...	63½s. ...	6
T. E. Little (Triumph), Fleet ...	64½s. ...	7
W. J. Harrison (Premier), Hants ...	87s. ...	8
E. Ingram (Triumph), Hants ...	122½s. ...	11
J. Tuffin (5 Indian), Hants ...	Failed	
A. Nelson (Kerry-Abingdon), Fleet	Failed	

Average figure of merit.—Fleet, 208, 1st; Hants, 273.

Best performance on formula.—T. Dear (Rudge).

Club News—

Essex M.C.

The annual gymkhana has been arranged for the 26th inst., of which particulars may be obtained from Mr. S. G. Edwards, 100, Mount Pleasant Lane, Clapton.

North Middlesex M.C.C.

Final arrangements are now being made for the inter-team competition with the North-west London M.C.C. on Saturday, August 26th. It will take the form of a reliability trial, probably including the ascent of one or two steep hills.

Mersey M.C.

On August 27th team trials will be held for teams of three for Mr. Lake's prizes. Meet Rocket Hotel, Broad Green, for Buxton, *via* Warrington, Knutsford, and Macclesfield, returning same route. The start is at 10 a.m.

Oxford M.C.C.

Owing to the holidays the hill-climb arranged for September 9th will be postponed until a later date. Several new members have been elected during the past few weeks, the total membership now being 152.

Durham and District M.C.C.

Another hill-climb was held on Jubilee Bank, Willington, on August 2nd, for the Triumph gold medal, and the following are the results:

	Fig. of merit.
1. R. B. Smith (Ariel)	70.7
2. F. Turvey (T.T. Triumph)	79.2
3. A. Clark (Dene-Precision)	80.2

This event was followed by a slow climb on the same hill for the club silver medal, and was won by W. P. Cross (Bradbury), 3m. 37½s.

Liverpool A.C.C.

An amusing competition was held on August 12th in the form of a crock hill-climb. The machine provided was a 4 h.p. Hamilton, and the rider to take it the farthest up the hill, without l.p.a., was to be the winner of the total entry fees. An interesting feature of the competition was that two lady members of the club also rode the "crock" sitting side-saddle. The winner proved to be Mrs. Baxter with E. Hardisty as runner-up. The club are holding a run to Bettws-y-Coed on August 20th, starting from the landing stage at 9 a.m.

Norwien and District M.C.C.

On the 8th inst. the second annual motor cycle race meeting was held at Great Yarmouth. The card comprised six events, and it is somewhat remarkable that every event was won by the same rider, A. W. Lincoln (3½ h.p. T.T. Triumph). Although the number of spectators was not very large the meeting proved very successful and reflects the greatest credit upon its organisers.

Aberavon, East Talbot, and District M.C.C.

This club, which has recently been formed, held its initial competition in the form of a speed-judging contest over a sealed course on the Cowbridge road. Out of a field of twenty-two A. J. James (3½ h.p. Humber and sidecar) proved the winner. The secretary, Mr. J. H. Locke, 51, High Street, Aberavon, East Talbot, will be glad to hear from any motor cyclists in the district who may wish to join the club.

Dublin and District M.C.

The reliability trial from Dublin to Glengarriff and back (442 miles) proved a very interesting competition, and, considering that part of the route covered was in extremely bad condition, the result was satisfactory, eleven of the seventeen actual starters completing the course. Of the six men who dropped out, two had broken timing pinions, two had bad punctures, one had magneto trouble, and another, colliding with a wandering sheep, fell, and was so cut about the face that he sought the nearest railway station and came home direct. Subsequently the returns from the open and secret controls resulted in the Club Cup, with accompanying gold medal, being awarded to T. J. Dunphy, who drove a P. and M. H. Greaves (2½ h.p. Enfield) and R. Walshe (3½ h.p. Rex) were awarded gold medals, while silver medals went to T. Woods (3½ h.p. Premier) and L. J. Kettle (3½ h.p. Triumph). The committee decided to award special certificates to all those who covered the full distance without gaining a prize, and these were the following: P. J. Brady (3½ h.p. Rudge), F. J. Walker (3½ h.p. Rudge), J. H. Taylor (3½ h.p. Rudge), J. Healy (3½ h.p. Rudge), O. S. Baker (3½ h.p. Triumph), and T. D. Rollins (3½ h.p. Rover).

Ayr and District M.C.

The fourth annual reliability trial took place on Wednesday, the 16th inst., in ideal weather, the route being from Ayr *via* Dumfries, Carlisle, Penrith, over Shap summit to High Borrow Bridge and back, a total distance of 251 miles, to be covered at 20 m.p.h.

The following out of seventeen entrants qualified for gold medals, being up to time at all the controls: Miss May Senior (2½ h.p. Douglas), D. Armstrong (3 h.p. Triumph), H. Andrew (3½ h.p. Triumph), J. Brown (3½ h.p. Excelsior), George Cocker (3½ h.p. Triumph), Q. Clark (3½ h.p. Rex), F. K. Dickson (3½ h.p. B.S.A.), J. Gilchrist (3½ h.p. Triumph), J. Hutchison (3½ h.p. Singer), W. Munro (2½ h.p. Douglas), J. Meredith (5 twin Indian), D. McGill (3½ h.p. Adler), T. L. Rankine (3½ h.p. T.T. Singer), and J. Robertson (3½ h.p. Triumph).

This being the final competition of the season, the marks for the various events have now been allocated, with the result that the President's silver cup goes to Mr. George Cocker (3½ h.p. Triumph) for the highest aggregate of 576.5 out of a possible 600.



Some members of the newly-formed Weybridge and District M.C.C. who took part in the opening run on the 13th inst., starting from the Ship Hotel. It promises to be a very successful club.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Leicester to the Lakes.

? What is the best route to the Lake District from Leicester, so as to steer clear of Manchester? My machine is a 4 h.p. Jap-Campion. We are thinking of making Bowness our centre.—R.G.W.

Your best route would be as follows: Leicester, Melton Mowbray, Grantham, Newark, Retford, Doncaster, Ferrybridge, Aberford, Bramham, two miles south of Wetherby turn left and go through Harewood, Otley, Ilkley, Skipton, Settle, proceeding by Ingleton, Kirkby Lonsdale, to Bowness.

Valve Grinding.

? In view of what is said in "Motor Cycles and How to Manage Them" with regard to the damage done to valve seatings by grinding in the valves, would you advise fitting new valves in the place of those that require grinding owing to pitting? Are not the seats injured at all in cases where the valves are pitted?—R.G.C.

No. The valve suffers more than the seating. A little grinding in will do the seating no harm, but, as has been stated in "Motor Cycles and How to Manage Them," it is better to grind the valve first of all with a dummy seating, and then finish it off on the proper seating. To fit new valves in every case would be rather an expensive item, but the makers will usually true them up on a grinder when they are almost equal to new.

Varying Gear with Belt.

? I have a $3\frac{1}{2}$ h.p. Midget Tricar without pedals, geared about $5\frac{1}{2}$ to 1 when the belt is on the bottom of the engine pulley, but I find I am unable to climb all the stiff hills here (Berkshire), and not being able to go to the expense of a two-speed gear, I shall be glad to know whether the fitting of a size larger belt rim pulley to the wheel would bring the gear to $6\frac{1}{2}$ or $7\frac{1}{2}$ to 1. If this were done, would this gear be too low and overheat the engine, and would it assist me in climbing hills? Mine is an old-fashioned F.N. carburetter. Would the substitution of the latest B. and B. be any advantage for hill-climbing?—J.T.

We should advise you to have two separate belts, one giving $4\frac{1}{2}$ or $4\frac{3}{4}$ to 1 gear, and the other to use with the re-adjusted pulley, giving you $5\frac{3}{4}$ or 6 to 1 gear. Your machine, however, should be able

to climb hills with the gear you mention with perfect ease, so long as it is not used for going fast on the level with the same gear, as it would then undoubtedly overheat. The alteration you mention would further result in the engine heating up to a very bad degree. A 1911 Brown and Barlow carburetter would be a distinct advantage.

Starting a Sidecar.

? (1.) What are the correct sizes for low and high tension insulated wires for a $3\frac{1}{2}$ h.p. motor cycle? Would the same sizes be the best for a 6 h.p. twin? This useful little point seems to be omitted from "Hints and Tips." (2.) I am going in for a sidecar combination. Please advise as to whether I should purchase a 6 h.p. twin with two speeds or $3\frac{1}{2}$ h.p. with, say, Armstrong three-speed? Is the $3\frac{1}{2}$ h.p. really sufficient for the hills on main roads? (3.) How is a

sidecar combination usually started? I am told that handle starting is generally impossible with the sidecar fixed on the left. Is it a difficult matter to push off on the low gear as with the solo cycle? Or can the back wheel be raised on the stand, the engine started with pedals, put on "free," and stand raised, and machine started by slipping in the low gear?—C.C.V.R.

(1.) The usual type of motor cycle size high and low tension wire is suitable for all makes, either for a 6 h.p. or a $3\frac{1}{2}$ h.p. (2.) We should advise a 6 h.p. twin for preference. $3\frac{1}{2}$ h.p. is enough if you can obtain a lowest ratio of about 10 to 1. (3.) By putting in the low gear and pushing off. One soon gets accustomed to mounting on the wrong side of the machine. Of course, you can start by jacking up first of all, as suggested. Some engines can be started by hand with the driving wheel on the ground.



Harry Martin, who, at Parkhead, Glasgow, on the 12th inst., riding a $2\frac{1}{2}$ h.p. Martin-Jap, lowered three motor cycle records—namely, the three miles standing start, five miles standing start, and the mile standing start. Martin's times respectively were: 3 min. 24 $\frac{1}{2}$ sec., 5 min. 30 $\frac{1}{2}$ sec. (world's record for $2\frac{1}{2}$ h.p.), and 1 min. 15 $\frac{1}{2}$ sec.

Obtaining Damages for Accident.

C. I would like your legal adviser's opinion as regards an accident. Riding along a main road I overtook a pleasure party in a brake; there were cyclists riding at each side of the brake, and as I was about to pass them the brake swerved and caused the cyclist at the right side to cross in front of me. To save the cyclist I ran into the hedge, breaking the fork and front spindle. Can I recover damages?—M.O.C.

Our legal adviser states: If your correspondent can prove to the satisfaction of the court that he was riding cautiously, and gave sufficient warning of his approach, he should succeed in recovering the amount he claims, but he had better not commence an action unless he has a good witness to support him. The action would be in the county court where the defendant lives.

Tricar Queries.

C. I have a 9-11 h.p. Riley tricar, water-cooled, V-shaped engine, and would like to know as follows: (1.) What sort of oil for engine and how often to oil or charge? (2.) What sort of oil or grease for gear box? (3.) What sort of dressing for clutch? How and when to apply same? (4.) Petrol sometimes drips on clutch from carburetter. Does this matter? (5.) Distance from valve stems to tappets is about equal to thickness of thumb nail. Is that sufficient? (6.) Can you advise the best method to make the engine as silent as possible? Could I wrap silencer in asbestos or something?—R.I.P.

(1.) The best sort of oil for the engine in question is a good water-cooled oil such as the leading lubricant companies can supply you with the greatest ease. It would be best to allow the engine half a charge of oil about every five miles. (2.) For the gear box, a good, plain yellow grease, fairly thick, mixed with a little quantity of the oil used for the engine, and put into the gear box so that one of

the shafts is practically running in it, would be the most suitable arrangement. (3.) Collan oil is excellent for a leather covered clutch which is at all fierce, and should be applied the moment any "fierceness" is felt. (4.) Petrol ought not, under any circumstances, to drip on to the clutch, and it would be well to arrange some fitment which would obviate this, as it is most injurious to the leather. (5.) The distance mentioned between valve stem and tappet is approximately correct. You want just enough clearance to prevent the valve touching the tappet when it stretches due to heat, and not sufficient to retard the opening. (6.) The engine of this tricar ought to be fairly silent, but if it is not so there is not very much you can do beyond fitting another type of silencer. We should not advise you, under any circumstances, to wrap the silencer in asbestos, as it is absolutely necessary that the silencer should get rid of as much of its internal heat, as possible, and asbestos would seriously impede this.

Hill-climbing.

C. During a recent ride I had occasion to ascend Westerham Hill on my free engine Triumph geared $4\frac{1}{2}$ to 1, and strange to say I failed early on the hill. However, I made a second attempt, and succeeded in getting within fifty yards of the top, when I failed again. Being only a beginner, I shall be glad if you will advise me the best way to approach hills such as Westerham, whether "all out" or only medium throttle, etc. I am sure my machine is capable of climbing such a hill as it is in very good tune. My weight is 12 stones, and speedometer registers 700 miles only. The engine was fairly hot as I had done over twenty miles before I came to the hill.—CLITCH.

Apparently all you need is a little practice. First of all try gearing a little lower, say $4\frac{3}{4}$ to 1. Approach a hill on half throttle and then open out as soon as the steep part is in sight. This

should carry you safely to the top. At any sign of lagging slightly close the air. If then you find the engine inclined to knock, slightly retard the spark.

A New Oil.

? A traveller called upon us, offering us a brand of oil eminently suitable for air-cooled engines. He absolutely guaranteed that this oil would not carbonise under any conditions. Have you heard of such an oil, and what is the best way of testing the guarantee?—DEWDROP.

All motor cycle oils are sold as being suitable for air-cooled engines. What you had better do is to get a sample and submit it to the Birmingham University Laboratory for analysis. You will then be told if the maker's claim is justified.

READER'S REPLY.

In a recent issue "E.J.D." makes some enquiries about a Douglas. I am using a 1911 two-speed machine of this make for solo and occasional sidecar work. If he can supply the machine with petrol and oil I don't see why he should not keep it running anywhere in England till the tyres wear out without being troubled by engine overheating. As for oil on the belt mine gets a lot, I think from the chain which is automatically lubricated. It does not seem to have any bad effect on the rubber, strange as this may seem. Mine has run over 2,000 miles in about three months, and is the healthiest looking rubber belt for its age I have ever seen. It is a $\frac{3}{4}$ in. Lyso.—J. C. BENNETT MITCHELL.

EXPERIENCES WANTED.

"W.R." (Ilford). 1911 Scott with and without sidecar.

"E.C.W." (South Devon). Centipede belt.

"P.A.L." (Cheriton). 7 h.p. Indian and four-cylinder F.N. with sidecar for use in the Punjab.

C.H.A. (Buckhurst Hill). 1911 5 h.p. Indian.

AUTO CYCLE UNION SIX DAYS' TRIALS.

Competitors' machines arranged in order in the Clarendon Hotel yard prior to the start on the first day.



Additional Premises.

Nye and Co., motor agents, have opened additional premises at 138, Gray's Inn Road, E.C.

Hill-climbing.

At the Belfast and District M.C.C. hill-climb, held recently, out of eighteen entrants, a Kerry-Abingdon machine ridden by a novice made fastest time.

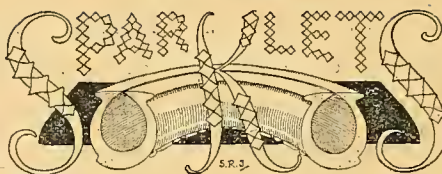
Martin has a Field Day.

Harry Martin won the five miles open handicap, the three miles open handicap, and the five miles open scratch race at the Cambridge Mammoth Sports on the 8th inst. He rode a Martin-Jap machine, and used a Dunlop belt. He also used a Dunlop belt on the 12th inst. when he put up new figures at Celtic Park, Glasgow, referred to elsewhere in this issue.

Changes of Address.

Owing to the large demand for Clincher tyres, it has been found necessary to obtain much larger warehouse premises. On and after the present date, all goods and repairs should be sent to the new address, Mercer Street, Long Acre, W.C. The tyre sales offices still remain at Bedford Chambers, Covent Garden, W.C.

A. T. Stanton advises us that his address is changed from Colvestone Crescent to "Kingsbury," Harlesden Road, Willesden Green, N.W. Mr. Stanton recently sustained rather a serious accident through a burst front tyre, but is now almost better again.



A motor cyclist press photographer who has ridden motor cycles for eleven years, and owned over twenty different machines. In a letter to the makers of his machine, he states that his business takes him over all sorts and conditions of roads, and his Rover takes him up the b'ggest hills with ease.

Two New Accessories.

Several ingenious accessories have lately been placed on the market by Messrs. Packer and Prentis, Roden Street, Ilford, among which we may mention the Mixa fan, which is fitted in the inlet pipe. When in position, it is spun round by the suction of the piston on the induction stroke, and in turning thoroughly mixes the gas and air. Great improvement in



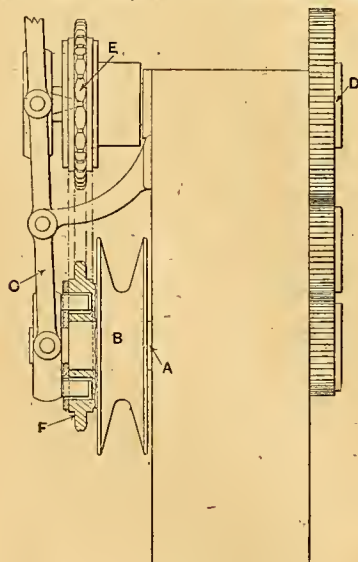
running is claimed by the makers for this device. The other accessory which we illustrate is Messrs. Packer and Prentis's belt fastener, which, it will be seen, has an extra screw hinged on it. The fact that each side is attached at two points should avoid any possibility of the fastener coming adrift.

Route Cards.

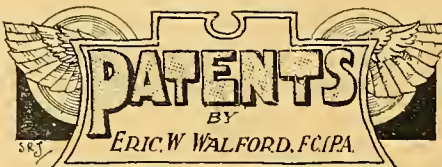
Jones and Co., motor engineers, Lichfield, present all motor cyclists who call at their garage with a neat little folding pocket motor map and guide, which gives all the important routes passing through Lichfield and the mileage along the roads to important towns. This is an enterprising feature which will doubtless recommend itself.

An Ingenious Two-speed Gear.

The engine crankshaft A carries loosely mounted upon it a belt pulley B, which can be clutched to it the operating lever C. The half-speed shaft D, which actuates the valves, is made sufficiently strong to take the drive, and it carries a chain



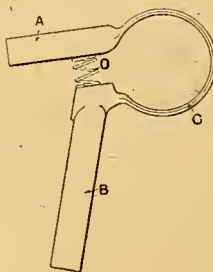
sprocket E, which gears by a chain on to a sprocket F fixed to the belt pulley B. When the operating lever C is moved in the opposite direction the chain sprocket E is clutched to the half-speed shaft D, and the other clutch, securing the belt



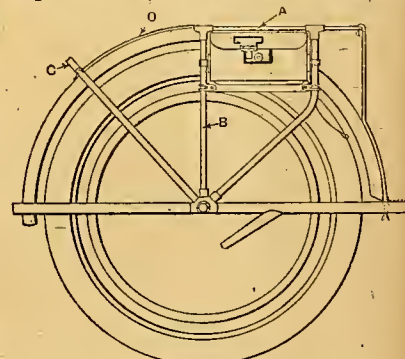
pulley B to the engine crankshaft, is disengaged. The power, therefore, goes through the half-speed shaft, and returns to the belt pulley through the chain at a reduced speed. This invention provides a two-speed gear, with the ability to start on the clutch on either gear, with the addition merely of a pair of chain wheels and a chain, the half speed gearing for driving the camshaft being, of course, an essential in any case, whilst for the present invention it is merely made slightly stronger than usual.—G. D. Leechman, No. 12,827, 1910.

A Spring Seat Pillar.

The two tubular portions A and B are connected by a circular spring portion C. Helical springs may be used as at D to accommodate riders of different weights. There are thus no pivots or bearings to wear out and make a noise.—R. Bayliss, No. 24,345, 1910.

**The Triumph Luggage Carrier.**

In order that a low saddle position may be obtained, the luggage carrier A does not project as far forward as usual, but stops short at the vertical rods B, and



is secured to the stays C by means of the bar D. The toolbags EF are arranged beneath the carrier.—Triumph Cycle Co., Ltd., and C. W. Hathaway, No. 17,947, 1910.

Lost and Found.

We receive many letters regarding accessories, etc., both "Lost and Found," which we are unable to find space for. As these particular matters are of interest to two persons only, viz., the finder and the loser, we have decided to keep a list of such articles, and all that are notified to us will be inserted in this list. Should we receive a letter from the finder which corresponds to the article lost, the two persons will be put into communication, but we cannot enter into correspondence on the matter.

THE "ALCYON" LIGHTWEIGHT

Makes you independent of Railway Strikes.

M.C.C.
London-Edinburgh
Run.

GOLD MEDAL.

Junior T.T. Race.

FASTEST SINGLE
GEARED MACHINE.

M.C.C. Gymkana,
Brooklands.

3-lap Race.
THIRD, against very
severe handicapping.



Alan Hay arriving at Edinburgh on his 2 h.p. Alcyon.

Paris-Trouville Race.

FIRST.

2 h.p. ALCYON,
complete—

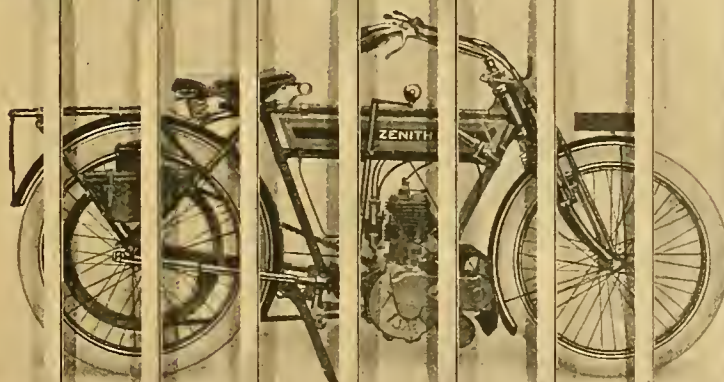
Price £39.

Agents wanted
where not
represented.

Telephone—
Victoria 1215.

G. N. HIGGS, 31, Vauxhall Bridge Road, London, S.W.

BARRED!



The HILL-CLIMBING

Zenith
WITH
THE **Gradua**
GEAR

THE REWARD OF MERIT.

In consequence of the phenomenal success of the Gradua Gear, no less than 10 different motor cycle clubs have found it necessary to place restrictions upon its use in their competitions. The monotonous run of Gradua successes discouraged other riders from entering.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

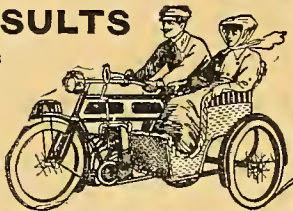
SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

For SATISFACTORY RESULTS

As well as
SATIS-
FACTORY
PRICE
when
seeking a
Motor
Cycle
Bargain



GO TO WAUCHOPE'S

The City Agency for all the Leading Makes of Motor Cycles. The House with the largest stock of Latest Models and finest selection of Genuine Second-hand Machines, renovated and fully guaranteed. Every Machine perfectly prepared for riding, a Bargain certain to give satisfactory results as well as satisfactory price.

TO-DAY'S LIST INCLUDES:

4284.	1 1/2 h.p. 1910	MOTOSACOCHE	20 Gns
4287.	3 h.p. 1910	TRIUMPH	£38 0
4288.	3 h.p.	FAFNIR	£20 0
4291.	2 h.p.	MINERVA	£17 10
4295.	3 h.p. 1910	T.T. TRIUMPH	£38 0
4298.	7 h.p. 1910	REX DE LUXE and sidcar	£47 10
4299.	3 h.p. 1908	Two-speed N.S.U.	£22 10
4300.	3 h.p. 1911	F.E. BRADBURY	40 Gns
4305.	1 h.p.	CLEMENT-GARRARD	£5 0
	3 h.p. 1911	Standard BRADBURY	£37 10
	3 h.p. 1910	Two-speed HUMBER	£35 0
	7 h.p. 1910	Two-speed V.S. and sidcar	£52 10
	3 h.p. 1910	Two-speed P. and M.	£36 10
4238.	6 h.p. 1909	Twin MATCHLESS	30 Gns
4247.	3 h.p. 1911	ZENITH-GRADUA	£47 10
4249.	3 h.p. 1911	BAT	40 Gns
4250.	3 h.p. 1910	SCOTT	£45 0
4252.	2 h.p. 1911	2-speed NEW-HUDSON	40 Gns.
4260.	2 h.p.	BRADBURY	10 Gns.
4261.	3 h.p. 1908	BROWN	£12 10
4264.	3 h.p. 1911	free-engine	£35 0
4266.	3 h.p. 1911	free-engine RUDGE	£13 0
4276.	1 h.p.	MOTOSACOCHE	£12 10
4277.	1 h.p. 1910	MOTO-VELO	£22 10
4285.	5 h.p. 1911	REX Sidette	48 Gns.
4286.	7 h.p. 1911	REX Sidette	65 Gns.
4205.	2 1/2 h.p. 1910	Two-speed F.N.	£23 10
4207.	3 h.p. 1910	Tourist REX	£32 10
4208.	7 h.p. 1910	Two-speed V.S.	£45 0
4215.	2 1/2 h.p.	BROOKLANDS	£16 10
4216.	3 h.p. 1910	Standard TRIUMPH	37 Gns
4218.	7 h.p. 1909	Two-speed V.S. and sidcar	£52 0
4219.	3 1/2 h.p.	MATCHLESS-J.A.P.	£25 0
4226.	3 h.p. 1910	MIDGET Bicar	£22 10
4229.	8 h.p. 1910	Twin BAT	£45 0
4180.	2 1/2 h.p.	BRADBURY	£8 10
4181.	3 h.p. 1908	BROWN	£22 10
4198.	3 h.p. 1909	MINERVA	£25 0
4199.	5 h.p. 1910	Two-speed Twin ROO	40 Gns.
4194.	5 h.p. 1908	MOTO-REVE	£15 0
4040.	7 h.p. 1910	Two-speed INDIAN	£47 10
4123.	2 1/2 h.p. 1910	DOUGLAS	£30 0
4133.	2 h.p.	ARIEL	£8 10
4135.	5 h.p. 1907	Twin REX DE LUXE	£22 10

LONDON'S MOST SATISFACTORY BARGAINS FOR CASH OR EXCHANGE.

ASK Send brief particulars of your present mount
FOR and receive liberal cash allowance offer for
LIST same in part purchase of any new machine.

WAUCHOPE'S
9, Shoe Lane, Fleet St.,
LONDON, E.C.

'Phone—5777, Holborn.
Telegrams—"Opinco, London."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Hiffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

1908 Triumph, N.S.U. free engine and 2-speed, excellent condition, tyres good, new belt, P. and H. lamp, numerous spares.—Cropper, Vicarage, Penrith.

3 1/2 h.p. Triumph Cycle, 1909 model, in perfect running order; at £35.—Turvey and Co., The Motor House, Sunderland.

3 1/2 h.p. Triumph Cycle, 1907 model, h.b.c., magneto ignition, in good running order; at £24.—Turvey and Co., The Motor House, Sunderland.

3 1/2 h.p. Rex Motor Cycle, 1909 model, Amac carburettor, h.b.c., and magneto, grand running order; at £23; inspection and trial.—Turvey and Co., The Motor House, Sunderland.

TRIUMPHS, Humbers, B.S.A., Royal Enfield motor cycles, lightweights, 2 speeds, free engines; write, wire, or phone for immediate deliveries.—Turvey and Co., The Motor House, Sunderland. Tel.: No. 626.

SECTION II.

York and Lancashire.

FREE Engine Triumph, just delivered; £55 for cash.—Cross, agent, Rotherham.

REX, 3 1/2 h.p., magneto, h.b.c., spares; £18.—Talman, Ocean Rd., Walney.

TRIUMPH, 1910, complete, perfect, new tyres; £33.—81, Long Lane, Preston.

1911 Bradbury, 2-speed, F.E., Cowey, new lamp, and overalls; £55.—Below.

1908 Triumph, 1909 improvements, Palmer cord tyres, almost new, mirror, all accessories; 20 guineas.—Waring, Market Sq., Lytham.

ZENITH, 3 1/2 h.p., 1911, first-class condition; £42.—Smith, 9, Ranby Rd., Sheffield.

ROVER, 1911, free engine, not run 200 miles; £45.—Smith, High Skelgate, Ripon.

1911 2 1/2 h.p. Lightweight Premier, brand new; £29/10.—Garland, Ironmonger, Warrington.

1911 Premier, 3 1/2 h.p., just like new, in perfect condition, extra fittings; bargain, £38.—Below.

TRIUMPH, T.T. 1909, just had new belt and non-skid covers fitted; first £30.—Below.

REX, 5 h.p., 1908, in the best of condition; only wants seeing; £24, cheap.—Below.

I HAVE several other magnet machines from £20 also accumulator machines from £4, new and second-hand sidcars, etc.—Stanley Motor Garage, West Brook St., Bolton.

1911 Triumph, free engine; 1911 Bradbury, can deliver immediately.—Lord, agent, Rochdale.

3 1/2 h.p. Rex, late 1909, perfect condition, very low and fast; cheap.—17, Barlow Moor Rd., Didsbury.

MOTOSACOCHE, 2 1/2 h.p., 1911, spares, free engine perfect condition; £30.—Motor, 151, Mayor St., Bolton.

IMMEDIATE DELIVERY.

NEW 1911 MACHINES IN STOCK.

1911 3½ h.p. Tourist Rex	43 Gns
1911 5 h.p. Two-speed Rex de Luxe	563 0
1911 7 h.p. Sidette	80 Gns
1911 3½ h.p. Bradbury	£48 0
1911 5 h.p. Two-speed Bradbury	£55 0
1911 3½ h.p. Rudge-Whitworth	£48 0

NEW 1910 MACHINES. REDUCED PRICES.

1910 3½ h.p. Magneto Rex, grey finish	32 Gns
1910 3½ h.p. Magneto Rex, Cantilever seat	35 Gns
1910 5 h.p. Twin, grand sidcar mount	42 Gns
1910 3½ h.p. Plate Clutch, free engine, pedals	43 Gns

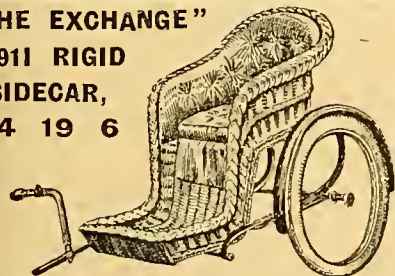
The 1910 machines all bear makers' guarantee.

"THE EXCHANGE"

1911 RIGID

SIDECAR,

£4 19 6



De Luxe type, with best tyre, apron, etc. £5 6 0
 Ditto, with reversible child's seat £7 0 0
 Ditto, with best coach-built body £7 12 6
 Improved quick-detachable joints are fitted to all models.
 Prompt delivery to suit Rexes, Triumphs, N.S.U.'s,
 Indians, and any other make.
 Discount to trade. Exchanges entertained.

PASSENGER COMBINATIONS.

5½ h.p. Twin Rex de Luxe, magneto ignition, Roc clutch, handle starting, and new rigid sidcar	£27 10
5½ h.p. N.S.U., free engine, N.S.U. sidcar, very smart turnout	£33 10
5½ h.p. Two-speed Rexette, carries three	£24 10
Brand New 1910½ Twin Rex de Luxe, 1911 fittings, and new 1911 de Luxe sidcar	£58 15

SECOND-HAND MACHINES IN STOCK.

1911 3½ h.p. Tourist Rex, done 750 miles	£36 0
1911 3½ h.p. T.T. Triumph, grand machine	£38 10
1910 7 h.p. Twin Rex	£37 10
1910 Twin Rex, special M.O.V. engine, very fast	£29 10
1910 3½ h.p. Magneto Rex, 8½ x 89	£27 10
1910 5 h.p. Rex de Luxe, fine sidcar machine	£22 10
1910 3½ h.p. Rex, very fast, special machine	£27 10
1910 3 h.p. N.S.U., magneto	£19 10
1910 Tourist Rex, smart and good	£24 10
1908 3-6 h.p. Rex Lightweight, magneto	£17 10
1907 3½ h.p. Magneto Rex, spring forks	£19 19
1907 3½ h.p. Rex, spring forks, runs well	£15 10
1 h.p. Twin Rex de Luxe, Roc clutch, spring forks	£24 10
Quadrant, 3 h.p., nice order	£11 10
1 h.p. Antoine, h.b. control	£16 10
1 h.p. J.A.P., light and handy	£8 10
1 h.p. J.A.P., twin, magneto, free engine	£26 10
1 h.p. Fafnir, good order, low	£10 0
1 h.p. 4-cyl. F.N.	£19 19
N. Magneto Lightweight	£16 10
1 h.p. Magneto Quadrant, spring forks	£20 0
1 h.p. Eclipse, low frame, wants attention	£4 10

SPECIAL OFFER.—Two Brand New 3½ h.p. Rexes 84 bore, 89 stroke, spring forks, very low frame, ball bearings to engine-shaft, Bosch magneto ignition, Brown and Barlow handle-bar control carburettor, foot and hand brakes, 1½ p. Lyso belt, 26 x 2 Continental tyres, footrests, number-plates, toolbag, tools, spares, stand, and carrier. Bargain price, 32 Gns. With 2-speeds, £5 15s. extra. Cash offers. Exchanges liberally considered.

The Halifax Motor Exchange

LARGEST REX DEALERS.

16, Westgate, HALIFAX.

'Phone, 766. Telegrams, "Perfection."

Business Hours, 9 a.m. to 6 p.m.

Stralian Agent—Allen, 6, Westbourne St., Petersham, N.S.W.

MOTOR BICYCLES FOR SALE.

LADY'S Singer Lightweight, new, £33; Humber lightweight, gent's, £34; Minerva, second-hand, £15; Bioscope (Butcher's), £15; exchange considered.—Mitchell's, Stafford.

CALTHORPE, 3½ h.p., 1910, condition as new, just overhauled by makers, Brown and Barlow, Dunlop belt, lamp, horn, spares, tools, etc.; £25.—Hodson, 153, High St., Bloxwich.

1911 Triumph, free engine models, from stock: second-hand sidcar for Triumph £3/10; Chater-Lea, Fafnir, 3 h.p., magneto, splendid order, £17/10.—Jones, Triumph agent, Efailnewydd, Pwllheli.

TRIUMPH, 3½ h.p., free engine model, new September, 1910, enamelling and plating perfect, tyres and belt as new, Powell and Hauser lamp and generator, horn, and all spares, engine perfect; can be seen or tried any time; £43.—S. B. Joyce, Wicksted Hall, Whitchurch.

1911 Free Engine Rover, equal to new, £42; 1909 Triumph, £30; 1910 free engine Triumph, £40; 1910 twin Clyno, 6 h.p., £35; 1911 Bradbury, latest model, £48; 1911 free engine Triumph, £55; 1911 2-speed A.J.S., £46; 3 h.p. Quadrant, £7; 3 h.p. Rex, £7/10.—Murston's, 26, Bridge St., Chester.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

BARGAIN.—Twin 2-speed Rex de Luxe, Whittle belt; £25.—52, Florence Rd., Acocks Green.

TRIUMPH, free engine, just delivered.—W. Brandish, Triumph agent, Great Heath, Coventry.

TRIUMPH, 1910, standard, excellent condition, engine just overhauled by Triumph Co.; £35 cash.—Shurman, Market Place, Brackley.

HUMBER.—Birmingham and district wholesale and retail depot, 78, New St. 'Phone: Central 7298.

HUMBER, 3½ h.p., with free engine; and 2-speed gear, the famous sidcar machine, efficient and economical; deliveries from stock.

HUMBER Lightweight, with 3-speed Armstrong gear and free engine; also demonstration single-geared 2 h.p., only slightly soiled, £31.

HUMBER, 3½ h.p., 2-speed, complete with torpedo coach-built sidcar, the ideal combination; £60.

ENFIELD Lightweight, late 1909, not ridden 1,000 miles; £25, or near cash offer.—Owen, Sleaford, Lincolnshire.

ZENITH-GRADUAS, 3½ h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester.

DOUGLAS, Model D, in stock for immediate delivery.—Sole district agents Paskells, Ltd., 62, High St., Leicester.

2½ h.p. Minerva, Dunlop tyres, lamp, stand, horn, new 24 engine, perfect condition; cheap.—Wood, Wainfleet.

BRADBURY Standard Models, in stock, 38 gns.; Premiers, 33 gns. to clear.—Saunders' Garage, Alvechurch.

HUMBER Motor Cycle, 2 h.p., good running order; £5/5, offers.—24, Claremont Rd., Sparkbrook, Birmingham.

3½ h.p. Triumph, with 1910 cylinder, piston, valves, 32 h.b.c., perfect; £25 cash.—Stamford Garage, Stamford.

TRIUMPH 1910, condition new; open to expert examination, with accessories; £37.—Gittings, 67, Raleigh St., Walsall.

1911 Bradbury, fixed engine and gear, Dunlop front, Roubaix back, all spares; £37.—No. 8, 196, The Motor Cycle Offices, Coventry.

3½ h.p. 1911 Standard Bradbury, perfect order, little used, as new; best offer.—Medicus, c/o Wilson's Garage, Loughborough, Leicester.

1911 3½ h.p. Free-engine Excelsior, run 600 miles, Palmer cord tyres, Dunlop belt, spares; £28.—Jenkins, 15 Arlestone Rd. Leicester.

1911 2 h.p. Humber Lightweight, 2 months old, Palmer tyres, no fault; £33, or nearest offer.—Box No. 7, 749, The Motor Cycle Offices, Coventry.

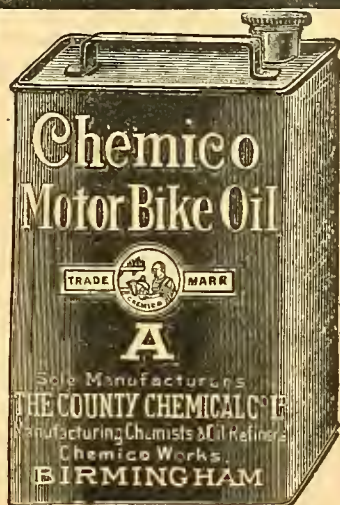
3½ h.p. 2-speed Humber, May, 1911, splendid condition, new Kumpshall, and Dunlop belt; 40 guineas, or near offer.—W.B.S., 101, Hunter St., Northampton.

FREE Engine 3½ h.p. Triumph, 1909 good condition, lamp, horn, tools, and spares, splendid running order; £53.—Leslie, 44, Oakfield Rd., Cannon Hill, Birmingham.

1908 Fairy, 2½ h.p., magneto ignition, light, low, good order, £13; new standard Triumph, £48/15; 1907 3½ h.p. magneto Triumph, excellent condition, £19/10.—Plastow, Grimsby.

MINERVA, 3½ h.p., Bosch magneto, Druids, h.b.c., Brooks saddle, Lyso belt, Palmer and studied tyres, long footboards, Triumph pattern handle-bars, lamp, horn, generator; any trial; £18.—Peers, Rednal, Birmingham.

1911 Rex, 3½ h.p., nearly new, condition perfect, foot boards, magneto, Cowey speedometer, Autolipse, lamp, new spare cover, 2 spare inner tubes, new, watch on handle; bargain, £38.—Williams, Y.M.C.A. Buildings, Leicester.



LUBRICATION

LUBRICATION is a matter of utmost importance to the motor cyclist, and an item which is apt to be too lightly considered. You cannot give too much attention to this, or exercise too much care in the selection of a suitable oil.

CHEMICO MOTOR BIKE OIL

has had our careful attention coupled with our wide knowledge of oil, exercised in its production, which with every confidence we recommend **CHEMICO MOTOR BIKE OIL** is exceptionally high in flashpoint, will not carbonise the valves, or soot the plug, but will circulate everywhere necessary and keep the engine perfectly cool.

WE URGE every motor cyclist to test **CHEMICO MOTOR BIKE OIL**, and give attention to the running of the engine during test.

Note how sweetly it runs and how clean the valves keep.

PRICES.

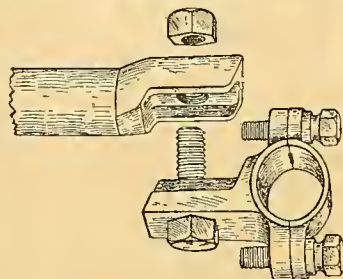
Quart Tins	1/6 each.
Half-Gallon Tins	2/6 "
Gallon Tins	4/6 "

The County Chemical Co. Ltd.,
 Bradford St., Birmingham.

London, Manchester, Glasgow, Dublin, Cardiff, E.D.A.

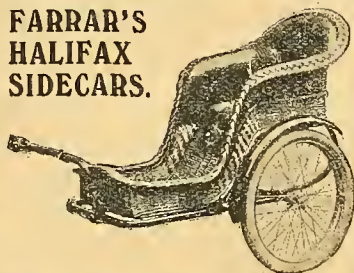
All FARRAR'S SIDECARS

are now fitted with SPECIAL
Quick DETACHABLE JOINTS
as illustrated below.



This is our Model de Luxe.
Complete £5 : 5 : 0 Complete

FARRAR'S HALIFAX SIDECARS.



Absolutely the finest value on the market.

LESS POWER.

It is admitted by experts that, owing to the unique design, far less power is required to propel Farrar's Sidecars than any other style on the market. NOTE our front arm which grips the sidecar CENTRE. Nothing lopsided about this attachment.

All our Sidecars are now fitted with Farrar's quick detachable joints and cranked back axles, refinements found on very few other makes.

MODEL "DE LUXE"	£5 5
MODEL "C," with cane body	£6 0
MODEL "D," with coach-built body	£7 0
MODEL "E," with reversible child's seat	£6 10

ALL COMPLETE WITH MUDGUARD & TYRES.

Discount to the Trade.
Delivery from stock to suit TRIUMPHS, REXES,
J. & M.'s, N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE
SPRUNG LIKE A CAR.

Sole Agent for Australia and New Zealand:
Mr. T. HARRIS, Hunter Street, SYDNEY, N.S.W.

ENGINES	
6-7 h.p. Twin Antoine, fine puller	£6 10
3 h.p. GORICKE and Bosch Magneto	£8 10
3 h.p. Water-cooled Auto-moto	£4 10
1 h.p. DE DION, air-cooled	£1 15
Phelon and Moore Engine and Frame	£5 10
2 h.p. HUMBER, water-cooled	£6 10
4 h.p. MINERVA, good puller	£3 10
2 h.p. SIMMS Engine (vertical) and Frame	£2 10
3 h.p. DE DION, variable pulley	£2 5

MISCELLANEOUS BARGAINS.

New 1911 B. & B. Carburetors, H.B. control 25/- 5/- allowed for old carburettor.	
Longuemare, B. & B., F.N., & others from 5/- each	
Triumph Saddle (B 200), padded	14/6
Powell and Hamner Generator	7/6
Price's Ukantex Stands	pair 5/6
Special Heavy 26 x 2 1/2 Tubes, guaranteed	7/6

**FARRAR'S
MOTOR EXCHANGE,
19, 21, 23, 25, Hopwood Lane,
HALIFAX** (Two minutes
from G.P.O.)
Telephone 919.

MOTOR BICYCLES FOR SALE.

5 h.p. Twin Tourist Rex, free engine, Bosch, Amag, h.b.c. tyres perfect, just thoroughly overhauled, re-enamelled and plated, very fast, ideal sidecar machine; trial here; £20, or nearest offer.—H. Bryan, Coleshill, Birmingham.

THE Osborne Motor Cycle, J.A.P. 4-speed, free engine, sliding back wheel, belt slip impossible, eccentric spring forks, absolute freedom from vibration. Splendid testimonials, thus: "I ran yesterday 90 miles with sidecar and passenger. I never had to touch the machine in any way."—Write, Osborne, Princess Works, Lincoln.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

NEW Triumph, free engine, in stock, also Bradburys, Humbers, etc.—Lambert, Thetford.

BRADBURY Motor Cycle, 3 1/2 h.p., new, unused, complete in crate; cash offers.—Bailey, Jeweller, Soham.

1911 4b.p. Twin N.S.U., Chater-Lea frame, magneto, B. and B. carburettor, Davison tank, light, low, fast, and like new; £19/10.—P. Wallis, Barnabas Rd., Cambridge.

NEW Triumphs, standards and two free engine models, in stock; also standard, only done 500. Cowey, lamp, horn, spares; best offer accepted.—Ewen, Triumph agent, King's Lynn.

TRIUMPH (August, 1909). 1911 piston, new Palmer cord back, and Whittle belt, Clincher studded front, separate generator lamp horn, tools, perfect; 29 guineas.—Booker, Wretham, Stoke Ferry.

NEW 1911 Lady's Hobart, 2 1/2 h.p., Armstrong 3-speed and free engine, Cowey, lamp, horn, spares, not done 300, climb anything, good reason sale, everything perfect; £40.—Kirkpatrick, 40, Tavistock St., Bedford.

2 1/2 h.p. F.N., 2 speeds, 1910, £23; 5 h.p. Indian, 1910, £33; twin Royal Enfield, 1910, £22; Moto-Reve twin, 1910, £21; 8 h.p. Bat-Jap, 1910, £36; 3 1/2 h.p. Ariel, 1910, £32; 1910 Motosacoche, £16.—3a, Bridge St., Cambridge.

3 1/2 h.p. 1910 Triumph, free engine, absolutely perfect condition, purchased last October, only used once weekly, P. and H. lamp and generator, spare belt and accessories; lack of time only reason for selling; £42.—8, 149, The Motor Cycle Offices, Coventry.

5 h.p. Twin Rex, L.M.C. variable pulley, and free engine, 1911 B. and B. h.b.c. ignition, new Bates studded triar tyre, new Bowden hand brake, foot brake, new Lysol belt, lamp, spares, splendid condition; trial; £22.—Smith, 56, Constable Rd., Felixstowe.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

MOTO-REVE Twin Lightweight, just overhauled by makers; bargain, £13.—Dawson, Silverdale, Bullth.

1911 Triumph, new July, ridden about 6 times, absolutely unsratched; accept £42/10.—Walker, Stourbridge Rd., Kidderminster.

I CAN deliver immediately from stock the following motor cycles: Bradbury, B.S.A., and Humber.—Everitt's Garage, Droitwich.

1911 Free Engine Triumph, just delivered, not uncrated; accept £52; bought car—Box No. 8, 171, The Motor Cycle Offices, Coventry.

1910 (late) Standard Triumph, P. and H. lamp, exhaust whistle, Dunlop belt, spares, perfect order; £37.—67, Gwydr Crescent, Swansea.

1911 3 1/2 h.p. Tourist Ivy-Precision, ridden 60 miles, 3 weeks old, lamp, horn, tools, etc., Dunlop tyres; accept £36.—Wise, Ironmonger, Kidderminster.

REX de Luxe, twin, latest B. & B., B.B., and adjustable pulley, Roe clutch, first-class condition; exchange 3 1/2 h.p., or sell with or without sidecar—70 East Gate St., Cowbridge.

1910 3 1/2 h.p. Twin Premier, perfect, with 1911 improvements, tyres perfect, with all spares and accessories; £29/15 cash, no offers.—Belsten, 31, Cannon St., Aberdeen.

3 1/2 h.p. Humber, 1911, almost new and in perfect condition, with spare belt, butt-ended tube, belt and tube carrier, spare valve, belt pump, 2 spare plugs, horn, kit bag, etc.; £47.—Capt. Boyd, Lauriston House, Hereford.

FOR Sale, 8 h.p. Bat, 1910, splendid condition throughout, new non-skids, plate clutch, White, spare tubes, racing pulleys, other spares of every description, climb anything, 7 to 70 miles per hour, winner of several hill-climbs; owner ordered abroad; sacrifice, £35.—E. P. Thomas, c/o Artur Weale, Cantilupe Rd., Rose, Herefordshire.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

REX de Luxe, 5 h.p. twin, Bosch magneto, free engine, 2 speeds, new tyres, just overhauled by makers,

2 1/2 h.p. 1911 F.N., run 400 miles, belonging to officer ordered abroad.—Victoria Garage, Clifton, Bristol.

10% DISCOUNT

from any of the following machines for spot cash.

SINGLE-CYLINDER REXES.

3 1/2 h.p., 1910, with 1911 spring forks	£35 0
3 1/2 h.p., 1910, black finish	£32 0
3 1/2 h.p., 1910, grey finish	£32 0
3 1/2 h.p., 1909, Tourist, very good	£28 0
3 h.p., 1908, Featherweight magneto	£18 0
3 1/2 h.p., 1906, Tourist, M.O.V., spring forks	£14 0

TWIN-CYLINDER REXES.

5-6 h.p., 1909 two-speed de Luxe	£36 0
or with sidecar attached	£39 10
7 h.p. de Luxe, two speeds, M.O.V.	£43 0
5-6 h.p., 1908, two-speed, and sidecar	£32 0
5-6 h.p., special model, 1909, magneto	£27 10
5-6 h.p., de Luxe, clutch model	£24 0
5-6 h.p., two speeds and free engine, Bosch	£28 0
5-6 h.p., de Luxe, 1908, two-speed model	£28 0
5-6 h.p., de Luxe, 1908, two speeds, special, good	£29 10
5-6 h.p., 1908, two-speed de Luxe, 1909 engine	£32 0
5-6 h.p., 1907, Tourist, Bosch magneto	£21 0
5-6 h.p., 1907, Lloyd's variable gear, Bosch	£23 0

N.S.U.'s.	N.S.U.'s.	N.S.U.'s.
5 h.p. Twin, Bosch magneto	£19 0	
5 1/2 h.p. Magneto, 2 speeds	£25 0	
1908 Lightweight, Bosch magneto	£17 0	

OTHER MAKES.	OTHER MAKES.
3 1/2 h.p. 1910 Clat'h Triumph, very fine	£45 0
6-7 h.p. Twin Antoine, Bosch, B. & B.	£21 0
1911 New Hudson, three speeds	£47 0
3 h.p. Triumph, M.O.V., very good	£18 0
3 1/2 h.p. Fairir, M.O.V., grand goer	£12 0

SIDECAR COMBINATIONS.

5-6 h.p. Clutl Model Rex and new sidecar	£29 0
5-6 h.p. 2-speed 1908 Rex and Sidecar	£33 0
One ditto	£32 0
7-9 h.p. two-speed Rex and Sidecar	£53 0

All fitted with Magneto and Spring Forks.

TYRES. TYRES. TYRES.

26 x 2 and 26 x 2 1/2 in. wired-edge covers	12/6
Continental, rubber non-skids, 26 x 2 1/2 or 2 1/4 in. 30/-	
Hutchinson, ribbed tread, 26 x 2 1/2	18/6
Continental, beaded, 26 x 2	18/6
Tubes, all sizes, guaranteed	9/6

£4 DOWN SECURES ANY OF THESE BALANCE 6/- WEEKLY.

3 1/2 h.p. Brown Bicar, 26 in. wheels	£12 0
3 1/2 h.p. Fairir, M.O.V.	£12 0

£6 DOWN SECURES ANY OF THESE. BALANCE 7/6 WEEKLY.

4 1/2 h.p. N.S.U., Bosch, B. & B. carb.	£19 0
1908 N.S.U. Lightweight, Bosch magneto ..	£17 0
3 h.p. Triumph, M.O.V., 26 in. wheels	£18 0
1908 Magneto Rex, low and smart	£18 0
5-6 h.p. Twin Rex, Bosch magneto	£21 0

CARS AND TRICARS.

6 1/2 h.p. Peugeot Car, two-seater	£35 0
5 1/2 h.p. Kexette, two speeds, a beauty	£24 0
One ditto, re-varnished	£20 0
6 h.p. Rover Tricar, good goer	£17 0
4 1/2 h.p. two-seater Alldays car	£16 0

MISCELLANEOUS BARGAINS.

12 guinea Fulford sidecar, good	£6 0
Farrar's sidecar, 26 x 2 1/2	£4 0
One ditto 26 x 2 1/2	£4 0
1911 Coronet Sidecar, coach built	£4 17 6
F.R.S. 58/1 lamp set	30/-
Cowey-Speedometer, only done 582 miles ..	£3 3
Mills-Fulford Castor Wheel Sidecar	£6 6
Vertical Frame, with 26 in. back wheel, etc. 1/5	
Prested accumulators, new, 15 amp.	35/-
Tricar Frame, suit 6 h.p. engine	4/11
Lycett's Tubular Carriers, new	30/-
New Lycett's Saddle, coil springs, L/109 ..	30/-
New Frame for vertical engine	30/-
New Prested Midget Trembler Coils	15/6

WANTED. WANTED.

Triumphs, REXES, Minervar, N.S.U.'s, Douglas's, Moto-Reves, and other magneto machines.

Cash waiting.

Farrar's Motor Exchange

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes
from G.P.O.)

Telephone 919.

MOTOR BICYCLES FOR SALE.

TOTTENHAM—Bradbury, 3½ h.p., 1911, standard 248; clutch model, 254/10; 2-speed model, 255 delivery from stock.—Below.

TOTTENHAM—Triumph, 1911, clutch model, 255 standard, 248; delivery from stock.—Below.

TOTTENHAM—Ridge-Whitworth, 1911, clutch model 255; standard model; delivery from stock.—Below.

TOTTENHAM—Humber, 1911, 2-speed model; delivery from stock; 250.—Below.

TOTTENHAM—Triumph, 1911, standard model; delivery from stock; 248/15.

TOTTENHAM—Fafair, 4½ h.p., Simplex, new engine and magneto, Whittle, spring forks; 227/10.—Below.

TOTTENHAM—Kerry, 5 h.p., twin, free engine, and coach-built sidecar; 220.—Below.

TOTTENHAM—Kerry, 5 h.p., twin, Bosch magneto, rebored, rebushed, and new pistons fitted; 220.—Below.

TOTTENHAM—N.S.U., 5 h.p., twin, Whittle, magneto, low built sidecar Chater-Lea, spring forks 33.—Below.

TOTTENHAM—Rex, 1909, 5 h.p., twin, tourist model all as new; 228/10.—Below.

TOTTENHAM—Rex, 1910, 3½ h.p., tourist model slightly soiled; 232.—Below.

TOTTENHAM—Rex, 3½ h.p., single-cyl., 1909, magneto, grand machine; 225.—Below.

TOTTENHAM—1910 Motococche, just overhauled by makers; 225.—Below.

TOTTENHAM—Triumph, 3½ h.p., perfect order, with sidecar; 220.—Stanford Hill Motor Co., 128 High Rd., Tottenham. Phone 1982.

TOTTENHAM—Motor-Reve, late 1910, equal to new, splendid hill-climber, all latest improvements; bargain, 220. 51, Barnt Ash Rd., Lee.

TOTTENHAM—Chater-Lea-Fafair, magneto, fast, powerful, splendid order; 215, lowest; forbidden riding.—Rectory Farm, Gestingthorpe, Essex.

TOTTENHAM—Ariel, in good condition, cylinder rebored, new 2 piston, complete; 28/10, or nearest offer.—Rick, Hurstpierpoint, Sussex.

TOTTENHAM—Twin Magneto, B. and B., Matchless pulley, all as new; 225, or exchange twin lightweight.—Glenn, Worcester Rd., Sutton.

TOTTENHAM—1910, 2½ h.p., splendid condition, new 2 tyres; 228/10; all accessories.—Dodd, 11, Palmers Crescent, Palmers Green, N.

TOTTENHAM—1907, in good condition, new cylinder, back tyre complete, lamp, horn, etc., ready for road; 5-62, Wythes Rd., Silvertown, E.

TOTTENHAM—December, 1908, Mabon clutch, magneto, first-class condition; 235, or near offer.—Howard, 6 Drive, Otlands Park, Weybridge.

TOTTENHAM—1910, 2-speed, absolutely perfect, just been overhauled by makers; 232/10, or exchange twin.—Ry, 153, West Green Rd., Tottenham.

TOTTENHAM—1911, in good order, rebushed, new accu- mulator, new Palmer; buyer can ride away; 28/10 Hills, 44, Union Grove, Clapham.

TOTTENHAM—1911 Triumph; 250; Tourist model, everything as new, P.R.S. lamp and generator, tyres unpumped.—Draper, Beresford Sq., Woolwich.

TOTTENHAM—1907, 3½ h.p., magneto, 1911 improvements, new belt, all accessories; 220, no offers.—Veas, 15, Craven Terrace, Hyde Park.

TOTTENHAM—Early deliveries of these splendid mount- ings from the Cripps Cycle and Motor Co., 24-28 Bedford Rd., Forest Gate, London, E.

TOTTENHAM—1909 Moto-Reve, twin, 2½ h.p., magneto, Druids, splen- did condition, just been overhauled by makers; 220.—Moto-Reve Works, Acton Vale, W.

TOTTENHAM—1909, 2½ h.p., spring forks, new coil and accumulator, excellent throughout; 213 quick sale.—Matthews, Henham, Essex.

TOTTENHAM—3 h.p., excellent condition, Amac, h.b.c., ad- justable pulley new type; surplus 212/15.—3, Small Crescent, South Hackney Common.

TOTTENHAM—Special, 1910 7½ h.p., 2-speed, free engine, with new 8 quinn sidecar; 246, lowest.—Box L4, 124, Motor Cycle Office, 20, Tudor St., E.C.

TOTTENHAM—F.N. Lightweight, magneto, spring forks, tyres perfect, engine new, horn, and tools; 214/10; 11, West View, Highgate Hill, N.

TOTTENHAM—1910, 3½ h.p., 2-speed, free engine, Whittle belt, Clowey speedometer, lamp, condition new.—W.P., 21, Minor Gardens, Holloway.

TOTTENHAM—1910, Druids, Whittle, free engine Hutchinsons, stand, carrier, first-class order; 10.—Hunt, 17, Tamworth Park, Mitcham.

TOTTENHAM—Twin Peugeot-Chater, Bosch magneto, Brown and Barlow, h.b.c., large tank, very low, in splen- did condition; 221-9, Merton Terrace, Pimlico.

TOTTENHAM—1910 Kerry-Abingdon, in splendid condition through- out, new Palmer cord, complete with all acces- sories; 228; a genuine bargain.—541, Fulham Rd.

TOTTENHAM—3½ h.p. Triumph, perfect, 226; 2½ h.p. Minerva, Amac carburettor, engine as new, 213/10; 2, Peabok, good tyres, 27/10.—124, Romford Rd.

IF

you are considering the purchase of a Motor Cycle or Sidecar Combination, it will pay you to write us, or call at our Showrooms. We are always pleased to advise as to the most suitable type of machine, and can give prospective purchasers a trial run. Owing to our large contracts we can give

IMMEDIATE DELIVERY FROM STOCK
of the following 1911 models:

TRIUMPH, free engine, 3½ h.p.	255 0
TRIUMPH, T.T., roadster, 3½ h.p.	250 0
TRIUMPH, standard, 3½ h.p.	248 15
B.S.A., 3½ h.p., standard	250 0
B.S.A., 3½ h.p., free engine	255 0
INDIAN, 7 h.p., two-speed	275 10
REX, 3½ h.p., tourist	43 Gns
REX, 3½ h.p., free engine	48 Gns
REX, 5 h.p., free engine	51 Gns
REX, 5 h.p., de luxe, two speeds	60 Gns
REX, 7 h.p., de luxe, two speeds	65 Gns
DOUGLAS, Model E, two speeds	248 0

SPECIAL TERMS FOR CASH.

Exchanges or Instalments arranged.

SPECIAL OFFER.

HUMBER, 3½ h.p., 1911, 2 speeds ..	245
ARIEL, 3½ h.p., 1911, decompressor for easy starting ..	242
N.S.U., 2½ h.p., 1910, twin-cylinder, lightweight ..	228
P.M.C., 3½ h.p., 1911, Precision engine ..	238

BRAND NEW.

We have also a good stock of reliable and guaranteed

Second-Hand Machines

and Sidecars. Any of these can be supplied on "The Motor Cycle" approval system. As these machines have been taken in part payment of new motor cycles or cars, we can offer them at exceptionally low prices.

SINGLE-CYLINDERS.

TRIUMPH, 3½ h.p., 1910, engine No. 8312, searchlight lamp, horn, excellent condition ..	237 10
TRIUMPH, 3½ h.p., 11/9/08, excellent machine ..	227 10
HUMBER, 3½ h.p., special Brooklands racing model, overhead M.O. valves, chain drive, equal to new ..	230 0
N.S.U., 3½ h.p., 1909, magneto, h.b. control ..	220 0
N.S.U., 3½ h.p., 1908, magneto, h.b. control ..	215 0

TWIN-CYLINDERS.

REX, 1910, 5 h.p., Speed King, with "Roe clutch and two-speed gear," not done 1,000 miles ..	238 0
ROC, 1909, 5 h.p., twin-cylinder Peugeot engine, clutch and two-speed gear ..	233 0
MATCHLESS-J.A.P., latest model, 1911, 6 h.p., twin-cylinder, guaranteed equal to new, and perfect in every respect ..	245 0

SIDECAR COMBINATIONS.

ROC, 1910, 4 h.p., single-cylinder, two-speed gear and clutch, rigid sidecar, Kempshall tyres, lamp, and horn ..	235 0
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Full list sent free on application.

THE FAMOUS P.M.C. SIDECARS

are by far the best value obtainable. Early delivery. Send for lists and copies of testimonials

THE
PREMIER MOTOR Co., Ltd.,
Aston Road, Birmingham.

Telegrams— "Primus, Birmingham." Telephone— Central 4310.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1909, Clinchers, lamp, watch, mirror, exhaust whistle, splendid condition, magnificent climber; 233-73, Ouslow Gardens, Muswell Hill.

3½ h.p. Triumph (1909), racing, just home from makers, as good as 1911 model, 235; also 3½ h.p. Singer, magneto, 213.—Clifford Cant, Braiswick, Colchester.

2½ h.p. De Dion, magneto, spring forks, h.b.c., lamp and generator, in perfect order, White's overhauled; 215, or offer.—Grimes, 16, South Bruton Mews, B. and St., W.

3½ h.p. Minerva, perfect condition, Mabon clutch, spring forks, h.b.c., all latest improvements, any trial given; 216.—Devonshire Lodge, Friern Park, North Finchley.

PEUGEOT-CHATER-LEA, 3½ h.p., perfect order, free fire and burglary insurance; apply for particulars, many testimonials.—138, Gray's Inn Rd. Tel.: 6299 Holborn.

IF You Want Bargains in second-hand motor cycles, you can get them at Wanching's.—Wanching's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

1911 3½ h.p. Premier, ridden 200 miles, 236; 1911 2-speed Enfield, brand new, cheap.—Bathcler, Clarendon St., Kingston.

NYE'S, the specialists for quick sales; no charges; free fire and burglary insurance; apply for particulars, many testimonials.—138, Gray's Inn Rd. Tel.: 6299 Holborn.

4 h.p. J.A.P., as good as new, Bosch magneto, head lamp and generator, B. and B. carburettor; sacrifice, 225, or near offer.—126, Wellington Rd., Hounslow, S.

2½ h.p. Griffon-Zedel, B.R. h.b. carburettor, Whittle 24 belt, adjustable pulley, 26x21 Michelin tyres, tools, etc., perfect; 210/10.—Apply, 480, Garrett Lane, Earlsfield, S.W.

MINERVA, 4½ h.p., and sidecar, late 1909, quantity spares, new Harrison's copper tank, adjustable pulley, excellent condition; 225.—Pickles, 8a, Vauxhall Bridge Rd., S.W.

F.N., 4-cyl., magneto, spring forks, tyres almost new, 2½ in. beaded edge, plated rims, spare tube, valves, and magneto spares; good bargain, 222.—Morrison, Glenariff, Cobham.

HUMBER, 1911, 3½ h.p., 2-speed, free engine, lead-light, hood, tools and spares; has not run more than 500 miles; 242.—May be seen at 234, Battersea Park Rd.

3 h.p. Chater No. 6 frame, B. and B., h.b.c., spring forks and seat-pillar, studded tyres, footboards, low, and powerful, almost new; bargain, 217-28, Lower Addiscombe Rd., Croydon.

5 h.p. Vindec, 1909, twin-cyl., Mahen clutch, Bosch magneto, B. and B. carburettor, h.b.c., Rom bark, everything in perfect condition, all accessories, splendid sidecar machine; 226.—Below.

3½ h.p. Premier, 1909, 2-speed gear—Sydenham Auto-car Co., 153, Sydenham Rd., Sydenham, S.E.

1½ h.p. Werner Lightweight, splendid condition, just overhauled and cannuled, new coil, accumulator, and Amac carburettor; great bargain, 22/10; buying triar.—Morter, Colchester.

F.N., 4-cyl., h.b.c., magneto, Rom non-skid tyres, foot- board, in perfect condition, entirely new engine, having just been fitted; 225.—Jenner, Enderley, Ditton Court Rd., Westcliff-on-Sea.

VINDEC, 5-6 h.p., Twin, Peugeot, free engine, mag- neto, B. and B., h.b.c., Whittle, Continental tyres, sidecar, almost cost 27; will separate; 230; money wanted.—29, Leyton Rd., Handsworth.

4½ h.p. J.A.P., overhead valves, B. and B., Bowden 42 control, Mabon "export" clutch, sidecar, new belt, two new tyres, accessories, spare tyre; 230.—Young, 220, High St., Stoke Newington.

CALTHORPE Motor Cycles in stock for immediate delivery; standard and tourist models; write for our special cash quotation: exchanges arranged.—Storey and Co., 337, Euston Rd., London, N.W.

TRIUMPH, December, 1908, free engine clutch, mag- neto, first-class condition, engine and tyres, lamp, horn, and accessories; 235, or near offer.—Howard, The Drive, Otlands Park, Weybridge, Surrey.

WIN-PRECISION Motor Cycles: immediate delivery 1911 model, gradual payments, 22 monthly, cash 245/10; particulars on application.—De Nevers Automobile Agency, Empire House, Piccadilly, W.

6 h.p. N.S.U., and coach-built sidecar, with new 2-speed gear and free engine, new B. and B. car- burettor, h.b.c., recently overhauled; any trial; 237/10.—Quinn, 169, Leigh Rd., Westcliff-on-Sea.

TRIUMPH, standard, 1910, exceptionally good con- dition, one new tyre, other run 200 miles, engine thoroughly overhauled last month, White's belt, usual fittings; 237-83, Kingston Rd., Wimbledon.

3½ h.p. Premier, 1911 model, auxiliary exhaust, in 22 good condition, 238; 3½ h.p. Singer, magneto, B. and B. carburettor, h.b.c., 26 in. wheels, tyres good, 215.—Page, 74, East Hill, Dartford, Kent.

5 h.p. Peugeot-Chater No. 6, Bosch, B. and B., h.b.c., footboards, lamp, pump, tools, climb Westernham, Cudham, 6 in. adjustable pulley; 220, others.—Gordon, 5, Chatsworth Gardens, Eastbourne.

In answering these advertisements it is desirable to mention "The Motor Cycle."

MOTOR BICYCLES FOR SALE.

1910 Standard Triumph, date on engine 5/5/10, complete with headlight and generator, horn, pump, tools, spares, etc., in very pink condition; £40, no offers.—Rigby, Rosetta, Brighton Rd., Purley, Surrey.

1910 N.L.G. 3 1/2 h.p. Peugeot, m.o.v., Bosch magneto, handled July by F.N. Company, and new tyres and tubes fitted, which cost £8/10; accept £24, or nearest offer; all spares included.—Auriv, 13a, Bow Lane, E.C.

1910 N.L.G. 3 1/2 h.p. engine, m.o.v., Bosch magneto, nearly new extra heavy Kempshall on back wheel, footboards, F.R.S. lamp, tools, and accessories, guaranteed in perfect condition; £38/10.—26, Highbury Grove, N.

HUMBERS, New Hudsons, Quadrants, Moto-Reves, James, Grandex-Japs, Calthorpes, immediately from stock; easy payments at an extra charge of 2 per cent. only.—William Whiteley, Ltd., Queen's Rd., London.

CLEMENT Lightweight, Palmers, 26in., good running order, £8/10, or exchange for higher power one with small repairs not objected; 2 1/2 h.p. engine, 30/-; 2 Longueurs, 4/- and 5/-—95, Boundary Rd., Woking.

BRADBURY, 3 1/2 h.p., 1910 machine and sidecar, 2-speed gear, and free engine, Whittle belt, B.B. carburettor, Druid forks, mirror, Kempshall, etc.; absolute bargain, £45.—Nicholls, 4, Keston Mews, Notting Hill, W.

1911 Humber, 3 1/2 h.p., 2 speeds and free engine, and Millford cane sidecar, Autoclipse lamp and spares, new just before Whitsuntide; £45, or without sidecar £40.—Adams, 73, Elderton Rd., Westcliff-on-Sea, Essex.

1911 (May) Campion Middleweight, N.S.U., 2 1/2 h.p. twin, geared pulley; cost £38; done 300 miles; bargain, £30; condition and appearance splendid; exchange Triumph, etc., clutch preferred.—37, Battersea Rise, S.W.

TRIUMPH, 1911, Rom tyres, Cowey speedometer, horn, dust suit and sundries, ridden 1,600 miles only, absolutely unsold and perfect throughout; £47; Saturday afternoons or evenings.—40, Croxted Rd., West Dulwich, S.E.

TRIUMPH, 1911 standard roadster, perfect condition throughout (including tyres), all tools and accessories, 2 spare valves, spare belt, plugs, etc., lamp, and generator; 40 guineas.—S. B. Wood, Broomhill Lodge, Goodmayes, Essex.

BARGAIN.—Brand new 1 1/2 h.p. Clement engine, carburettor, pipes, etc., commutator, coil, attachments, to fit any ordinary cycle without alterations; rock price, complete, £6, quick sale.—Richard Holloway, York Rd., Acton.

REX 1911 3 1/2 h.p. Tourist, tools, spare valve, headlight, generator, Cowey speedometer, perfect condition throughout, new Dunlop on back wheel; going in for sidecar combination; 36 guineas.—8, Richmond Rd., Ilford, Essex.

F.N., 1 1/2 h.p. magneto, new engine, in perfect condition, tyres good, spare butt-end, nearly new P. and H. lamp and separate generator, horn, lot spares; £18.—Call, Newling, 8, Manor Parade, Stoke Newington, 6 to 9 p.m.; no letters.

3 1/2 h.p. Magneto Twin Clement Lightweight, h.b.c., 32 spring forks, clamps well, £14/10; 3 1/2 h.p. Brooklands, 1910 model, very fast, strong and good, £12/10; must sacrifice one, seen any time; trial.—Thomson, 77, Handcroft Rd., West Croydon.

1911 T.T. Roadster Triumph, splendid condition, very fast, all accessories, June delivery, £45/10, if Jones maximum hand speedometer £4 extra; wanted, 5.6h.p. Bat-Jap T.T. racer.—Write, L.C.C., 51, Kensington Mansions, Earl's Court, W.

TRIUMPH, 1911, standard model, better than new, purchase May, guaranteed perfect; owner buying small car, only reason for selling; all accessories, including new Whittle belt; seen by appointment, £45.—Grimaldi, 2, Hillside Gardens, Highbury, N.

3 1/2 h.p. Minerva, 1911 B. and B., free engine, new belt 32 and tyre, do 40 m.p.h., £14, or offer, very powerful; also 2 1/2 h.p. Ariel, Simms magneto, 1911 B. and B., spring forks, just overhauled, £12, guaranteed perfect, and great bargain.—S. Wilson, Ruskin Manor, Denmark Hill, London.

20 Secures Delivery, carriage paid, of any motor cycle on the market; 2 per cent. only is charged for 12 months' credit; Humbers, New Hudsons, Quadrants, Moto-Reves, James, Grandex-Japs, Calthorpes, in stock.—William Whiteley, Ltd., Queen's Rd., London.

F.N., 5.6h.p. (July, 1910), latest automatic carburettor, drip lubrication, handle-bar magneto control, footboards, new R.O.M. combination, Solar headlight, horn, mirror, all tools, spare tube, gear just overhauled by makers; £35.—Joseph Patterson, Woodville, Farnham, Surrey.

INDIAN, 1911, 7 h.p., 2-speed, clutch, footboards, Millford coachbuilt sidecar, Cowey speedometer, two lamps, spare tyre and tube, faultless condition throughout, cost over £100 June last, owner buying car; price £85 complete; seen by appointment.—Radford, Lyndhurst, Dulis Park, Finchley.

1909 3 1/2 h.p. Rex, clutch, 2-speed, new B. and B., h.b.c. carburettor, Bosch magneto, and sidecar, all replated and enamelled to match, engine just re-bushed throughout, cylinder re-bored, new piston, new rear wheel, spare valves, springs, and plugs; £35 the lot.—S. The Parade, Becht, Surrey.



'ALL-METAL' SWITCH.

No. 430, 1 way, 2/3 each

„ 435, 2 way, 2/9 „



"EBONITE" SWITCH.

No. 404, 1 way, 3/- each

„ 407, 2 „ 4/- „

„ 406, 1 „ 3/6 „

(Latter with plug).

SPECIAL COILS.

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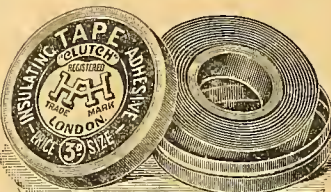
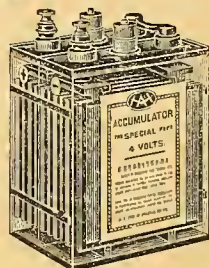
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THE MOTOR CYCLE

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Next Year's Thousand Miles Trial.

EXCELLENT as was the organisation of the 1911 Six Days' Trial in most respects, we heard a certain amount of criticism and grumbling at its conclusion. We take it that the sincere purpose of these trials is to set a very exacting standard of performance. If this is the real object, no efforts must be spared to eliminate the element of luck as far as possible; and from a motor cyclist's point of view "luck" may often be translated "tyres." At present the tyre element is absolutely ignored, yet from the private owner's standpoint the tyres are probably the most uncertain item of every machine's equipment. To "observe" tyres will not greatly complicate matters. Each man would be allowed two covers and three unpunctured tubes at the start, all of them officially marked. On coming in at night, any marks lost up to, say, 15 would be cancelled if he were able to show a repaired puncture. At the conclusion of the trials there would be a report as to the number of stops and replacements sustained with each make of tyre, and of their finishing condition.

Secondly, the regulations are very weak regarding belts and chains. Competitors and others would laugh if the owner of a chain-driven machine started with three sets of chains, but to fit a new belt every other morning of a trial is not unknown.

Then we come to the hills. The general level of the performances was excellent, and few of the variable-gear machines were ever fully extended. It will be almost impossible to find steeper hills in England, or to cram more than two bad hills into each day's ride. In number and severity the hill tests were satisfactory, though they could have been

improved if a paid official of the A.C.U. had ridden over the course three months ago. Similar tests will, of course, be included in every future trial. As a few machines fitted with variable gears failed to negotiate some of the ascents, it cannot possibly be argued that a variable gear is an absolutely certain means of climbing an exceptionally steep hill. By the same rule, the contrary is not proved because some fixed geared machines were successful. The personal element is too strong, particularly in hill-climbing, for failure or success to be decided alone by the mechanism of the machine. It is well known that a good many of the competitors and a large proportion of the A.C.U. officials were unacquainted with the severity of the course, despite the articles that we have published concerning it and the strong warning we issued. Had every competitor gone over the difficult parts with his machine previous to the trial, it is possible the gear ratios might have been considerably lowered, and the failures on hills would have been turned into successes. Hill-climbing—*ceteris paribus*—is merely a question of gearing, and, provided the gear is low enough, almost any machine will climb the hills over which the competitors journeyed.

The accommodation must be improved for another year, or a new body will spring into being and organise an opposition trial. Competitors will not submit twice to the discomforts endured this year.

The 20 m.p.h. average should be made a fact and not a farce. The number of gold medals would then be halved or quartered, for there were very few who did not save their gold medals at least once by a prolonged scorch after some comparatively lengthy stoppage; and this defeats the purpose of the trial, except, perhaps, so far as tyres are concerned.

No. 7 A COMPETITOR'S IMPRESSIONS OF THE SIX DAYS TRIAL



SEVERAL years ago I competed in an A.C.U. Six Days' Trial, and was allotted No. 13, now extinct! Needless to say, after a host of minor troubles I stripped my timing gear. This year I was given No. 7, which is supposed to be lucky; at any rate I found it so, and if I did not get through without that spice of trouble which adds a savour to all riding, at any rate I enjoyed a very passable picnic. My mount was a $3\frac{1}{2}$ h.p. Rudge, which had already won a gold medal in the Scottish Trials, and covered about 2,000 additional miles in ordinary touring work, and it was specially equipped for the formidable hills with a N.S.U. two-speed gear; I scrapped the handle-bar control, which proved unsatisfactory in Scotland, and substituted an ordinary "coffee-grinding control." I let myself be unnerved by a lot of old wives' fables about the severity of the hills, and selected 5 and $7\frac{1}{4}$ to 1 for my gear ratios, with the result that the engine was hopelessly undergeared all through. Sutton Bank turned out to be our worst climb, and, as everybody knows, a $6\frac{1}{2}$ gear is quite low enough for it. One other detail of the

machine deserves mention. We were told we must make clean ascents of nine out of the ten "observed" hills to secure a gold medal, and I dislike a very sensitive carburetter in climbing unknown hills with bad surfaces and hairpin bends.

B. and B. Carburetter Made Automatic.

As some riders know, it is possible so to adjust a B. and B. carburetter that it is practically automatic. I set mine so that the air lever was thrown wide open at starting, and that once going a fairly accurate mixture can be obtained at all throttle positions without again touching the air. Consequently I never moved my air lever throughout the trial except when starting, and if I wanted more power on a hill I had only to jab the throttle wider. This is very pleasant when the machine is buck-jumping all over the road, and it is anxious work to free a hand for a gear change. The defects of the adjustment are heavy petrol consumption (in my case about eighty miles to the gallon), and a certain loss of flexibility. Furthermore, as the judges demanded sure rather



A.C.U. SIX DAYS' RELIABILITY TRIAL IN YORKSHIRE.

General view at the top of Blue Bank, one of the observed test hills. The riders are P. Weatherill (Zenith-Gradua) and F. Philipp (Scott).

CLIMBING WASS BANK IN THE 1,000 MILES TRIAL.



A. R. Abbott (3½ h.p. Bradbury), P. W. Moffatt (2½ h.p. Douglas), and B. H. Davies (3½ h.p. Rudge).

than swift ascents, I made it a rule to change gear very early if a rough hill promised to become too steep for the high gear.

Now to our muttuns. Receiving the machine by train from the works on the Friday before the trial, I trained up to York, and rode out to Sutton Bank, in lieu of surveying the entire course, as many of the trade riders thought advisable. To my horror, the engine would not look at the famous "bank"—the Trough made her conk out from either a hot or cool start.

Valve Adjustment Necessary.

I remedied several small adjustments without effecting a very marked improvement, and only the inlet valve tappet seemed in need of further attention. This I could not shift with the tools at my command, and I went off to Harrogate in some anxiety. However, the valve adjustment put the coping stone on her tune, and when we started on the Monday I knew she was in champion form. Monday's run was exceedingly dull and uninteresting until we reached Byland Abbey. Hereabouts three or four water splashes set a rubber belt slipping, and then several of us went off the route, and so got to Wass Bank a trifle late. Lingered only to tighten the belt. I rocketed up over the bricks and gullies on top gear, being very thankful that I had the road to myself with such bumps to traverse, until at last I fell into a deep trough across the road, whereupon I promptly changed down, and lifted the valve at the succeeding bumps. It was well I did so, for several wheel rims were badly kinked on this climb. The gradient was contemptible.

On our way into Whitby we took special interest in two hills now to be descended, but to be ascended on the Wednesday. The first was unofficial, a short, steep hairpin; the second was Blue Bank, real gradient towards the top. The trip from Whitby to Saltburn proved exceptionally exciting, being a crazy succession of blind corners, and short, single figure gradients with two or three hairpin bends on each.

On these the value of the variable gears was demon-

strated, for almost all the single-gear machines failed three or four times apiece. Let me not boast, for I twice had a petrol lock along this stretch, and should never have scraped up a third hill if two Bats, two Triumphs, and two Douglases had not all mulled a corner just ahead of me, and so warned me that the road had gone mad. Sutton proved a simple matter now that my inlet valve was opening fully, but several other competitors came to grief just for want of such a test climb as I had made on the previous Saturday. For instance, by some strange mischance a No. 28 jet had got into the carburetter of poor Robbins's Humber, instead of the No. 34 or 35 he usually employs. Before the day's run ended, we were all growing to loathe the flat roads on the plain of York, along which we were daily given at least two exercise canters, just to pile up the mileage towards the sentimental 1,000 deemed essential for a six days' trial. On Monday night various Yorkshiremen came in, and drew lurid pictures of the freak hills awaiting us, all of which proved to be fabulous. I had my throttle two-thirds open on the Trough of Sutton on Monday, and I never again needed so much gas all the week. On Tuesday we started with the usual preliminary breather along dull, flat roads, which we should have appreciated more if we had known what a nightmare the Reeth to Brough section was to be.

A Regular Nightmare.

The hill-climb at Arkengarthdale was by no means all that fell flat on this stretch. I saw four men unsaddled within a single furlong, while many others were creeping along on their low gears, cutting out every few yards. The "observed" hill was a vee pitch of insignificant gradient, claiming a villainous stony surface and a sharp S bend as its only terrors, I crept cautiously round on low gear. After this, for several miles the road resembled a river-bed, and my Scottish practice came in handy. Those of us who are used to mountain roads easily exceeded the official speed limit; others, who had never encountered similar surfaces before, maintained that it was impossible to average 20 m.p.h. over such going. Luckily for them, the section proved to be three



Competitors scrambling to sign the checking sheets at Leyburn.

'No. 7': A Competitor's Impressions of the Six Days' Trial.—miles longer than the route card stated—a common failing of these very inaccurate cards—and all lost marks were subsequently cancelled. Luncheon, as usual, was very uncomfortable. The afternoon roads were good, but deep in a blinding white dust, which served one good purpose, in that the clouds churned up by the leaders gave us early notice of any abrupt corner.

Eboracian Exaggeration.

Searth Nick—the afternoon hill—was a climb about which the local riders had given their fancy free play. It was described as being so steep that we must be careful to dodge the stones rolling down it. Its surface was not a patch on Little Grinard, and the gradient allowed me to go up on top gear until a slower man, who was deaf, baulked me. After this we trickled comfortably home, beginning to wonder whether we need believe a word the locals had said about the severity of their hills. Wednesday was a chequer day for me, at any rate. We had a ridiculously easy run in the morning (Garrowby Hill being a half-throttle top-gear sort of climb), and a comfortable lunch at Scarborough.

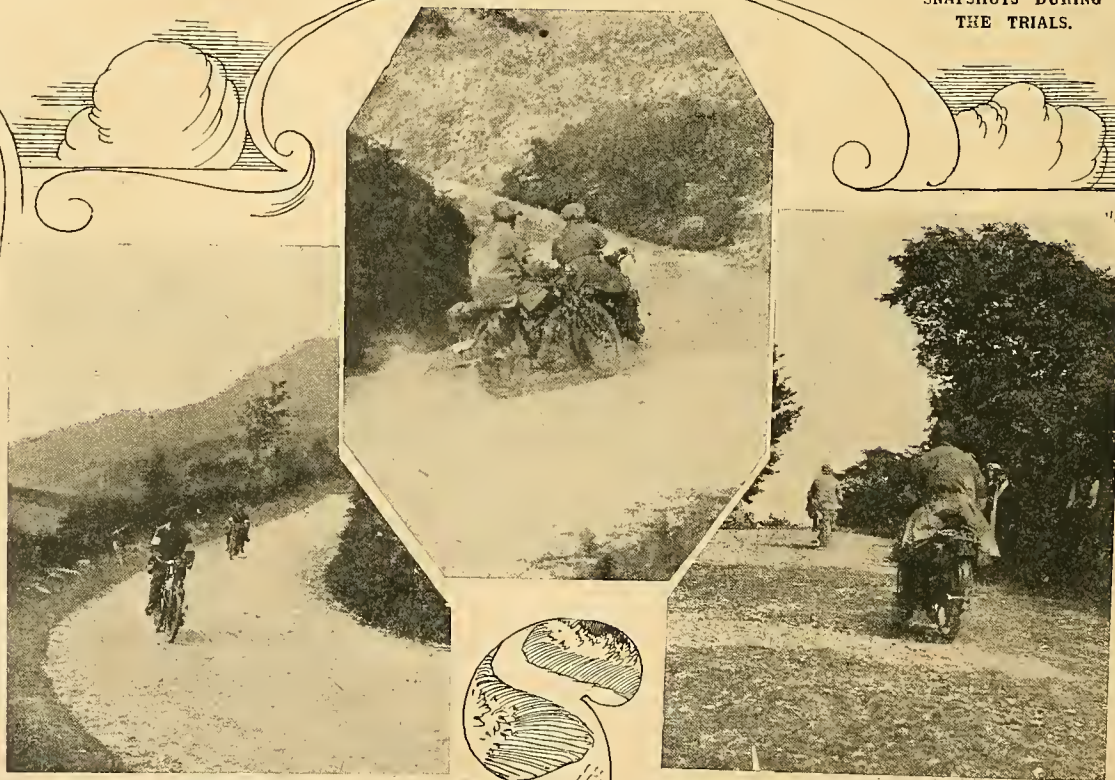
I had felt distinctly uneasy about Blue Bank, which had impressed me when I coasted down on it on Monday, and, as my belt had broken leaving Whitby, I had no time to cool the engine; indeed, few people had, for at least twenty men had tyre stops between

Scarborough and Whitby, their covers being gashed through by sharp stones. Gray and Burney did smart work on this section, having several punctures apiece on a short check; indeed, at this stage it was unusual to see Gray except with his back wheel out, fitting a new cover. Blue Bank proved illusive, for the engine took it with much more in reserve than Sutton Bank; later on, the moorland hairpin nearly gave me a toss—I rushed it much too fast, skidded, and found myself in the ditch still on top gear with the engine loudly conking; just as I coffee-ground the low gear in, and the machine scrambled out of the ditch, I saw a callous photographer with his lens not two yards away. Nice easy run home, which made my engine inconceivably hot—the right footrest felt almost incandescent.

A Seized Engine and its Release.

I stopped once or twice to cool down, and just outside Harrogate the engine seized. There was no time to investigate or to use paraffin; Gordon Fletcher helped me to free it temporarily by pulling the belt backwards, and then I had to check in. I engaged the low gear, and pushed it by the longest route into garage, but it seized up again at the door, and I went to bed convinced I should not have the chance to test the local fairy tales about the remaining hills. Next morning I armed myself with a couple of quarts of paraffin, and you may be sure I was inside the garage the instant Nisbet megaphoned his "Open, sesame!"

SNAPSHOTS DURING
THE TRIALS.



(1) W. Pratt (3½ h.p. P. & M.) and F. G. Edmond (3½ h.p. Premier)
at the acute bend on Sutton Bank.

(2) J. J. Day (3½ h.p. Bradbury) and A. P.
Maurice (3½ h.p. Premier).

(3) T. C. Atkinson (2½ h.p. New Hudson) and G. L. Fletcher
(2½ h.p. Douglas) at the summit of Searth Nick.

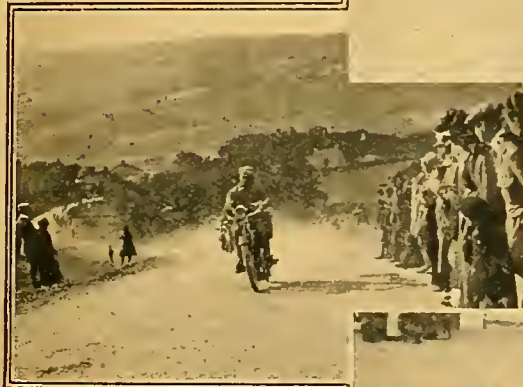
'No. 7': A Competitor's Impressions of the Six Days' Trial.

First of all, I whipped off the timing gear cover—all right there; then in went the low gear, plus a lot of paraffin, and Victor Hart helped me to push it round the yard until the engine was at least movable. A little more paraffin, and five minutes before the official starting time the engine was heavily, creakily, movable. Now at last it was possible to get the cylinder off and pour paraffin direct into the crank case, so as to loosen the big end or whatever bearing was the culprit. Joy! the engine was at last quite free. Half a can of Vacuum was poured into the crank case, the cylinder slipped on again, and we were off with a sporting chance of *not* being late at the first check. Four miles off the road and four miles back again did not enhance the sporting chance, and Hugh Gibson would have revelled in the fashion of my entry

"No. 7" is obliged to run alongside on Keighley Gate owing to his inlet tappet adjustment shaking loose.



Showing
the
tortuous
nature of the
SIX DAYS
Trials Course.



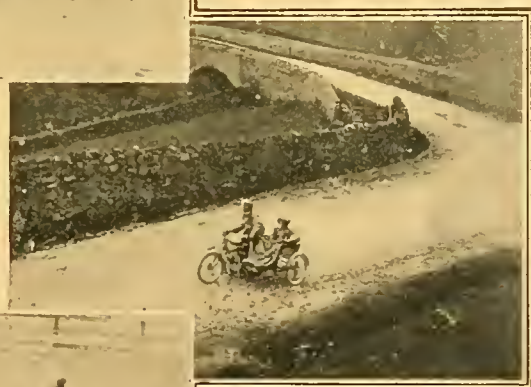
C. T. Newsome (3½ h.p. three-speed Rover) climbing Blue Bank.

into Boroughbridge—there was a trail of blue smoke behind me right up to lunch. The probable cause of this seizure was a speck of grit in the automatic valve of the oil pump; several other competitors suffered similar frights, but without the added anxiety of having to leave their engines to cool down without paraffin.

The morning hill, Greenhow, was a snorter as viewed from the street at its foot, and the sight of a redoubtable non-competing Scott descending for its third attempt did not cheer me up perceptibly, for I was unaware that its jet was full of jelly. I stayed to cool as long as I dared, ran out the waste oil, injected six pumpfuls of fresh oil—and roared up the hill on half throttle. This looked as if the big end was free enough by now, and the machine ran on excellently, making light of Kidstones, the second hill for the

day. Some of the riders professed great respect for Kidstones. My engine took it much more easily than Sutton, possibly because I climbed all the hills except Kidstones with my inlet valve spring in three or four pieces. I was using an experimental type of spring, no sample of which remained unbroken for more than ten miles. I put a new one in for Kidstones, because I had heard such marrow-freezing stories about it; but the engine did not seem to mind very much whether the inlet spring was intact or in four pieces.

On Friday I had my second worrying patch in the trial. Outside the Otley check, by some strange mischance thirty or forty of us were half an hour ahead of time. Quoth Bradbury Abbott to me, "I think I shall take this chance to fit a new exhaust valve." Quoth I to Abbott. "I shall let well alone." Not being as good as my word, I be-



F. Smith (5-6 Clyno and sidecar) on Arkengarthdale Hill.



Competitors on Saltburn Bank, S. Crawley (3½ h.p. Triumph) leading.

guiled the wait by adjusting my inlet tappet closer up to the rocker. Outside Ilkley we struck Keighley Gate—probably the only hill in the trial which could compare at all with Sutton.

On the first stiff patch, my belt broke. I mended it, went up the bank, charged down a 1 in 1 grass slope on the low gear, and presently with a sad heart heard the flat, sharp bark of my exhaust soften down into a low woolly mumble. It was no place in which to restart a 2 cwt. machine, so I hopped off and ran till I could run no more; when the inevitable happened, and my wind was exhausted, I took out a file to shorten an imaginary stretched exhaust valve. Horror! The exhaust tappet was nice and easy. "Cracked valve seating!" I moaned to a sympathetic spectator, who gave me a shove off.

'No. 7': A Competitor's Impressions of the Six Days' Trial.—More penny numbers followed, my thanks for the last push being due to W. G. McMinnies: Reaching the top, the machine would not travel on the level or downhill, and I wearily prepared to see whether fitting a spare valve would enable me to crawl ignobly into Harrogate as "retired." As I gingerly put out my hand to withdraw the inlet tappet, I spotted with a thrill that the engine was almost *stone cold*. Reader, did you ever conk out on a hill with a stone cold engine? It shows the pitfalls of a mental diagnosis; if I had only *looked* carefully at the engine down the hill, instead of *thinking* about it, I must have noticed that the inlet tappet lock-nut had shaken loose, and that the valve was barely opening $\frac{1}{32}$ in., and then I might have romped up. Next came the official hill, Heaton Woods—a paltry little S bend between stone walls, alleged to be 1 in 4, about which I should say there is a doubt with a capital D. I took it on the run, and almost immediately received a reminder from the goddess Fortune that there is something in luck. I was using a belt fastener which I had never known to snap, and apparently my trials batch were over-tempered, for I broke four in as many miles.

Mistakes in Time and Distance.

Next the spectacled rider's worst enemy assailed me—drizzling rain with dusty roads. My glasses were promptly covered with a thin opaque paste, and I had to get off every mile to clean them. Finally, getting within sight of Colne, I resolved to use up the time margin in overhauling my cut belts, and when I entered the check found the official mileage too short and the checker's watch wrong, so that I had a very narrow escape of losing marks. Several men lost a few marks at this control, and they have my sympathy, for I am convinced that there was a distinct error both in distance and in time. The lanes round Settle resemble Scotland in their grades and corners, but the surfaces are usually good; they provide very sporting riding. We had plenty of hills in the afternoon. Skyreholme Moor fetched nearly thirty men out of the saddle, thanks to a steep hairpin coming in most unexpected fashion. I thought the crowd of stalled men were in doubt about the route, but my low gear was equal to both corner and climb at a fraction of a second's notice. Skellgill later on dismounted almost as many as Skyreholme; and, oddly enough, Brownstay Ridge, which was worse than either, hardly puzzled any of us; so much difference does a cool and a tightened belt make at times. I made an ass of myself on Brownstay Ridge. My valve lifter was temporarily demoralised at the foot, and I opened my compression tap to facilitate belt shortening. Then I actually started up the hill with the tap open, and was greatly puzzled by the weird noise. I thought my sparking plug was loose, or that my cylinder had cracked, until I was up the first steep bit on top gear. Then the tap came back into memory, and I got a priceless burn on my thumb in shutting it. Immediately after, thanks to dust on my spectacles, I failed to dodge a fearful hole in the road, and on reaching the top was overjoyed to find my back wheel still intact.

Here I took a breather and a smoke—it was comforting to know that I had made clean ascents of all

ten official hills, and had only to finish with a clean time-sheet to secure the coveted "gold." The usual canter over the plain ended a sporting and exciting day. Saturday was unfortunately a *dies non*—a mere 120 miles of flat road, with nothing to take one's mind off the chance of a puncture just outside a check; and a last minute failure. Surely the sixth day ought to be a scorcher, to weed out the weaklings, several of which just managed to finish and qualify for gold medals owing to the simplicity of the final run.

Reviewing the trial as a whole, I should say it failed to be really difficult, principally owing to the weather. True it included a record amount of hill-climbing, but there was no hill of which a first-class $3\frac{1}{2}$ h.p. geared $6\frac{1}{2}$ to 1 ought not to make a clean ascent at the first shot; still less was there any hill likely to puzzle a variably-gear $3\frac{1}{2}$ h.p. in what I call "threequarter tune." Now that variable gears are becoming standard, hills are automatically deposed from pride of place in a trial; they will possibly resume their terrors for a year or so when a restart on the worst patch is demanded of us. The real difficulty of a trial depends on the possibility of making up time after a stoppage. Thanks to the fine weather, it was possible to make up time throughout the whole of the route. The Tan Hill stretch was the sole patch where slow travelling was imperative; hence the trial was not extraordinarily difficult. Many men had a lot of trouble, and made up several hours which they would have lost had the roads been greasy. A week of showers might halve the number of gold medals awarded over this course, when allowance is made for the resultant belt troubles and the perils of "blinding." The Scottish Trials struck me as far more exacting; their hill-climbing tests were inferior in both frequency and calibre, but there were so many sections along which lost time could only be recovered at grave risk. In respect of organisation the trial was, generally speaking, excellent, and especially must the splendid route-marking be noticed. In an A.C.U. trial you can rely on finding an arrow wherever an arrow is necessary.

Room for Improvement.

Two serious causes for complaints remain for improvement. The one is the great inaccuracy of the distances on the route cards, which is most unfair to the men. They are threatened with the loss of a gold medal if they arrive four minutes late at a check or if they are caught waiting outside it; yet the route card bristles with errors, amounting in some cases to six miles on a single check, and in addition the checker's watch may be several minutes wrong. When a ten-guinea entry fee is charged, it should be possible to send a reliable paid official over the route beforehand with a calibrated odometer. This would relieve the men from anxiety, and the officials from wearisome protests, some frivolous, others well founded. Secondly, the accommodation was very bad, especially at some of the luncheon stops. The food was indifferent, the attendance was non-existent, and there was no shelter for the machines. If the weather had been wet, the friction might have materialised into some formidable shape. As it happened, the organisers may be as grateful as the riders for the steady sunshine, which, though alleged to have influenced industrial disturbances, did not apparently shine strongly enough to rouse the ire of hardworking motor cyclists.

BROOKS

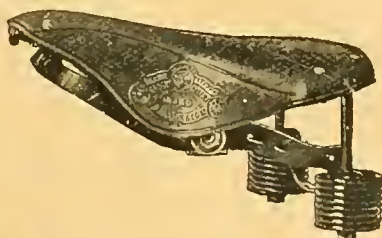
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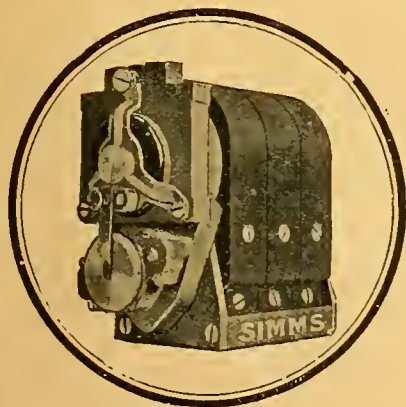
W.H.W.

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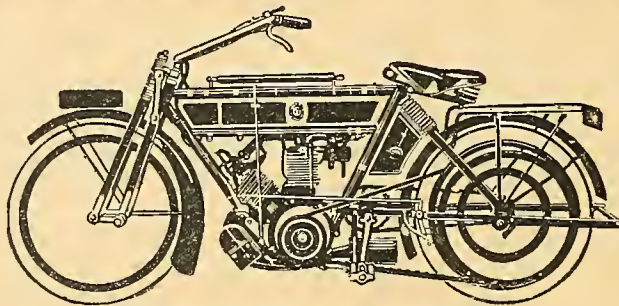
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In answering these advertisements it is desirable to mention "The Motor Cycle."

Abridged Specification of 6 h.p. Twin-cylinder N.S.U.

N.S.U. twin-cylinder engine, 796 ccm., 75 x 90 mm., M.O.I.V. gear-driven, high-tension Bosch magneto, new type carburetter, drive by tin "V" belt. This machine can be delivered with either a spring frame or a rigid frame, the latter where the motor cycle is intended for sidecar work. New pattern spring forks, divided



6 h.p. Twin-Cylinder. Best for sidecar.

mudguards, automatic spring stand, separate tanks for oil and petrol of improved design, two powerful brakes, 26in. wheels fitted with 2 1/2 in. tyres, engine clearance 5in. This motor cycle is delivered as standard with an adjustable pulley, but, if specified, can also be supplied fitted with our two-speed gear and free engine apparatus to the engine shaft at a small extra price. Weight 200 lbs.

N.S.U.

N.S.U.

A GREAT TRIO.

Abridged Specification of 3 1/2 h.p. Model de Luxe.

85 x 88 engine, double row ball bearings to engine shaft, gear driven, Bosch magneto, handle-bar control, M.O.I.V., low frame, internal expanding brake and belt rim foot brake, spring forks. Long comfortably arranged handle-bars, rear half of back mud-guard detachable, stand, carrier, tool case, etc. Can be fitted with two-speed gear and free engine pulley at extra cost.

Reliability and efficiency are the outstanding qualities of these machines—the qualities upon which hang your pleasure and profit. Any of the models illustrated will give the utmost satisfaction; of this you can be perfectly certain.

Do not be influenced by ingenious arguments, or the flash of bizarre performances. Trust to reputation, to the known facts of long standing.

In all parts of the World the N.S.U.'s have rendered splendid service, and the evidence of their superiority is overwhelming.

In hill-climbing, speed, flexibility, smooth running, ease of control and economy, they are "top hole." See the machines—they will convince you.

For performances of, and awards to, machines in the A.C.U. 6 Days' Trials fitted with N.S.U. TWO-SPEED GEARS, see last week's issue.

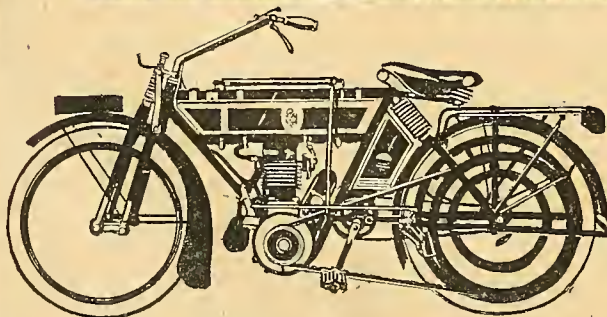
For catalogues and further information write to—

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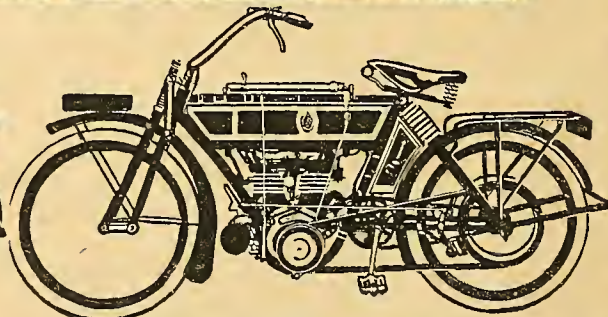
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Twin-cylinder engine, 395 ccm., 58 x 75 mm. M.O.I.V., gear driven, H.T. Bosch magneto, new pattern carburetter, drive by 7in. V belt, spring frame, new type spring forks, new type petrol and oil tanks, divided mudguards, automatic spring stand, two brakes, 26in. wheels fitted with 2in. tyres, engine clearance 6in., gear ratio 6-1. Delivered as standard with under-gear pulley of improved design.



3 1/2 h.p. Single-Cylinder Model de Luxe.



3 h.p. Twin-Cylinder.

Occasional Comments "by Ixion"

SRJ

The Reliability of Variable Gears.

What charms me most about the report of the Six Days' is the absolutely clean sheet scored by variable gears. So far as I have been able to ascertain, there was not one single solitary suspicion of trouble with any competing variable gear. So much for those mournful prophets who used to lament the folly of the variable gear enthusiast, on the score that variable gears meant complication, and that complication meant trouble.

The variable gear is likely to take its place alongside the magneto, as the most complex and withal the most reliable item of our specification. I grant you that sundry single geared machines did excellently in the trials, but, as in all go-anywhere riding, their riders had a poor time of it compared to the variables. At the foot of each of the ten official hills the single-gear man had a dirty and breathless time. He had to fish out a spanner, and perhaps a hammer as well, unlock his pulley, take off the belt, uncoil a second belt from his person, or the carrier, or the lamp, and fit it to the machine. Even thus his gear was not low enough to leave him any marked reserve of power, and he ascended the hill in a perfect fever of apprehension lest he should mull a tricky corner, or be balked by a slower man, or make some driving blunder.

Moreover, the single-gear men had other burdens to bear, in that several unobserved hills were worse than some of the official hills, and took the riders by surprise. The variably geared owners simply touched a lever; the single geared men, after an unavailing struggle, returned to the bottom, got out spanners and spare belts, and began all over again.

So it will always be. The variably geared machine is the only mount for the rider who wants to go everywhere without a lot of fiddling by the roadside. In estimating the value of certain single-gear performances it must be remembered that several of the riders had taken the precaution to survey the course in advance. I hear much interesting news about 1912 gears, but until the Show Forecast Issue——!

Carry Your Own Filter.

I wonder how soon motor cycle designers will fit their petrol filler caps with self-contained gauzes. Almost every modern car of any standing has a slip-in wire gauze filter lying snugly under its filler cap. At country garages we sometimes get a funnel with the gauze torn or missing. Why should we not all have loose gauze filters resting within our filler holes, like the Scott and Triumph? It would always be a convenience, and on club runs, where there is a scrimmage for the one and only garage funnel, it would be a real boon. Now that large filler holes are becoming standard, I regularly pour the spirit direct from can to tank. A small compact filter embodied in the petrol pipe is, of course, equally serviceable, and perhaps better, as the mesh can be finer.

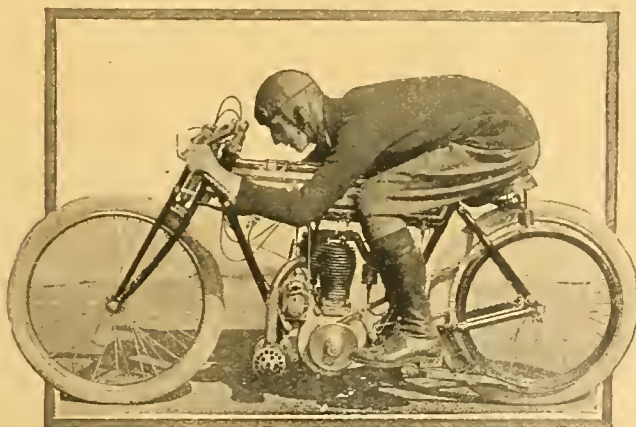
Driving on Throttle or Valve Lift.

A good many riders drive one-handed, except, of course, when they are out on a sidecar record; and the other night I heard a fierce discussion between two of them as to the proper method. The one man was left-handed, and was an advocate of driving on the valve lifter over ordinarily decent roads. His points were that, like most of us, he was a left-handed steersman for preference, and the valve lift is on the left grip; that if driving on the valve lifter is severe on the valves, the modern valve is good enough to stand it, and that this method throws less strain on the engine bearings than driving on the throttle does.

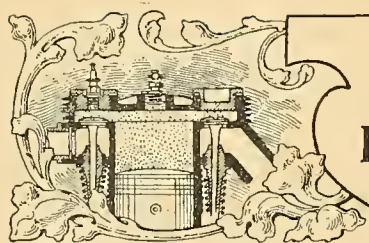
The other disputant countered with a series of direct negatives. He said he was a natural right-handed steersman, that the modern valve will not stand being driven on the lifter, and that throttle driving is a good deal easier on the engine.

There are the materials for a controversy here. For myself I plead guilty to adjusting my engines to a certain normal road speed, which I dare not mention till Mr. Gibson has been mollified. Then along all decent highways I steer left-handed, and cut out with the valve lifter for temporary slows. On what may be termed sporting courses, I keep both hands on the steering-bar, and drive on the throttle and the spark as well as on the exhaust lifter. I believe the question is settled for many riders involuntarily by the shape and position of the throttle lever.

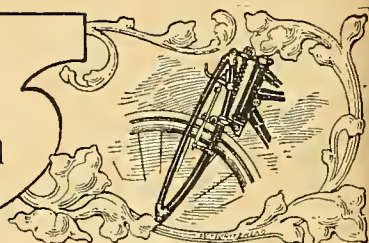
Some carburetters have a control which does not readily lend itself to this delicate and expert mode of use. One machine I know has a stumpy and ill-placed throttle lever, which is only steady in one position; and by the same token it was this machine which first betrayed me into my present rough-and-ready method of driving on the valve lifter. It is lucky I have no T.T. aspirations; it would take me months to develop into an expert engine nurse by driving exclusively on the throttle.



W. Stanhope Spencer, who, riding the 3½ h.p. Rudge illustrated, is credited with covering a flying mile in 49½ secs. = 72.58 m.p.h. The previous best timed speed for a single cylinder was 68.28 m.o.h. by H. Martin on a Martin-Jap.



Heard in the Harrogate Smokeroom



THAT Sutton Bank was easily the worst official hill, with Kidstones a bad second.

That Keighley Gate was as stiff as Sutton, or, according to those who conked out on it, a shade worse.

That the hairpin on Skyreholme was a frame-twister. That Pateley Bridge is best described as "pocketed amongst pimples."

That two men retired with connecting rod trouble, and several others freed seized big end bushes on the road.

That therefore some people must be very careless about lubrication, or alternatively, then automatic oil pumps are not all they might be.

That a certain competitor's language was frequent and free on Wednesday night; when you are paying 10s. 6d. a day for board and lodging, with the privilege of sleeping in the hotel bathroom, it is a bit rough to come in dirty, and find a lady is having a "bath in your bed," as the boots phrased it.

That some of the holes on Wass Bank and Brownstay Ridge were enough to shiver a traction engine; and the officials who sent us up without warning us to go slow must hold shares in a rim manufacturing company.

That there were hardly any big or little troubles all the way through, and if it had not been for belts and tyres many men could have got through without toolbags.

That the continuous sunshine left the belt v. chain controversy "as you were," but if it had rained much, we should have seen a lot of round parcels on the breakfast table.

That one evening you could hardly get into Mackay's garage for jostling competitors; yet the rules say "each man must do all his own repairs—and in running time."

That several heathen Chinese had a bad habit of taking their spare belts and tubes up into their bedrooms under their overalls for secret repairs.

That anybody who wants to improve his cornerwork should practise averaging thirty round Settle.

That the speedometers on the official cars were minus maximum hands, and that Hugh Gibson was in a low way in consequence.

That Billy Cooper has mistaken his vocation; he ought to have been a housemaid; he could be seen outside every check filling a little can with petrol, and digging dirt out of the corners of his jigger with a stiff paintbrush.

That he must have been wroth when the officials decided not to "observe" cleanliness; the "housemaid brigade" got badly scored off over this.

That Davies had a colossal brass bedstead knob to wind up his N.S.U. gear with.

That the crowds on the test hills beat all records, and that they were callously disappointed to see so few failures.

That two sidecars which came up north to lend a hand had their axles broken.

That the car which met one of the flying sidecar wheels coming straight down the road all by itself at 40 m.p.h., just managed to catch it bending, and dodged it.

That the Scott machines must have their silencers removed before another trial; they gave us the jumps by overtaking us so quietly.

That if any of the judges had known anything about the hills, Arkengarth, Garrowby, Scarth Nick, and Heaton Woods would never have been thought worth observing, but that Norwood Edge, Skyreholme, and Keighley Gate would have been watched.

That some of us are very glad they were not.

That young Crawley did jolly well to climb all ten hills on a single gear; and that he was very unlucky to lose his gold by a crop of punctures on a section which was wrongly measured and wrongly timed.

That it is about time tyres were taken into account, when one man uses up five covers in six days.

That the judges soon grew tired of asking men to demonstrate the accessibility of back wheels; they sat on packing cases for two hours watching one man at work, and then the whistle blew.

That the Rudge men were sitting up on their hind legs waiting to be asked to demonstrate their back wheels; but they never got a look in.

That since we watched the scales at Harrogate, we shall never again talk of "80 lb. lightweights," "120 lb. medium-weights," or "150 lb. tourist types."

That there has never been so little "conking" in a trial before. We never heard that dear old "hammer-on-anvil" noise, except when some unfortunate tried to restart after a long blind into a check.

That the A.C.U. officials are talking of secret hills next year!

That the officials also talk of forbidding waits at the foot of official hills.

That the variable gears disappointed the croakers by giving practically no trouble at all.

That some of the single-gear men grew to loathe the sight of their pulley spanners and spare belts by Thursday.

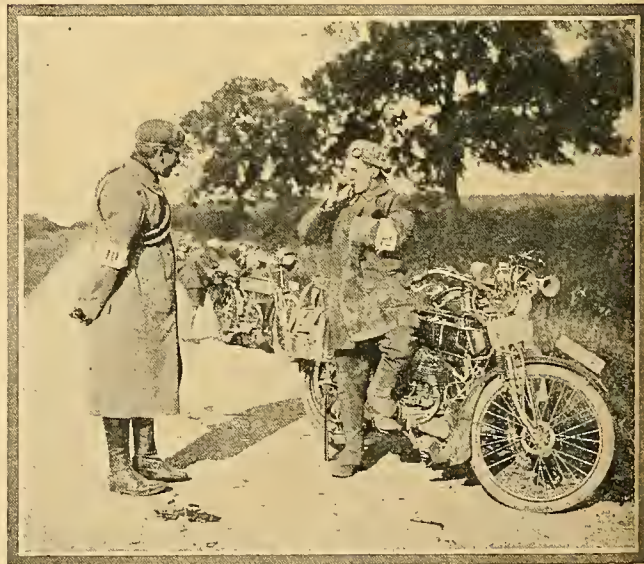
That the rules provided no penalty for "blinding" unless competitors were found within one mile of a check fifteen minutes ahead of time.

That the roads were fringed with men who were smoking and chatting outside all the checks, but that the fringe terminated abruptly just where the milestone or fingerpost said "1 mile to X—."

That these waits were principally sociable. Few men did anything except clean up, or shorten belts. Two or three years ago the waiters were working for dear life.

That it was odd how seldom a public house was handy one mile from a check.

That some riders started their watches from twelve o'clock at the start of each section—a good tip for simplifying timing.



Scene nearing a control in the Six Days' Trials. B. Alan Hill (Rudge) and H. G. Dixon (New Hudson) relate their experiences.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Visibility of Signs.

[5831.]-Referring to a photograph of warning sign-posts appearing in a recent issue, may I be allowed to remark that black and white in broad bands, say, ten inches or a foot, are the best. I have not seen the Wands-worth signs, but speak from experience in land surveying. A comparatively slender flag-pole in black and white is visible for great distances. But if the bands of colour be made narrow it obviously degenerates into a kind of grey at a distance.

A B 668.

Continental Touring.

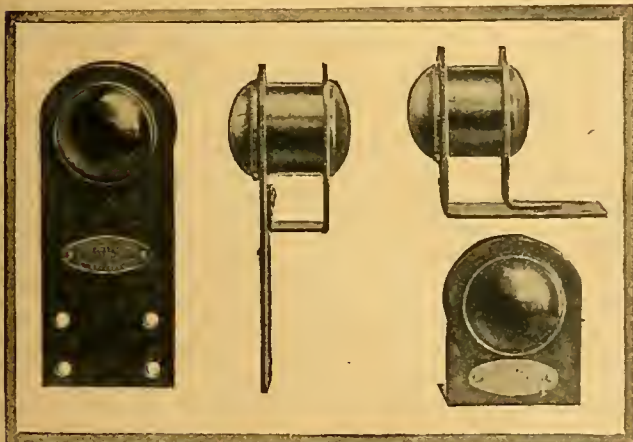
[5832.]-We notice Mr. Fawcett complains that he was charged £1 for his motor cycle when crossing from Folkestone to Boulogne on his recent tour. We have never found this charge made for motor cycles before, and we think he must have encountered some officious person at the docks. In any case, our invariable rule when we are in trouble and we cannot get reparation is to appeal to one of the A.A. officials, who generally rove about the ports. We think they can deal in words with some of the gentlemen referred to in a better way than ordinary civilians. We think the badge of the A.A. and M.U. takes one a very long way.

CAR SUPPLY CO.

Nail Catchers.

[5833.]-Referring to letter No. 5793. I quite agree as to the value of nail catchers. My present machine has a kick-up stand, and by bending the spring so as to give very little clearance, I am practically free from punctures. The puncturing implements (nails, etc.) are thus intercepted almost as soon as they rise from the ground. On the front wheels I arrange the mudguard similarly, and have never had any trouble; but I may say I use Clincher Dreadnought tyres on both wheels and Peter Union puncture-proof rubber bands in both, being 14 stones in weight, and riding a heavy $3\frac{1}{2}$ h.p. two-speed machine (Norton, with P. and M. gear). The flints have cut the back cover a good deal this dry season but I have got off with one puncture (nail) in about 2,000 miles.

AB 668.



Rear reflex lights which have been specially designed for use on farmers' carts. An active campaign in favour of their general adoption is being instituted by the R.A.C. They are made by Lea and Francis, Ltd., Coventry..

Continental Touring.

[5834.]-In France a motor cycle is treated as a motor cycle (12 frs. per annum) for the purpose of taxation if it can be propelled without the engine, i.e., if it has a pedalling gear.

An additional tax of twelve francs is levied for each passenger besides the driver, whether carried on the motor cycle, or in a sidecar or trailer, etc. I have been riding a Triumph and sidecar for three years in France, and pay, therefore, twenty-four francs each year. A motor cycle without pedalling gear might, according to law, be considered as a car and taxed according to horse-power.

H. E. SKEPPER.

Hill-climbing.

[5835.]-I should be interested to hear if any of your readers have ridden from Glenelg to Shiel (or *vice versa*) in the West Highlands? From Glenelg the road rises for six miles, never very steeply, but the last three miles contain several bad corners, and the surface is very soft and rough. This is nothing to the climb out of Shiel at the head of Loch Duich, however. This road rises over 1,200ft. in two and a half miles, exceedingly steeply in places, the surface being very bad, and hairpin corners are too numerous to mention. It would be a severe test for any motor cycle. I should like to see a hill-climb here, though I doubt if many machines would accomplish it.

CUTHBERT.

Increased Power with Cut-out Closed.

[5836.]-With reference to letter 5807 on the above, I would, in all humility, suggest that it is due to the exhaust pipe being short. With a long pipe, it seems to me that the burnt gases must create a good deal of suction, therefore assisting the next charge of burnt gases to be quickly expelled. On the other hand, with a short pipe the gases reach the open so quickly that there is not time for them to help the next expulsion, therefore, air at ordinary atmospheric pressure must be expelled from the pipe at each explosion. It would be very interesting to have the opinion of others riders.

A. D. E. CRAIG.

Improved Starting Arrangements.

[5837.]-One is constantly hearing about the perfection of the modern motor bicycle, but I think there is still great room for improvement in the starting arrangements. I have had some experience lately of a $3\frac{1}{2}$ h.p. single with a geared up starting handle, and, although in pretty good order, I find handle starting far too exhausting, and the ordinary run and jump method more practical.

The other day, it was only by sheer luck, in being at the top of an exceptionally steep hill, that enabled me to start my 5 h.p. twin. The engine was cold, and the belt being soaked by the rain refused to take the engine over compression at ordinary running speeds. For easy starting it seems essential to have (1), rigid drive; (2), small multi-cylinder engine or a half compression device, similar to that fitted to the old Humbers. It is curious that this has not been more widely adopted, as it is of real value.

Again, can a belt-driven machine be called really reliable unless protected by more or less unsightly belt guards? My four-cylinder F.N. has frequently pulled me through to my destination on days when I should never have dreamt of relying on a belt-driven machine. The increased use of chain drive and small multi-cylinder engines is the beginning of a movement that will, in my opinion, extinguish the present standard $3\frac{1}{2}$ h.p. single.

H. E. RENDALL.

Police Methods.

[5833.]-On August 17th I was unfortunate enough to consent to take a friend from Wisbech to Cambridge in my sidecar (7 h.p. Indian). On arriving at March I noticed a constable hold up his hand in a very friendly sort of way, as if he might have been saying, "How are you, old sport?" or I thought perhaps he wants me to slow up, which I did at once, from about 15 to 10 m.p.h. (Note, the energetic young policeman did not exert himself to leave the pavement or call), but when we arrived at the next village (Chatteris), about eight miles from March, we found two more of our obliging friends planted in the middle of the road.

Of course, I pulled up at once, and was told by the inspector that he had received a telephone message from March saying that I would not pull up when requested by the police. My licence was demanded, which, needless to say, I had left quite safely at home, so gave my name and address.

I have now received no fewer than three summonses for this offence—two from my March friend and one from Chatteris—(1) for driving to the public danger, (2) for not stopping when requested, (3) for not producing licence.

I should like to know if any of your readers have ever experienced anything of this sort? I think if we poor motorists are subject to this sort of thing the sooner we get aeroplanes the better. The cases are on September 5th and 12th respectively.

CHAS. BETTINSON.

Variable Gears in Hill-climbs.

[5839.]-You will doubtless be aware of the war we have been waging in different parts of the country with motor cycling clubs who have been barring us from their competitions.

We regret to say that this state of affairs is on the increase, and it is hardly the way to encourage developments and improvements, for clubs, whose members must be interested in the future of motor cycles, to put obstacles in the way of my firm, who have always been noted for the originality of their productions.

Owing to the practically unvarying successes of our machines in hill-climbing events, certain clubs ruled that riders of our machines must have their gear sealed in one position, and not be allowed to benefit from its use. There was a considerable outcry against this, with the result that clubs who wished to pursue this policy framed their rules in a way which, without directly referring to Zeniths, had the desired effect of keeping them out.

We were exceptionally successful at the open hill-climbs held by the Coventry and Warwickshire Motor Club in 1909 and 1910. This club is very largely supported by the Coventry manufacturers, and for us to practically sweep the board there two years running, meant that we were defeating the large majority of picked trade riders.

In 1909 we secured seven first awards, and were first, second, and third on formula in the class for touring machines.

In 1910 we secured six first awards.

This year their programme only allows us to compete in the lightweight class and in the variable gear class.

[In perusing the regulations we notice that of the seven classes variably geared machines are eligible for four.—Ed.]

There are several points which I would ask your readers to note with regard to the 1911 programme, which points are all very much up against Zeniths.

1. Variable gears are not allowed in the touring class limited to 500 c.c. This is strange considering that in the six days' trial there were only nineteen fixed gear machines against fifty-eight variable gear machines.

2. T.T. machines are to have fixed gears. Fixed gear machines were considerably in the minority in the T.T.

3. There is no passenger class this year, though this is admittedly a sidecar year. (The 6 h.p. Zenith has never been beaten when we have run it in passenger events.)

4. There are separate classes for singles and twins with fixed gear. The variable gear singles and twins are thrown together in one class. It rather looks as if they were not wanted.

W. G. BOWER,

Managing Director ZENITH MOTORS, LTD.

Unbusinesslike Methods.

[5840.]-It will be a blessing to many private owners when the present boom is over or at any rate relaxed, as

it is very difficult to get attention from some makers when replacements are wanted. My case, although not quite the same as that of the writer of letter 5791, has the same result, i.e., that I am without the use of my motor cycle for several weeks during the most favourable time of the year for riding. An acknowledgment of the order for a new piston and valves has been received after waiting a fortnight, but it will be another three weeks before they are delivered if I have to wait as long as on one occasion last summer.

As these sort of incidents are talked about amongst motor cyclists it must do the makers, who treat their customers in this way, harm in the long run, as it is much more necessary for the private owner to be able to obtain replacements promptly, than to know that the particular make of engine or motor cycle they are using is continually winning prizes.

The disappearance of the broken step-cut ends of the piston rings mentioned in letter 5795 can be accounted for by their being rapidly worn away. Recently my three rings broke in the way referred to, and on opening up the cylinder the pieces had altogether disappeared from one groove, had worn to quite small nearly round pieces in another, and were considerably worn and the corners rounded off in the remaining groove.

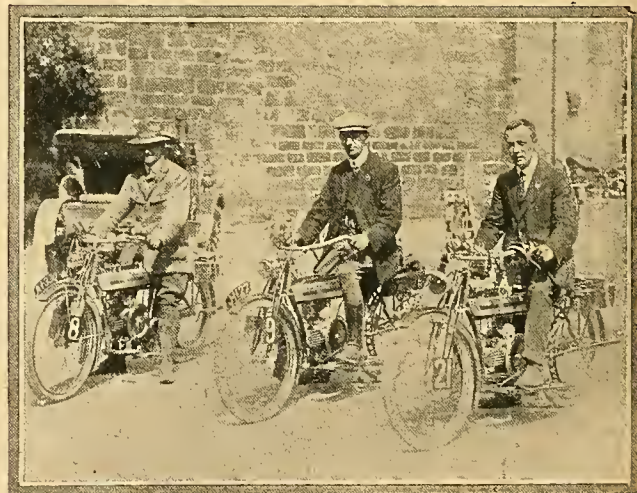
H. M. W. DAW.

The Quality of Modern Tyres.

[5841.]-The increase in the pastime, following the continued improvement of the engines, is being seriously checked by the retrograde quality of the tyres. Now, after the trials, the futility of evading the matter will be evident. It is the same cry everywhere, tyre troubles, in spite of delusive advertisements following record trips and rides. It is one of two things. Either the present-day machines are under-tyred, or the quality has deteriorated. In my own case, an old motor cyclist, I had my new clutch Triumph shod with a famed fabric tyre, paying the extra cost to minimise the possibility of trouble willingly. After normal use of a slow touring nature (no hill-climbs or reliability trials) the back tyre is a wreck, after less than a thousand miles, though my avoirdupois is under twelve stones. I have previously had tyres of the same make which, under the same conditions, have run well over three thousand miles. The present back tyre since the first day has regularly punctured each ride, though pumped board-hard to get better results, at the expense of comfort. In this case it is unquestionably one of poor quality. But why not standardise 2½ in. tyres for driving wheels, instead of 2½ in. It would help to lessen this huge bear, which is seriously affecting the popularity of motor cycling, and will prejudice it. If motor cyclists would voice their troubles through the press, instead of privately hurling anathemas, the volume of complaint would affect the necessary result—better quality and larger tyres.

CLARENDON.

THE VICTORIOUS DOUGLAS TEAM IN THE SIX DAYS' TRIAL.



P. Phillips, G. L. Fletcher, and P. W. Moffatt.

The above riders tied with the P. & M. team for the special team prize.

Silence.

[5842].—Your correspondent [5814] in the last issue of your paper voices the desires of all riders of motor cycles who have some consideration for the feelings of others. The noise of open exhausts is bringing the pastime into ill-repute, and many people refuse to associate themselves with it. The psychology of the open exhaust is interesting. The association of noise with power is atavistic, and goes back to those instincts which made our ancestors howl through the tree-tops, and, later, to whoop and hallo when going for an enemy.

The man who roars and bangs through a peaceful village with an open exhaust is showing degeneration, and, by his quaint attire and desire to attract attention, showing some of the attributes of moral imbecility. Not content with all this, he must needs proclaim his presence with an alarm making a noise like a wailing babe or a trod-on dog. Do, sir, use your influence to stop these brainless bounders making a pleasant pursuit a public nuisance.

I ride a lightweight, and can go quite fast enough without annoying anybody, but the noise of the "Gatling guns" whizzing under my windows wearies me to an

OPEN EXHAUSTION.**Motor Cycle Insurance.**

[5843].—I think possibly some of your readers may not have realised the narrow interpretation placed upon the phrase "used solely for private pleasure purposes," which occurs in some forms of proposal. I have recently learnt with surprise that riding to and from an office or other place where one carries on business does not come within this category and necessitates the payment of extra premium.

CHARLES J LUCAS.

[We submitted the above to our legal adviser who replies as follows: "Regarding your query as to an insurance policy covering motor cycles when *used solely for private pleasure purposes*. It seems to me that these words are unnecessarily restrictive, and it is difficult to know exactly how the court would construe the phrase. It is evident that it would exclude more than the words 'for private purposes only,' and with the word 'pleasure' added I think it is extremely doubtful whether a motor cyclist would be legally covered under such a policy if he used the motor cycle for going to and from his business every day. He would then be using it for *private* purposes, but it could hardly be said that he was using it for *private pleasure* purposes." All motor cyclists should look at their policies, and if similar words are inserted they should request the insurance company to rectify the matter.—ED.]

Record Performances.

[5844].—My brother and I intend to endeavour to ride our machines (an 8 h.p. — and sidecar and a T.T. —) for twenty-four hours' non-stop round Wimbledon Common at a speed of sixty miles per hour. In order that we may ensure this magnificent and eminently useful feat running a normal course and reaching its inevitable, we hope you will be generous enough to print us a few copies of this letter. I should be most grateful for any suggestions or if you will call my attention to any omission.

"Dear Sir,—Re my little affair of 1,440 miles in 24 hours. I have no doubt you will be pleased to learn that in the above amble my machine was fitted with your —. I not only attribute my success chiefly to the admirable behaviour of your excellent —, but we feel sure I could not have put up such a performance without it."

We should want to send copies to the manufacturers of: (1) Engines, (2) saddles, (3) plugs, (4) lamps, (5) belts, (6) tyres, (7) magnetos, and (8) The Bowden Wire Co. Have I omitted anything?

I ought to add we shall be unable to do this ride *à deux* since I have lost every atom of respect for my brother. Apart from his riding an 8 h.p. —, I had always considered him to be, otherwise, sound until to-day. When to my horror I find in his sidecar—what do you think? Nothing less than a hairpin! It is true it is a castor wheel sidecar, but that seems to be totally insufficient grounds to allow some maiden to "castor" incidentals and my brother's reputation to the four winds.

We have quarrelled regretably, but we are still wholeheartedly united in one idea.

We wish, oh we do so wish, Hugh Gibson would ring off.

R. B. ROBERTSON.

Tapless Pumps.

[5845].—I am pleased to see "Ixion's" criticism of the concealed tapless pump, because 't agrees exactly with the results of the experiments I made. This "Ixion" could have easily obtained, and the mechanism is just as reliable as the two-way tap without the drawbacks. My advice to riders is to avoid every pump, concealed or external, depending entirely on a valve. Sooner or later the inevitable little piece of grit will get in, and the pump will fail. There are several others without this risk to be obtained.

A. C. DAVISON.

A Quadcar seen during the Trials.

[5846].—While reading *The Motor Cycle* of last week, I notice you would like further details of quadcar AK 1918. However, as the machine is not finished, I did not send them to you, but will do so at a later date. We have built and sold one on similar lines, which is giving every satisfaction. The machine weighs 4 cwt. as stated, and has an 8 h.p. Chater-Lea engine and three-speed gear box, chain-drive to one rear wheel, and is well-sprung back and front. It climbs the hill out of Burnsall on top gear with two up. I have done so in the presence of well-known motor cyclists. I will send photographs and further details when the machine is completed.

W. GILYARD.

Reliability Trial in North Devon.

[5847].—Re your note in last week's "Current Chat." Mr. Karslake is quite in order when he states that the M.C.C. is the first recognised club to hold a reliability trial over the North Devon route. What I inferred was that the E.P.M.T. is the first club to hold a trial over that ground, and I should also like to point out that the trial in question was formulated during last November Show, and that Easter was the first opportunity that members had of carrying out the trial. We are not, as a club, affiliated to the A.C.U., but the majority of our members are also members of the A.C.U. individually, so there is no object in affiliation, as the E.P.M.T. is essentially a touring club.

I may also mention that Mr. I. B. Hart Davies's tours are nothing new to us, as many of our members have repeatedly toured that country since 1907, but the last trial at Easter was of absolutely a different character, so cannot be classed as a conducted tour as you infer. I thank you for allowing me to use your valuable space.

FRANK H. CHRIMES (Capt. E.P.M.T.).

WINNER OF "THE MOTOR CYCLE" PRIVATE OWNERS' MEDAL.



F. G. Boddington (4½ h.p. Precision), who gained all possible marks in the A.C.U. Six Days' Trial, and finished with his machine in good condition. His performance has been adjudged best of the private owners, although five others ran him very closely.

Broken Piston Rings.

[5848].—I had the same experience as your correspondent "S. H. Crow" [5795] with a $3\frac{1}{2}$ h.p. engine. In my case the cylinder required reboring, and the engine had not been running well. On finding that compression had all but vanished, I removed the cylinder and found the overlapping portions of the step cut ends of two out of the three rings had disappeared. The cylinder was perfectly smooth. I sent the engine away to be overhauled and never heard whether any trace of the bits were found, but the oil on the baffle plate was very discoloured, and I have never seen it so thick before or since. It seemed impossible that the bits could have been ground up, and I was as puzzled as your correspondent. J.L.

The A.C.U. and Road Record Performances.

[5849].—I note that Mr. B. H. Davies states that he drove from Northampton to Torquay "in excess of End-to-end record pace." I presume he means in excess of "average record pace." In any case, such action is hardly consistent with his pronounced views on the whole question of End-to-end records. Time after time has he denounced the record on account of its danger to the public, and now he openly states that he has had a miniature End-to-end on his own.

I trust that I am a fair-minded person, but I cannot help feeling a little upset and disgusted that one of our leading scribes and A.C.U. supporters should openly claim such a deed in the course of an article penned by himself and yet condemn a similar action in others. I reluctantly pen this letter in the hopes that the A.C.U. Committee will realise that pace on the road is not confined to a limited few.

I was banned in the words of the A.C.U. Committee "on the printed reports which appeared in the press." What is sauce for the goose is sauce for the gander, and if the A.C.U. Committee will be consistent they will immediately suspend Mr. B. H. Davies. The case of Mr. B. H. Davies is not, of course, an isolated one, the Scottish and Six Days' Trials were a glorified blind and nothing else. I, personally, do not object to the action of the A.C.U. in suspending me, but I do object to their encouragement of blinding *en masse*. It does not appeal to many of us as typical of British fair play. The whole question ought to be thrashed out now, and if necessary new regulations framed for forthcoming trials, otherwise there is trouble in store.

IVAN B. HART DAVIES.

The Six Days' Trials.

[5850].—I have read with some amusement the long list of gold medal winners in the recent A.C.U. Six Days' Trial. I would like to point out the conditions laid down by the A.C.U. for a machine to gain a gold medal, which rule reads as follows: "A gold medal will be awarded to the entrant of each machine which obtains 100 per cent. of marks for reliability, does not fail on more than one hill, and completes the trial with the whole of its parts in good condition." Anyone reading the results would imagine that all those thirty-three gold medallists fulfilled the above conditions. That this was very far from being the case was apparent to the most casual observer who saw the machines in the Clarendon Hotel yard last Saturday. One of these machines had nearly every spoke in the back wheel broken, and could not possibly have done many more miles without the back wheel collapsing under the rider. Another gold medallist had his rims so much dented that it was with difficulty he could keep the tyre on the rim. Another rider, who rode to Coventry next day, had to stop and actually strap his engine to the frame, as it was practically dropping out.

Whilst I admire the pluck of these riders, who, against all difficulties, brought their machines through such an arduous test, yet I consider that when the A.C.U. make a rule they should stick to it, and not award gold medals to machines which evidently have not fulfilled the necessary conditions.

A suggestion I should like to make for next year's trials is that the sealing might be carried a little further. The only two seals that were attached this year were one round the cylinder and one round the frame, but why not seal the valve caps, which could easily be drilled by competitors beforehand, also the tool bags. I admit it would be a difficult matter to prevent competitors carrying tools in their pockets, but if an official car followed behind, and disqualified any competitor found using anything but a tyre repair outfit, then we should have a reliability trial indeed.

ERIC W. MERRALL.

Road Dressing.

[5851].—There is a length of road alongside the river Soar, between Kegworth Bridge and Kingston-on-Soar which several years ago was paved with a kind of asphalt. I should say it has been down over four years. It is now quite as good as the day it was laid. I believe it was put down as an experiment. Being such a splendid piece of work one wonders why it has not become more generally used. Perhaps this will meet the eye of the Nottinghamshire surveyor, or someone interested who can give the reason. H. UTTING.

The Vicious Dog.

[5852].—Seeing the letter in last week's issue concerning vicious dogs and their treatment, I am reminded of a little device, with the same object in view, which I have used with great success for the last year or so. I dare say most of your readers, at one time or another, have come across that useful appliance for spraying plants, in which the supply of fluid is forced from a tank, strapped on the operator's back, by a small hand lever on the side of the tank actuating a pump.

It has been my invariable practice for the last year to carry one of these apparatuses whenever I go out on my motor cycle. If a weak solution of ammonia be put in the reservoir the effect is most disconcerting (to the dog).

Hoping this tip may be of use to any fellow motor cyclists who have suffered at the hands—or shall we say teeth—of these malicious pests of our highways.

CAVE O CAVE CANEM.

Variable Gears for Cornwall.

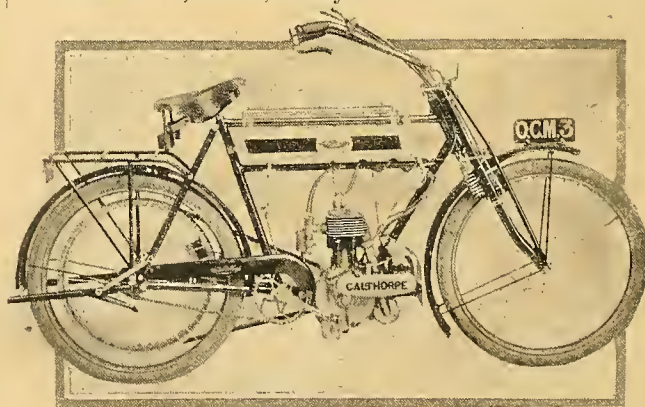
[5853].—I have just completed a tour in Cornwall on a single-geared Triumph, without free engine, and although I am quite charmed with the county from a motor cyclist's point of view, yet I am now satisfied that in order to obtain the fullest enjoyment from motor cycling down there a free engine, plus a two-speed gear, is necessary. The principal main roads perhaps would not necessitate this, but get off them, and what do we find?—quite a succession of steep hills with, in many cases, a sharp bend in the steepest part, where, if one is stopped, it is almost impossible to get going again. The surface of most of the roads in Cornwall is really excellent, and I had no puncture in my tour of nearly 1,100 miles, but I feel constrained to unburden myself to you on the question of a variable gear.

I mean to visit Cornwall again as soon as I have an opportunity, but I shall go in for an efficient gear first.

I should like to know the views of some other readers on this subject. C. E. STUART.

SUMMARY OF CORRESPONDENCE.

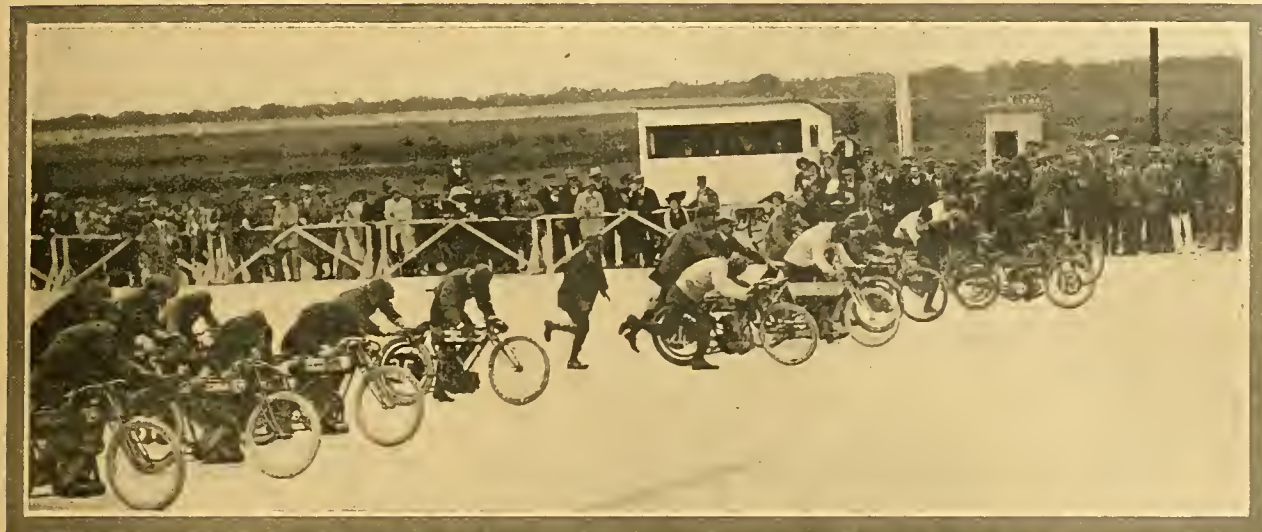
Will the two motor cyclists who kindly helped a lady and gentleman with Triumph and sidecar outside Leatherhead on the 13th inst. communicate with F. Lacey, the Dell, Camden Road, Sutton, Surrey?



A new lightweight Calthorpe model which has just been placed on the market by the Calthorpe Motor Cycle Co., Birmingham. It was ridden into second place in the Belfast and District hill-climb on the 5th inst.

B.M.C.R.C. SIXTH MONTHLY MEETING.

FIVE NEW RECORDS. NOTES ON THE TIME TRIALS AND HOUR RACE.



Scene at the start of the hour race at Brooklands, in which there were 17 competitors, two breaking the existing hour record for 500 c.c. engines.

THIS meeting (under the rules of the A.C.U.) was held in fine but cloudy weather. There was a fresh breeze blowing, which hindered the competitors in the hour race, especially those on lightweight machines, along the railway straight. The mile and kilometre trials, which were taken together, were run in the reverse direction, to give the riders the benefit of the wind. Five new records were established, the most notable performances being C. R. Collier's kilometre record of 24.52s. in Class E, made on a twin-cylinder Matchless-Jap ($90 \times 78.4 = 998$ c.c.), which is nearly half a second inside the old record, also by Collier. This equals a speed of 91.23 m.p.h., and it is the first time the kilometre has been covered at a speed in excess of 90 m.p.h., though it does not quite reach Collier's speed of 91.37 m.p.h. made in the mile on August 11th last.

H. Martin (twin-cylinder Martin-Jap, 76×55 mm., 498 c.c.) made wonderful times in Class C for machines of a capacity not exceeding 500 c.c., reducing the kilometre record by over 2½s., and the mile by over 5s., his times being—kilometre 30.25s., mile 49.39s. These records give speeds of 73.95 and 72.89 m.p.h. respectively, an increase in speed of 4.67 m.p.h. for the kilometre and 6.71 m.p.h. for the mile.

The existing kilometre record was also beaten in this class by G. E. Stanley ($3\frac{1}{2}$ h.p. Singer) and W. H. Elce ($3\frac{1}{2}$ h.p. Rudge-Whitworth), and the mile record by both the riders just mentioned, as well as by S. Spencer ($3\frac{1}{2}$ h.p. Rudge-Whitworth).

A new record for the mile was set up in Class D (not exceeding 750 c.c.) by S. T. Tessier on a twin Bat-Jap (85.5×64 mm. = 735 c.c.) of 48.76s. beating the former record by half a second, his speed being 73.83 m.p.h.

H. Hunter, on a Bat-Jap of smaller dimensions, was also inside the previous record, and only just over a quarter of a second slower than Tessier. The kilometre records were not lowered in this class, nor were the five miles records in any class. This fact was possibly due to the wind, which was of assistance in the mile and kilometre trials, being a considerable hindrance in the longer distances.

The Second 1911 Time Trials.

CLASS A (not exceeding 275 c.c.).—W. Chitty made fastest time. H. Martin lost his belt while running well, and in the five-mile trial his cylinder head was blown off. No records were broken in this class or in Class B. Chitty's machine seemed to be missing fire occasionally.

CLASS B (not exceeding 350 c.c.).—H. Martin made fastest time, and set up a new record for five miles, there being no

previous record for the distance in this class. He was, however, nearly a second outside record in the kilometre, and rather more than a second in the mile.

CLASS C (not exceeding 500 c.c.).—Martin's record speeds have already been mentioned. S. Spencer returned with his belt hanging loose, but had another trial. The best time in the five miles trial (4m. 43½s.) was made by G. E. Stanley (Singer), but this was 7½s. outside record. Rhys (Triumph), Elce (Rudge), and Spencer (Rudge), also exceeded 60 m.p.h. for the five miles.

CLASS D (not exceeding 750 c.c.).—S. T. Tessier (Bat-Jap) was fastest in this class, and knocked half a second off the mile record. Hunter also exceeded the previous best.

CLASS E (not exceeding 1,000 c.c.).—C. R. Collier was the only rider in this class. He started high up on the banking and came by at a great pace. His record has been already referred to.



Godfrey, Haswell, and Stanley racing neck and neck at over 60 m.p.h. Some very close racing was seen in the hour race.

B.M.C.R.C. Sixth Monthly Meeting.—

CLASS A. Existing Records, K. 35.77s., M. 57.93s., 5M. 5m. 1.2s.

Name and Machine.	Bore and Stroke.	c.c.	Time.		
			Kilo.	Mile.	5 Miles
	mm.		sec.	sec.	m. s.
W. Chitty, Frays-Jap ...	76 × 60	272	37.19	61.69	6 22
CLASS B. Existing Records, K. 32.76s., M. 54.57s., 5M. no record.					
H. Martin, Martin-Jap ...	85½ × 59½	343	33.68	55.6	7 8½
J. Cocker, Singer	69 × 79	295	41.43	67.36	—
CLASS C. Existing Records, K. 32.76s., M. 54.4s., 5M. 4m. 36s.					
G. E. Stanley, Singer ...	85 × 88	499	32.04	52.3	4 43½
F. A. McNab, Trump-Jap ...	90 × 77½	492	33.26	54.69	5 9½
W. H. Rhys, Triumph ...	85 × 88	499	35.18	56.66	4 58½
W. O. Oldham, Zenith-Gradua-Jap	85½ × 85	488	33.48	56.36	5 8½
W. H. Elce, Rudge	85 × 88	499	32.11	52.42	4 47½
S. Spencer, Rudge	85 × 88	499	32.96	52.37	4 57
A. J. Sproston, Rudge ...	85 × 88	499	33.78	56.51	5 15½
S. D. Timson, Rudge ...	85 × 88	499	34.43	56.91	5 13
N. Gray, Triumph	85 × 88	499	—	—	5 15½
*H. Martin, Martin-Jap ...	76 × 56	498	30.25	49.33	—
CLASS D. Existing Records, K. 29.78s., M. 49.26s., 5M. 4m. 18.4s.					
*A. Moorhouse, Indian ...	70 × 76	584	32.18	53.32	4 57½
*S. T. Tessier, Bat-Jap ...	85½ × 64	735	30.06	48.76	—
*H. Hunter, Bat-Jap	85½ × 58	666	30.17	49.04	4 27½
CLASS E. Existing Records, K. 25s., M. 39.4s., 5M. 3m. 35s.					
*C. R. Collier, Matchless-Jap	90 × 78.4	998	24.52	40.44	3 38½

*Twin-cylinder.

Figures in italics denote improvements on existing records.

The Omni-class Hour Race.

This trial was much more interesting from a spectator's point of view than the shorter runs, which were run off one at a time—obviously the best plan for these trials, inasmuch as all the competitors were on the track at the same time, and men were constantly passing at high speeds. In the hour race H. A. Collier (Matchless-Jap) at once took the lead and kept it until, after doing sixteen laps, he was unfortunately obliged to retire with a cylinder head blown off. He had by this time lapped most of the other competitors. The most exciting part of this trial was the very keen race between Haswell (Triumph) and Godfrey (Indian). First one led, then the other, and twice they passed neck and neck, but towards the end of the race Godfrey's inlet valve rocker broke, and his valve then worked automatically. Naturally, his pace dropped, and though he beat the old record by upwards of two miles he



Great enthusiasm was shown in J. R. Haswell's success. Some of the competitors and spectators are seen carrying him shoulder high.

could no longer keep with Haswell, who was travelling wonderfully well. Haswell covered 63 miles 194 yards in the hour. G. E. Stanley (Singer) stopped at the end of twenty-one laps (over 57 miles) half a minute before time for want of oil. H. V. Colver (Enfield), whose machine was running with the utmost steadiness, was only 604 yards outside record, and by far the fastest in Class B. Class A also produced two good performances, W. Chitty (Frays-Jap) and R. O. Clark (F.N.) both exceeding the old record, the former by more than ten miles. R. O. Clark's little engine did its work well. F. A. McNab, who started well, suffered a puncture and had to retire with only two laps to his credit. There were no riders in Class E.

In the table of results those who did not finish are credited with the number of laps they had covered at the time of retiring.

CLASS A (existing record 39 miles 1,615 yards).

Rider and machine.	Bore and stroke.	c.c.	Distance.
			mls. yds.
W. Chitty (Frays-Jap, 1) ...	76 × 60	270	50 239
R. O. Clark (F.N., 1) ...	65 × 75	249	41 1,454

CLASS B (existing record 54 miles 726 yards).

H. V. Colver (Enfield, 2) ...	54 × 74	340	54 122
J. Cocker (Singer) ...	69 × 79	295	43 410

CLASS C (existing record 60 miles 783 yards).

J. R. Haswell (Triumph, 1) ...	85 × 88	499	63 194
O. C. Godfrey (Indian, 1) ...	82.5 × 93	499	62 1,147
W. L. T. Rhys (Triumph, 1) ...	85 × 88	499	59 1,072
W. H. Elce (Rudge, 1) ...	85 × 88	499	57 1,060
G. E. Stanley (Singer, 1) ...	85 × 88	499	21 laps
S. Spencer (Rudge, 1) ...	85 × 88	499	18 "
A. J. Sproston (Rudge, 1) ...	85 × 88	499	14 "
S. D. Timson (Rudge, 1) ...	85 × 88	499	6 "
G. Griffith (Zenith-Gradua, 1) ...	85.5 × 85	488	5 "
F. A. McNab (Trump-Jap, 1) ...	90 × 77.5	492	2 "
W. O. Oldham (Zenith-Gradua, 1) ...	85.5 × 85	488	1 lap

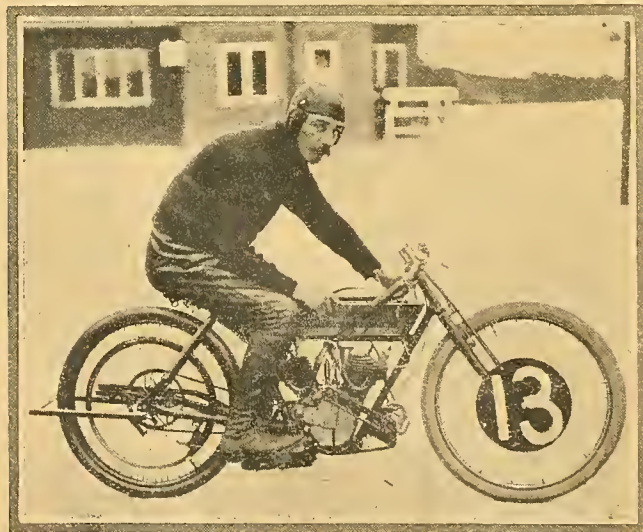
CLASS D (existing record 64 miles 445 yards).

A. Moorhouse (Indian, 2) ...	70 × 76	584	55 1,020
H. A. Collier (Matchless, 2) ...	85.5 × 58	666	16 laps

Colver used a C.A.P. carburetter. McNab, Tessier, and Hunter the J.A.P. automatic, and C. R. Collier an A.M.A.C., but the B. and B. was most in evidence. Sproston had an extra air hole in his inlet pipe covered by a slide.

Most of the machines were belt-driven, the exceptions being the Indian and Enfield (chain), and the F.N. (gear driven). Several had no silencer or practically none. Colver had two long exhaust pipes extending to the back hub.

The whole meeting was excellently managed by Messrs. T. W. Loughborough and A. V. Ebbelwhite, and the latter gentlemen, assisted by Messrs. A. G. Reynolds and T. Dutton, got out the times and distances in wonderfully short time considering the amount of work entailed.



H. V. Colver (2½ h.p. Enfield) who covered 54 miles 122 yards in an hour.

INTER-CLUB RELIABILITY TRIAL.

NORTH-WEST LONDON M.C.C. v. NORTH MIDDLESEX M.C.C.

The rules of this competition called for a team of ten riders from each club, each competitor to make a non-stop run over two circuits of the course, the second round only being timed.

Our correspondent found a very strong muster present from both clubs at the starting point at Bell Bar. The start was delayed by the late arrival of the official responsible for the numbers, who, poor fellow, had had two encounters with the police in the short fifteen miles from town.

The first pair were despatched about 4.30, and this was the last seen of them till the competition was over. They missed their way at the first corner, and had quite a pleasant trip of their own untrammelled by regulations and speed limits.

The course was rendered by no means an easy one by the numerous surprise or sharp corners, but on the other hand, the competitors found it excellently marked with arrows.

Doubtful Stops.

The performances were quite good, for there seemed to be only one stop due to the machine, and of that we are not sure. Miss Berend (N. Middlesex) was seen stopped at the top of Justice Hill; apparently her belt had turned over in the rim. The stoppages were evenly divided between the

two clubs Bennett (N.M.) and Pegley (N.W.L.), both finding the bottom of the same ditch at a very sharp narrow corner where the surface was very loose—no great damage. Cherry (N.W.L.) took the wrong road and dismounted hurriedly just in front of another rider.

This incident raises a debatable point in regard to these competitions. Cherry rode a fixed engine machine, one of the opposing club a free engine—the latter when in error appeared to stop his machine, leaving the engine running, and paddled into the right direction with his feet. He is credited with a non-stop, while the other suffers the full penalty. The reading on such points needs to be made clearer. Fortunately, this did not affect the result, for on calculating the times it was announced that the N.W. London club had won with a score of 45 against 57.

Unfortunately, we are unable to publish detailed performances, but we learn that H. Karslake secures the N.W. London prize for best performance, he and his venerable mount being the essence of regularity.

One of the charms of this event was the delightfully peaceful yet varied scenery throughout the entire run, and the fact that these roads on the east of the North Road are not more used by motor cyclists must, we suppose, be due to the exceedingly loose surface in places.

COVENTRY CLUB'S OPEN HILL-CLIMB.

Over 100 entries have been received in the seven classes of the Coventry and Warwickshire Motor Club's sixth annual hill-climb next Saturday. Nearly all the best known riders will take part, and practically every make of motor cycle will be represented. There is a big list of awards, including four silver cups. The venue of the contest will be made known by programme, a copy of which will be posted to competitors this evening. Readers may obtain a copy, price 6d., on application to the hon. sec., Mr. Geoffrey Smith, 19, Hertford Street, Coventry.

EXETER AND DISTRICT M.C.C.

The final results of the open hill-climb, July 29th, were:

EVENT 1 (lightweights).—1st on A.C.U. formula, W. W. Douglas (2½ h.p. Douglas), silver medal; 2nd, G. Spivey (2½ h.p. Moto-Réve), bronze medal; fastest time, W. W. Douglas (2½ h.p. Douglas), silver medal.

EVENT 2 (touring).—1st on A.C.U. formula, A. L. Ommanney (3½ h.p. Rudge), gold medal; 2nd, L. W. Broadbear (3½ h.p. Premier), silver medal; 3rd, J. A. Neumann (3½ h.p. Rudge), bronze medal; fastest time, L. W. Broadbear (3½ h.p. Premier), gold medal.

EVENT 3 (club lightweights).—1st on A.C.U. formula, H. P. Overmass (2½ h.p. Douglas), silver medal; 2nd, C. S. Hoskins (2½ h.p. Douglas), bronze medal; fastest time, H. P. Overmass (2½ h.p. Douglas), silver cigarette case presented by T. H. Birdsall.

EVENT 4 (touring).—1st on A.C.U. formula, A. L. Ommanney (3½ h.p. Rudge), silver medal; 2nd, C. Roper (3½ h.p. Ivy Precision), bronze medal; fastest time, C. Roper (3½ h.p. Ivy Precision), silver medal.

EVENT 5 (racing).—1st fastest time, A. L. Ommanney (3½ h.p. Rudge), silver medal; 2nd, A. M. Nyott (5 h.p. Indian), bronze medal.

EVENT 6 (club single).—1st on A.C.U. formula, F. T. Wilson (3½ h.p. Rudge), accessories presented by the East London Rubber Co.; 2nd, P. Pike (3½ h.p. Humber), silver medal; 3rd, W. P. Harding (3½ h.p. Rudge), bronze medal; fastest time, F. T. Wilson (3½ h.p. Rudge), pair of covers presented by the Kempshall Tyre Co., Ltd.

EVENT 7 (racing).—1st fastest time, C. Roper (3½ h.p. Ivy Precision), silver medal; 2nd, S. J. Saunders (3½ h.p. Rudge), bronze medal.

EVENT 8 (club multi).—Scratched through lack of entries.

EVENT 9 (club racing).—1st fastest time, A. C. Hardy (3½ h.p. Norton), silver medal; 2nd, R. Holloway (3½ h.p. Premier), bronze medal.

A. C. Hardy wins the gold medal presented by Nye and Co. for the fastest club time of the day.

MOTOR CYCLING CLUB

The M.C.C. members' hill-climb will be held on Saturday, September 9th, at 3 p.m., on a hill within easy reach of London, to be announced later. Commodore Sir R. K. Arbuthnot has presented a silver cup as a prize for Class 2. Machines must be standard touring pattern, fully equipped for the road. Free engine clutches and variable gears are eligible to compete in all classes.

- (1.) For motor cycles of engine capacity not exceeding 300 c.c. for singles and 340 c.c. for twins.
- (2.) For single-cylinder engines not exceeding 300 c.c.
- (3.) For multi-cylinder engines not exceeding 340 c.c.
- (4.) For passenger machines, unlimited capacity.
- (5.) Any motor cycle; fastest time to win.
- (6.) For cars limited to 30 h.p.

The awards in Classes 1, 2, 3, and 4 will be decided on the

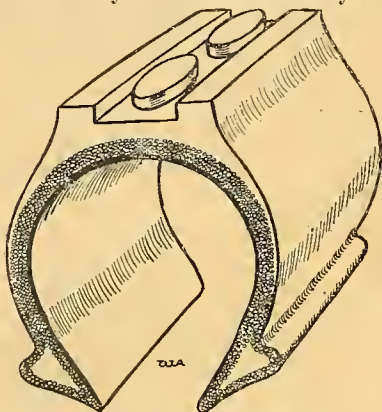
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SHROPSHIRE M.C.C. HILL-CLIMB AT WENLOCK EDGE LAST WEEK-END. Hardwick (J.A.P.), closely followed by Owen (Bradbury).

A NEW SIDECAR TYRE.

Messrs. Charles L. Cuthbe and Co., 37, Great Eastern Street, E.C., have introduced a special tyre for sidecar work which is known by the registered name of the Max Cycar tyre. As will be seen by the illustration, the tread consists of two prominent ribs, and in the space between the lozenges are moulded in the rubber. The pattern appears to be one which should be most effective in minimising the risk of side-slip. The tread is most substantial, and the amount of rubber generally in the tread is quite worthy of notice. The whole is built up with four layers of fabric. The tyre is



made in all the usual sizes. This tyre has been on the market about a year, and has, we are assured, been most successful. Another Max speciality is a rubber belt, which, though it possesses outwardly no special features, has met with approval among motor cycle riders.

Prevention of Tyre Leakage.

Climax Leakure is a preparation which is intended to be injected into inner tubes with a view to preventing leakage in the case of a puncture. One of its chief features is that if it oozes through a hole in the tube it can be easily washed off, and it does not in any way prevent patches from sticking.

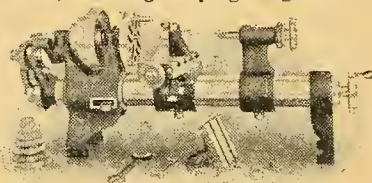
Tyre Stopping.

Climax Tyre Stop is a tyre stopping of a different nature from any we have seen before, and the method of using it quite simple. The material consists of a brick-red slab of rubber preparation. Both it and the cut to be filled up are first warmed by holding a hot iron near them, and then the preparation is pushed into the cavity. Though it is desirable to warm the cut, this is not absolutely necessary, and the preparation may in cases of emergency be warmed on a radiating fin of the engine, after the latter has cooled down a little.

A HANDY BENCH LATHE.

Motor cyclists who are mechanically minded enough to handle their own repairs, provided they have the necessary tools, will be interested in the little bench lathe illustrated. This is one of Drummond Bros.' machines for repair work. It is self-acting, sliding, boring, and milling, and will cover a very wide range of work. Thought out at first to supply the needs of model makers, etc., it was soon seen to be an almost ideal tool for small repairs to motor cycle engines, etc.

Its dimensions are: Length over all, 2ft. 11in.; length of bed, 2ft. 4in.; height of centres, 4in; length between centres, 12in; diameter of work admitted over saddle, 6in. The bed of the lathe is circular, allowing varying heights of the

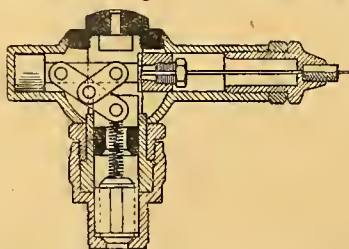


saddle and slide rest for milling purposes, on which, without extra appliances plain milling, slotting, and keyway cutting can be done as well as turning, boring, and screw cutting. The makers say their lathe is guaranteed accurate to one-thousandth of an inch and rigid enough for the heaviest work it can hold. For those who wish to fit this lathe to their own benches a separate treadle is made, but the machine can be supplied on stand with treadle complete. The maker's address is Guildford, Surrey.

EASY STARTING.

The decompressor put on the market by the Aston Motor Accessories Co., Ltd., ought to come as a boon to motor cyclists who have any difficulty in starting their engines, or if they are unable to run them slowly in traffic. With this device it is possible to decrease the compression very gradually. The thread is the same as an ordinary sparking plug, and it may be fitted at any convenient place; for instance, in a valve cap.

It consists of a small double-seated cylindrical valve with a seating at each end. On the side of the walls are longitudinal slots, through which the gases are allowed to escape, and then out through holes in the cap at the top of the device. This valve is free to move between its two seatings, and under compression, firing and exhaust strokes it is, of course, making a joint against the top



seating, returning to the bottom seating again on the suction stroke. The time allowed for the escape of gas through the slots is the time it takes the valve to move from the bottom to the top of the seating on the compression stroke, and as the top seating is movable through the medium of a Bowden cable from the handle-bar, this time may be regulated, and, as a result, more or less decompression will take place.

The system of levers as shown in the illustration makes it possible to positively lock the valve seating when the device is out of action. The top ends of the short levers are pivoted to the body of the decompressor, and the top ends of

the long levers to the steel bar connected to the Bowden wire through a contracting screw. The handle-bar control is in the shape of a trigger fitted with a ratchet and release arrangement.

HINTS AND TIPS FOR MOTOR CYCLISTS.

TO AVOID NIPPED TUBES.

367. When a rider is fitting a new tube at his leisure, he usually rolls back the second bead of the cover to make sure he has not nipped the inner tube anywhere. This is a comparatively lengthy process, and not everybody is acquainted with an alternative process, which is almost as reliable. After both beads of the cover are engaged, bounce the loose wheel on the ground ten or a dozen times, or hit the cover all round with a mallet, the tube containing as much air as was pumped in during the fitting of the cover, or a trifle more. The bouncing will generally cause a nipped tube to roll out from under the beads, and adopt its proper position.

TO GET COVER AND VALVE HOLE IN REGISTER.

368. Sometimes when a motor cyclist has laboured long and perspiring to get a new stiff cover on to a wheel, he finds to his disgust that the valve slots in the bead do not register with the valve hole in the rim. Of course if any help is available, two men can usually haul the cover round the rim with their hands, till the holes are all registered accurately; but if the fitter is single-handed, the following garage tip, often used for car tyres, may be of assistance. Fit the wheel in the forks of the machine, and fake up some sort of stop which will allow the wheel to revolve a few inches, but not more. (The writer put a tyre lever wrapped in a cloth through the spokes and resting on the forks.) Then put both hands on the tyre, and pull the wheel sharply against the improvised stop. The stop will check the wheel rim suddenly, and all the force of the pull will come upon the tyre, which will shift a little in the required direction. Two or three repetitions will shift the cover as much as a foot, no matter how tightly it fits.

Care is needed in applying this tip to motor cycle wheels, but even wire cycle spokes will stand it, though, of course, it is more workmanlike in dealing with the wood or wire spokes of a car wheel.

BROKEN INLET VALVE SPRING.

369. On a recent run I was bothered for two hundred miles by erratic running, which appeared to be due to a partial petrol starvation, caused by a floating piece of dirt in the jet or in the petrol tap. Sometimes when I endeavoured to accelerate, the engine would not run up to its normal speed, and perhaps without any further change of the lever setting she would take the bit between her teeth and bolt off in her best form. I did not discover the real cause till I happened to remove the cylinder, when I found that the spring of an overhead inlet valve was broken in a concealed position. Sometimes the spring acted as a full spring, sometimes as a threequarter spring only, which explained the erratic running. Owners of overhead valve engines should note this.

ESSEX M.C. GYMKHANA.



Belt fixing competition : G. L. Fletcher (2½ Douglas), on the right, proved the winner.

The above annual event was satisfactorily run off at the Essex Track, High Beech, Loughton, on Saturday last. The attendance was not so good as it might have been, which was partly attributable to counter attractions elsewhere.

The first event on the programme was a belt fixing competition, which was won by G. L. Fletcher (2½ Douglas). Then followed tilting at the ring and Turk's head cutting, the winner being L. A. Baddeley, who rode his 5 h.p. Baddeley-Jap.

The chicken stealing event was somewhat novel, the competitors drove sidecars and cars, and had to circle the track once, the passenger had to steal a chicken from the run, return to the vehicle, which was again driven round the track, and return the annexed bird to its pen. This provided some amusement, and was eventually won by Mr. Bates with a 20 h.p. Ford car, Alan Hill (3½ h.p. Rudge and sidecar) being second.

Bobbing for apples and needle threading followed, both being won by G. L. Fletcher, and then came the flower show race for passenger machines. The lady passenger selected six flowers, the vehicle was driven round the track, and on arrival at the flower beds each flower had to be planted in a different plot and to be again collected. This was won by the driver of the Ford, with Alan Hill again second.

Musical chairs was won by G. L. Fletcher, who is quite an adept at gymkhana events, having won four prizes at this competition alone.

Our illustrations prove that an enjoyable afternoon was spent by the members and their friends.

A little incident of the day was that the hon. sec., Mr. F. G. Smith, borrowed Fletcher's machine for a spin around the track, and underestimating the speed of the Douglas collided with the railings, fortunately without injury to himself.

LATE NEWS FROM THE CLUBS.

North Middlesex M.C.C.

There will be a social run on the 2nd September, followed by a general meeting of the club at the Abercorn Arms, Stanmore, at which it is hoped there will be a full attendance of all members.

Scottish Border M.C.C.

A successful speed-judging and petrol consumption trial was held on the 26th inst. A. Wilson (Triumph and sidecar), won the latter with 93½ miles to the gallon. J. McKie (Douglas) won the speed-judging contest with a total error of 58½s.

Essex M.C.

The Essex Motor Club's annual twenty-four hours York run, for the Triumph Challenge Cup, takes place on September 8th and 9th. Entries close first post Tuesday, September 5th. Full particulars and entry forms from B. C. de W. Siffken, Forest Side, Buckhurst Hill.

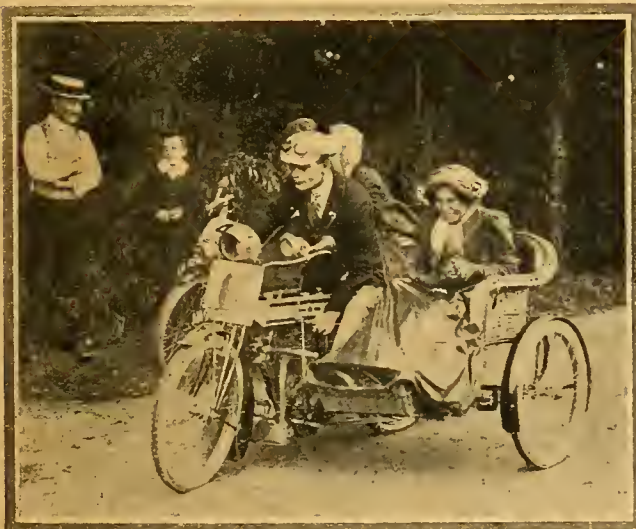
North-west London M.C.C.

The gymkhana to be held by the N.W. London M.C.C. at the Stadium, on September 9th, comprises fifteen events, viz., scratch and handicap races for lightweights, singles up to 500 c.c., singles of any size, multi-cylinders, and sidecar machines. There will also be potato, Turk's head, air balloon, relay, and sidecar punting races, and musical chairs (1) for lady passengers and (2) for solo machines. The last event is a handicap race of four miles for any machine.

Mersey M.C.

The winning team in the club's team trials held on Saturday last, over a course to Buxton and back, is given below. These team trials are very popular in the club, and a good turn out is always assured. The prizes for this event are presented by a committeeman, Mr. Lake. Winning team: S. W. Phillpot (Humber lightweight), F. Rees (Bradbury), F. C. Jones (Bradbury), and G. Morley (Triumph).

On September 9th a team of four riders of the Mersey Motor Club are meeting a similar team of the Birmingham M.C.C. in a two mile race at the New Brighton Tower track.



Essex M.C. Gymkhana at High Beech. The chicken-stealing race, in which competitors had to descend from a sidecar and capture a live—very live—chicken from a pen, and then scurry to the finishing post. The rider is B. Alan Hill (Rudge and sidecar), who finished second.

CURRENT CHAT

TIME TO LIGHT LAMPS

AUG.	31st	..	7	47 p.m.
SEPT.	2nd	..	7	42 "
	4th	..	7	38 "
	6th	..	7	33 "

SPECIAL FEATURES

No. 7: A COMPETITOR'S IMPRESSIONS OF THE SIX DAYS' TRIAL.

THE JUDGE'S REPORT.

B.M.C.R.C. MEETING AT BROOKLANDS.

Benevolent Fund Picnic.

The Manchester centre of the C. and M.T. Benevolent Fund are holding their fifth annual picnic to Styal on Sept. 6th, and cordially invite all motor cycling members of the centre to attend. The meet will be at the White Lion, Withington, at 2 p.m.

Class 7, open to "all comers," which was only included after the regulations had been circulated, has proved a most popular event. The entries are divided as follows:

Class 1	...	...	...	23 competitors
" 2	...	...	...	8 "
" 3	...	...	...	33 "
" 4	...	...	...	5 "
" 5	...	...	...	6 "
" 6	...	...	...	7 "
" 7	...	...	...	30 "

Besides the above there are several teams of three in completion for the team prize. The venue remains a secret until tomorrow (Friday), in order to prevent practising on the hill. A cinematograph operator will be in attendance.

The Albion Disc Clutch.

The overall width of the Albion clutch hub, described in the last issue, is anything required from 5½ in. to 6½ in.

More Records Broken.

Yesterday (Wednesday), at Brooklands A. Moorhouse, on a twin Indian, 82½ by 93 mm., beat the Class E hour record, riding 70 miles 1,388 yards. Fifty miles were covered in 40m. 59½s. Mr. A. V. Ebbelwhite took the times.

The Irish End-to-end Record.

Hugh Gibson writes us from Hotel Metropole, Cork, where he is at present sojourning with his eye on the Irish End-to-end record. He is quite jubilant over the fact that if he exceeds the legal limit in Ireland, the Auto Cycle Union will not be able to inflict any further penalties. By the way, aspirants to road record honours might do worse than apply to the House of Keys for a permit to go round the T.T. course till time was up. Isle of Man authorities are always ready to listen to enterprising ideas for popularising the island and amusing the visitors in the off season.

The Danger of Skidding with a Passenger on Carrier.

A somewhat serious accident occurred at Brighton Road last week as a result of which Wm. Gardee, 28, of 33, Bethnal Green Road, is lying in the Croydon Hospital suffering from injuries to his leg and hip. Gardee was sitting on the back of a motor cycle, which was being driven by a friend of his, when the machine skidded, fell across the tramlines and under a passing tramcar. Gardee was caught in the cow catcher, but the rider escaped without any injury beyond a shaking. He was taken to the Croydon Hospital, where it was found that he was suffering from dislocation of the right leg, severe bruising of the hip, and bruising about the head. The machine was badly damaged, and it was some time before it could be got out from underneath the car.

FUTURE EVENTS

- Sept. 2—Coventry and Warwickshire M.C. Annual Open Hill-climb.
 " 9—M.C.C. Members' Hill-climb.
 " 9—Torbay M.C.C. Annual Open Hill-climb.
 " 16—Auto Cycle Union Inter-club Championship, in the Midlands.
 " 18—Edinburgh and District M.C. Open Hill Climb at Amulree.
 " 23—B.M.C.R.C. Race Meeting at Brooklands.
 Oct. 14—A.C.U. Quarterly Trial (Midland centre) fourth and last of 1911 series.

The Single-cylinder Hour Record.

J. R. Haswell's triumph of last Saturday is likely to be short-lived. As we closed for press on Tuesday we were advised that O. C. Godfrey was to go for the hour record on a single-cylinder Indian in the evening at Brooklands.

International Matches at Brooklands.

A printer's error crept into our "Current Chat" columns last week with reference to the cubical capacity of the J.A.P. used by C. R. Collier in the international matches at Brooklands. The correct figures are 998 c.c., not 983 as published. By the way, if the bore of motor cycle engines increases very much *The Motor Cycle* cubical capacity table will require revision. At present it only goes up to 90 mm.

Keen Competition at Perth.

It will be remembered that in the Perth and District M.C.'s reliability trial on June 5th for the Club's challenge trophy and gold medal and the Kempshall Tyre Co.'s and other prizes, six members tied with full marks for first place. A run-off in the form of a fifty miles non-stop trial succeeded in eliminating one competitor only, and on Wednesday, August 16th, the remaining five again toed the line in a thirty miles non-stop trial on a 20 m.p.h. basis over the Rhynch Circuit, near Perth. The conditions were stringent, disqualification being the penalty for a stop, while two chronometric controls were in operation, one mark being deducted for each second in arrear and two marks for each second in advance of schedule time at each control. Mr. W. Murray, who, unfortunately, punctured a few dozen yards from the start, was the only contestant who failed to make a non-stop run.

The results, which have just been issued, are as follows. 1, D. Batchelor (3½ h.p. T.T. Triumph), minus 446, club challenge trophy and gold medal; 2, J. Y. Cairnie (3½ h.p. T.T. Triumph), minus 634, Kempshall heavy non-skid cover, presented by the Kempshall Tyre Co. of Europe, Ltd.; 3, Bruce Syme (3½ h.p. touring Rudge), minus 720, Kempshall anti-skid cover, presented by the Kempshall Tyre Co. of Europe, Ltd.; 4, J. W. Adamson (3½ h.p. T.T. Triumph), minus 1,029, spare tube in case. The time-keepers were Messrs. Peters, Lyle-Watt, and Robertson.

An Unmarked Danger Spot.

There is an unmarked danger spot on the Edinburgh and Berwick-on-Tweed cross-roads between Cockburnspath and Ayton. It takes the form of an S curve with high hedges on both sides. Several accidents have occurred there, the last being a collision between a motor car and a motor cycle.

Saturday's Open Hill-climb.

Entries for the Coventry and Warwickshire M.C. hill-climb next Saturday have again assumed record figures. Every class has filled, including the one for ladies, in which there are five entrants.



J. R. Haswell (3½ h.p. Triumph), the new holder of the hour record, the distance he covered being 63 miles 194 yards. Mr. Haswell is a private owner, and resides at Crick, near Rugby.



A new walking and riding waterproof coat, the tails of which may be wrapped and secured by spring buttons round the rider's legs to serve the purpose of overalls. It is sold by Wilks Bros., St. Simon Street, Salford, Manchester, and should especially appeal to motor cyclists.

Lancashire's Loss is London's Gain.

A. J. Moorhouse, of the Manchester and other motor clubs, is leaving Cottonopolis to take up other duties for his firm in London. He has, probably, won more prizes than any other northern amateur motor cyclist. Further, he has won hosts of friends.

A New Pattern Douglas.

W. W. Douglas has had a 5 h.p. twin-cylinder machine built up on the lines of the world-renowned 340 c.c. twin, and is about to make tests of it with a sidecar attached. It is not proposed to market this type next year at any rate, but there has been such a pronounced demand for a big horizontal twin that Messrs. Douglas Bros. have in their usual thorough style commenced experiments early. Mr. Douglas told us last week that he expected to journey to the Coventry club's hill-climb next Saturday, but will not take part.

Saturday's Duel at Brooklands.

The most exciting duel witnessed at Brooklands since the Collier-de Rosier matches was the one between J. R. Haswell and O. C. Godfrey at Brooklands last Saturday, in which the private owner emerged successfully. It is an interesting fact that both beat world's record. It is said that Godfrey's Indian had been sent specially from the States for racing on Brooklands, and it is certainly the fastest of its kind yet seen on this side of the Atlantic, and it is not likely that the hour record will be allowed to stand where it is at present. The now famous quotation, "It is not in the air, it's in the engine," was a common expression.

The A.C.U. and Yorkshire Farmers.

A lively correspondence has been running in that anti-motorist journal, the *Yorkshire Post*, about the Six Days' Trials. Some horse owner's animal was alleged to have been badly frightened one day by a motor cycle, with the result that a long letter appeared adversely criticising the trials, competitors, and the route chosen. One of the chief points seems to be that on one day a farmers' market meeting was disturbed, but why farmers and others should be allowed to block the traffic of market towns, and yet motorists may not stack their machines in the public square or anywhere else without a protest, is merely because new ideas take longer to assimilate.

The A.C.U. Six Days' Trials.

As we pointed out last week in giving the weights of some of the Six Days' Trials machines, they were in several cases loaded up with spare cover, tube and belt, and the tanks were full. G. L. Fletcher advises us that his Douglas had one and a half gallons of petrol, one quart of oil, spare cover, tube, and two belts, beside a suit of waterproof overalls.

T. Silver writes to say that he was timed by A.C.U. officials to remove the rear wheel of his Quadrant in 6 mins. Incidentally, he adds that the lowest gear he used throughout was 5 to 1, which says something in favour of the power of the new Quadrant engine.

As will have been observed from our tabulated list of results which appeared in the last issue, only three riders of single-gear machines scored full marks for reliability, and gained gold medals. They were S. T. Tessier (Bat-Jap), C. Williams (3½ h.p. Triumph), and W. F. Newsome (3½ h.p. Triumph).

In our report of Friday's run we mentioned A. J. Stevens among the failures on the steep climb leading to Skyrholme Moor. Mr. Stevens has since written assuring us that he succeeded in climbing every hill, but as his number is quite clear on our list, we can only presume that the member of our staff at

that point booked it in error. The A.J.S. riders had no necessity to take off their cylinders for cleaning purposes, grind in valves, or tinker in any way.

A Novel Challenge.

A party of cyclists of the Bristol Bicycle and Motor Club who toured through North Devon at Whitsuntide offered a gold medal to any motor cyclist in the club who would ride over the exact route on his motor cycle, the cyclists claiming that this road, owing to its bad condition and very severe gradients, was unrideable by a motor cycle, and that this was proof of the superiority (*sic*) of the push-cycle. The route lay through Dunster, Wheddon Cross, Exford, Simonsbath, thence the new road to Lynmouth, across Exmoor, on *via* Lynton, Lee Abbey, Woody Bay, Hunters' Inn, to Ilfracombe. One member—Mr. Adams on his two-speed A.J.S.—set off from Bristol on August 14th at 8.30 a.m., arriving at Wheddon Cross at 11 a.m., Lynmouth 12.25, Lynton 12.27, and Ilfracombe at 2.30 p.m. He had to check at each post office on the route, and send an official card with the time and a signature. The two minutes' difference between Lynmouth and Lynton shows how his machine climbed the hill between these two places, well known as such a terror to cars and cycles. The worst part of the road was where a fallen wall had been replaced by wire fencing and only a part of the stones broken up; some were quite ten inches square, and owing to his footrest catching against one, he ran over another standing about six inches high which fouled the crank case, the bicycle acting as a see-saw until he lifted it clear. After this he walked alongside, slipping the clutch, with the low gear engaged. The hill to Hunters' Inn and Pañacombe Hill were both very loose and steep, very similar to Lynton Hill, but Mr. Adams had no trouble with either machine or tyres on both journeys. The party of cyclists who acted as a committee were unanimous in opinion that he had covered the exact route after his description of the road.



AFTER THE 1,000 MILES TRIAL.

A group of six days' trials competitors just previous to leaving Harrogate for their journey South. The riders are, left to right: P. Phillips, W. W. Douglas, W. Creyton, H. Greaves, S. Wright, F. G. Edmond, P. J. Evans, H. V. Colver, and P. Grout. The official Humber car is seen in the background.

THE A.C.U. SIX DAYS' TRIALS IN YORKSHIRE.

THE JUDGE'S REPORT.

General.—The 1911 Six Days' Trial, with Harrogate as a centre, has been the most severe yet the most successful of the series. Each day's route included long stretches of rough moorland road; ruts, stones, and dust inches deep, in many places making severe tests of the riders' skill. The riders were required to ride to schedule between speed limits of 18 and 20 m.p.h., their times being checked at intervals of thirty miles on the average, under a penalty of one mark lost for each minute outside the maximum or minimum time. They were further required to make clean ascents of ten hills on which observations were made, pedalling being permitted only in the cases of machines having single-cylinder engines less than 300 c.c. capacity, or twin-cylinder engines less than 340 c.c. capacity. The observed hills were Wass Bank, Sutton Bank, Arkengarthdale, Scarth Nick, Garrowby Hill, Blue Bank, Greenhow Hill, Kidstone Pass, Heaton Woods, and Brownstay Ridge.

The conditions for the awards were: A gold medal to the entrant of a machine which did not lose any marks on time checks, did not fail on more than one hill, and finished in good condition; a silver medal to the entrant of a machine which did not lose more than 100 marks on time checks and did not fail on more than two hills; a bronze medal to the driver who finished within two hours of his maximum time on Saturday evening, but did not obtain any other award. These conditions were so onerous that before the beginning of the trial and even after the completion of the first day's route, the most liberal estimate was that ten to fifteen gold medals might be won. The great number of gold medals won (thirty-three out of seventy-seven starters) is a tribute to the excellence of the machines, to the skill of the riders, and (not an unimportant factor in such a trial) to the splendid weather conditions from start to finish.

Of the machines which finished but lost marks on time checks, it may be said in general that tyres were the only trouble. The conditions of the trial permitted stoppages without penalties, provided the times of arrival at the checking stations were inside the limits. This was generally taken advantage of, for the purpose of cooling engines at the foot of an observed hill. On several hills which were not officially observed the failures were more numerous than on the stiffer observed hills. In future trials, the regulations might be framed so that the machines should climb the hills on the run, without stopping to cool engines.

Recommendations for Awards.—The gold, silver, and bronze medals are automatically settled by the performances of the machine, and the regulations above referred to; the only detail left to the judge's discretion being the interpretation of the phrase "completes the trial with the whole of its parts in good condition."

For the Trade team prize, the teams of Messrs. Douglas Bros., and of Phelon and Moore, Ltd., lost no marks on time checks, did not fail on any hills, and finished with the machines in good condition, and are, therefore, bracketed equal.

For the Club team prize the best performance was by the Yeovil and District M.C.C. team. The regulations state that "this Special Prize will only be awarded provided at least five teams are nominated." As only four teams were nominated I cannot make any recommendation as to the award.

It is a difficult matter to allot *The Motor Cycle* gold medal for the best performance by a private owner on a motor bicycle. It will be seen on reference to the tabulated results that the following six private owners have perfect records of performance, viz.: No. 20, E. W. Merrill; No. 21, P. W. Moffatt; No. 25, G. E. Whitworth; No. 34, Jesse Baker; No. 51, J. J. Day; No. 60, F. G. Boddington. All six machines have two-speed gears, the engines varying from 340 to 600 c.c. capacity.

I have no data to determine the best performance of the six, but if the award were left to my discretion (or caprice) I might award it to No. 60, F. G. Boddington. His machine has a 4½ Precision engine, 600 c.c. capacity, Phelon and Moore chain drive, two-speed gear, and Chater-Lea parts; and his performance might be said to include the design of his machine.

However, this expression of my opinion cannot necessarily be binding on the donors; it might justly be urged that

the lightweight small engine machines should have the preference.*

The Motor Cycle gold medal for the best performance by a private owner on a passenger machine is won by No. 79, J. Tassell.

The performance of No. 66, W. D. Slater, on a 2 h.p. Aleyon, with a small engine, 248 c.c. capacity, and only a single drive, was remarkable. He failed to make clean ascents of Wass Bank and Sutton Bank, but succeeded on the other eight hills. He also lost five marks on time checks. The award of a special medal is recommended.

Frames, Wheels, Brakes, etc.—The structural parts of the machines leave little to be desired. A pair of front forks bent by collision, a few carriers and stands loose or damaged by collision, and a few cases of broken spokes in back wheels, sum up the casualties. A few front wheel brakes were more or less inoperative at the finish of the trial.

The Power Plant.—A few retirements are reported due to engine trouble. One competitor reported on Thursday morning that a seized piston would compel him to retire. He evidently got it going again all right, and completed the trial in good style.

The tanks, their fastenings to the frame, and their pipe connections seemed all in perfect condition at the finish.

Silencers are not yet as silent as is desirable.

Transmission and Speed Gears.—One retreat was due to the belt rim coming adrift, and the Morgan runabout retired owing to gear transmission trouble.

Of the machines with single speeds, only four won gold medals, three others climbed all the hills, but lost marks on time checks, seventeen single speed motor bicycles started, so the performance of the single speed machines is on the average distinctly inferior to that of the variable gear machines. Both the big engine single speed Bats made clean ascents of all the hills.

There were many varieties of variable speed gears represented in the trial, the Armstrong three-speed hub gear being the most notable addition since last year. Most of these gears are combined with a clutch, most useful for traffic riding, permitting of slow riding or the stoppage of the machine without stopping the engine. One of the most valuable features of the Armstrong three-speed hub is its easy adaptability to almost any machine. Of the seventy-seven starters, fifteen were fitted with Armstrong gears, eight gaining gold medals. Of the others, three retired owing to engine or other troubles, the remaining four had only three hill failures divided between them.

Tyres.—As already stated, loss of marks on time checks were due principally to tyre trouble. Many machines have the back wheel quickly detachable so as to give easy access to replace a faulty tube or cover; other machines leave much to be desired in this connection. Now that tyre manufacturers have standardised the sizes of motor cycle wheel rims, tyre trouble may become less and less in future.

Accessories.—The various accessories and the methods of fastening them to the machines seemed quite satisfactory. Perhaps the only qualification that need be made is that the clips for fastening horns are unsatisfactory, most of the horns having been somewhat loose on the handle-bars.

Weight.—A few representative machines were weighed at the finish of the trial, in the same condition as they had been running during the week. The so-called lightweights varied from 130 lbs. to 163 lbs.; the greater weight being that of a machine which had just been filled up with petrol. The 3½ h.p. machines varied in weight from 200 lbs. to 284 lbs. Even allowing for weight of petrol, about 7 lbs. per gallon, these weights are rather startling.

Conclusion.—This year's trial reveals a considerable improvement in the reliability of the motor bicycle. The conditions were more severe than those of last year's trial, yet the percentage of gold medals is more than doubled. For next year the conditions must be made still more onerous, so that the percentage of gold medals awarded may be again lowered to a reasonable figure.—ARCHIBALD SHARP, Judge.

* Mr. Boddington wins the medal, as decided by the judge, but as Mr. Sharp is almost equally impressed with the performances of the other five riders mentioned, we have decided, subject to the approval of the A.C.U., to offer souvenirs in the form of silver medals to Messrs. Merrill, Moffatt, Whitworth, Baker, and Day.—Ed.

CLUB NEWS.



Sheffield and Hallamshire M.C.C. Start of the 44 miles penalty contest last Saturday from Owl Bar.

Hull and East Riding A.C.C.

The results of the reliability trial held August 19th are as below: 1, E. Downs ($3\frac{1}{2}$ P. and M.), marks lost 0; 2, J. F. Walton ($3\frac{1}{2}$ B.S.A.); 5; 3, A. E. Brown ($3\frac{1}{2}$ B.S.A.), 7, and E. B. Thomlinson ($3\frac{1}{2}$ Acme Kestrel), 7.

Torbay and District M.C.C.

With regard to the open climb on September 9th, the secretary desires it to be known that wherever "two or three speeds" is mentioned in the entry forms, it is intended to cover all such gears as the Zenith-Gradua. The last day on which entries can be accepted is September 2nd.

Sheffield and Hallamshire M.C.C.

On Saturday last a penalty contest was held, starting and finishing at Owl Bar. The riders started at minute intervals, and proceeded across the moors *via* Baslow, Calver, Froggatt Edge (a steep winding gradient), Fox House Road, and back to Owl Bar—a circular run of eleven miles, which had to be covered four times. Competitors to lose marks for every five minutes they were early or late from a time allowance of thirty-five minutes.

The results are as follow: 1st, Durant ($3\frac{1}{2}$ h.p. Durant-Jap); 2nd, Dakin ($2\frac{1}{2}$ h.p. Douglas); 3rd, Short (8 h.p. Chater Lea and sidecar); 4th, Hill ($3\frac{1}{2}$ h.p. Triumph); 5th, Stacey ($3\frac{1}{2}$ h.p. Rudge).

Marlborough Athletic Club.

The London-Coventry reliability trial on the 12th inst. secured an entry of twelve, and seven competitors made non-stop runs. The first and second prizes were presented by the Kempshall Tyre Co. (1 heavy non-skid cover and 1 light non-skid cover). Results were: 1st, W. Goodhugh ($3\frac{1}{2}$ h.p. Brown); 2nd, A. W. Loughlin ($3\frac{1}{2}$ h.p. Peugeot); 3rd, A. W. Hunt (5 h.p. Sarolea) and J. C. Ball ($2\frac{3}{4}$ h.p. N.S.U.)

Doncaster and District M.C.C.

A speed-judging competition was held last Thursday over a circular and very deceptive course through Conisborough, Edlington, and Batley, which had to be covered four times, making a total of about 35 miles. The first prize (a pair of Palmer cord tyres with inner tubes), as well as the second and third, were kindly given by the Palmer Tyre Co., Ltd., to whom the club is most grateful. Twelve started, and the accuracy with which they judged their allotted speeds was remarkable considering the strong head wind experienced towards Conisborough. The final results are given below:

Rider and machine.	Average error.
1. J. S. Smith ($3\frac{1}{2}$ Bradbury) ...	76.8s.
2. F. H. Dunstan ($3\frac{1}{2}$ Rudge) ...	145.47s.
3. T. H. W. Dew ($3\frac{1}{2}$ Triumph) ...	165.5s.
4. L. Baker ($3\frac{1}{2}$ Rex) ...	207.5s.



Members of the Hawick M.C.C. (Edinburgh) setting out for a hill-climbing contest last Saturday at Haughhead, Hawick

Bradford M.C.C.

The awards for the Bradford-Dunbar-Bradford 24 hours' reliability trial, held on August 22nd and 23rd, are:

CLASS I. for Solo Machines.—1, T. Bullus (P. and M.) 0 points, Triumph cup and gold medal; 2, Miss I. E. Pickles (Scott), 23, silver; 3, F. Kilburn (Triumph), 245½, silver.

CLASS II. for Passenger Machines.—1, J. N. Longfield (Scott and sc.), 3½ points, Phelon and Moore cup and gold medal; 2, P. Shaw (P. and M. and sc.), 10½, silver; 3, H. Russell (Chater-Lea and sc.), 47½, silver.

CLASS III. Teams of Three Riders.—1, C. Sidney (Triumph), Batley, gold medal; S. Todd (Triumph), Bradford, Wm. Briggs cup and gold medal; and R. A. Horsfall (Triumph), Dewsbury, gold medal. 2, C. Thacksay (J.A.P.), Ilkley, silver medal; A. Drummond (Rex), Ilkley, silver medal; and A. Denby (Rudge), Ilkley, silver medal.

M.C.U.I. (Ulster Centre).

The results of the open speed trials held at Magilligan Strand last Saturday by the M.C.U.I. were:

TEN MILES SCRATCH for machines not exceeding 500 c.c.

Rider and machine.	M.	S.
1. A. Kirk (3½ h.p. Triumph) ...	10	39
2. L. McKisack (3½ h.p. Triumph) ...	10	41½
3. W. F. Adams (3½ h.p. B.S.A.) ...	10	42

Seventeen competitors.

TWENTY MILES OPEN HANDICAP.

Rider and machine.	H'cap.	M.	S.	Time.
1. A. Combs (3½ h.p. Premier) ...	5½	...	20	45½
2. J. Stewart (3½ h.p. Triumph) ...	1½	...	20	40
3. C. R. Martin (3½ h.p. Triumph) ...	2¾	...	22	0

Eighteen competitors.

FIFTY MILES OPEN HANDICAP.

Rider and machine.	H'cap.	M.	S.	Time.
1. A. Combs (3½ h.p. Premier) ...	14	...	66	33½
2. G. Lavery (3½ h.p. Triumph) ...	12	...	69	27
3. J. Stewart (3½ h.p. Triumph) ...	4	...	61	35
4. J. Sloan (3½ h.p. Triumph) ...	12	...	71	3
5. W. F. Adams (3½ h.p. B.S.A.) ...	7	...	66	7
6. C. R. Martin (3½ h.p. Triumph) ...	7	...	66	43½
7. G. Simpson (3½ h.p. Triumph) ...	4	...	65	15½
8. L. McKisack (3½ h.p. Triumph) ...	8	...	69	43

Sixteen starters. An unfortunate accident occurred in this trial, whereby W. J. Chambers received a compound fracture of the right leg through colliding with another competitor.



Saturday's speed trials of the M.C.U.I. (Ulster centre) at Magilligan. Preparing for the start of the ten miles scratch race.

Derby and District M.C.C.

The winner of the hill-climb held on Saturday, August 26th last, was Albert Ainsworth (3½ Rudge). Second on formula and fastest time, E. T. Bolton (7 Indian). On Saturday last an excellent afternoon's sport was provided in a reliability and speed competition for a speedometer, the donor of which prefers to remain anonymous. E. Lee (3½ Triumph) was the fortunate winner.



Scene at the start of the Manchester Motor Club's Hill-climb at Woodhead on Saturday last. The group in the foreground are officials watching Bottoms detaching the cylinder of his Bradbury for the purpose of measurement.

Club News—

Coventry and Warwickshire M.C.

The result of the Aberystwyth Run has now been announced after consideration of the times at the three controls and two secret checks. Two competitors tie for the awards, viz., A. Elson ($3\frac{1}{2}$ h.p. Triumph) and A. L. Ommaney ($3\frac{1}{2}$ h.p. Rudge.)

Those who won souvenirs were: S. H. Davis ($3\frac{1}{2}$ Rex), R. Lord ($3\frac{1}{2}$ Rex), and J. F. Spencer ($3\frac{1}{2}$ Singer and sidecar). The following completed the journey within 11½ hours, but exceeded the time limit of 20m. at one or both of the secret checks: G. H. Spicer ($3\frac{1}{2}$ Triumph), W. Grew ($3\frac{1}{2}$ Rudge), V. A. Holroyd ($3\frac{1}{2}$ Rudge), C. T. Lloyd ($3\frac{1}{2}$ Rex), A. C. Riley ($3\frac{1}{2}$ Triumph), and H. Clarke ($3\frac{1}{2}$ Triumph).

Helensburgh M.C.C.

A successful hill-climbing competition was held on Wednesday, August 16th, at Garshake Hill, Dumbarton. Competitors were divided into two classes, single and twin-cylinder machines respectively. The principal results were:

	CLASS I.	Fig. of Merit.
1. R. M. McCulloch ($3\frac{1}{2}$ Triumph)	527
2. H. W. Ballardie ($3\frac{1}{2}$ Triumph)	514
3. J. Grant ($3\frac{1}{2}$ Triumph)	463
	CLASS II.	
W. Watt ($2\frac{3}{4}$ Royal Enfield)	251
C. Watt ($2\frac{3}{4}$ Royal Enfield)	214

Essex M.C.

Members and others are reminded that the annual Snaresbrook-York-Snaresbrook twenty-four hours' reliability run takes place on Friday and Saturday, September 8th and 9th. In addition to the Triumph Challenge Cup, gold, silver, and bronze medals are offered, and there are also special prizes for the best amateur performance, the best lightweight performance, and the best passenger performance. The trial is for both motor cycles and cars. Full particulars may be obtained from Mr. Bernard C. de W. Siffken, Forest Side, Buckhurst Hill.

The Motor Cycling Club.

The autumn hill-climb will be held on September 9th, when the cup offered by Commodore Sir R. K. Arbuthnot, Bart., will be competed for in a class open to any single-cylinder machine over 300 c.c. The hill chosen will be one within easy reach of London, and classes for all types of machines are being included.

Doncaster and District M.C.C.

The results of the series of competitions for the President's Cup are subjoined. Marks awarded in the respective competitions:

Name of competitor.	Speed trial, June 5th.	Hill-climb, July 18th.	Reliability trial, Aug. 7th.	Total marks awarded.
1. T. H. Dnnstan ...	100	81.5	543	*724.5
2. L. Baker ...	70	68.78	503	641.78
3. E. Goult ...	98	72	457	627
4. L. Bassett ...	93	absent	511	604
5. J. S. Smith ...	92	65.5	406	+563.5
6. C. Barnsdale ...	90	64	401	+555
7. E. R. Scott ...	88.5	73.7	314	+476.2

*President's Cup. +Bronze Medal.

Glasgow M.C.C.

This year's consumption trial, held on August 19th, is notable for the startling record made on a T.T. Triumph by J. G. Grant, who covered a distance on his allowance equal to 277 miles to the gallon. The course was triangular, starting from Clarkston Station, with East Kilbride and Eaglesham as the other two points. Riders were not allowed to dismount, and had to go on until their allowance of petrol was exhausted. The three best performances were:

Rider and machine.	Miles covered.	Miles per gallon.
J. G. Grant ($3\frac{1}{2}$ h.p. T.T. Triumph) ...	35.2	277
G. W. Orr ($3\frac{1}{2}$ h.p. Ariel) ...	29.2	206
W. Hutchison ($2\frac{3}{4}$ h.p. Douglas) ...	23.1	198

THROUGH WARWICKSHIRE LANES ON A SINGER AND SIDECAR.

WITH reference to the new Singer sidecar model described and illustrated last week, by the courtesy of the firm of Singer and Co., Ltd., we were recently allowed a short trial of the machine, and accompanied by the head draughtsman decided to visit that well-known Midland acclivity Edge Hill. The high speed ratio was 6 to 1, and the low 8 to 1, and with this combination, a Millford castor wheel sidecar, and a combined weight of twenty-four stones, the 22 miles between Coventry and Kineton via Warwick and Gaydon Inn were covered in one hour. At Kineton the petrol tank was filled up to give a good head of spirit at the jet, and the hill was made for at a fair touring speed. At the first attempt the combination failed to get more than half-way up, but there were circumstances which prevented a good performance being made; however, after descending and making a few adjustments, with the same passengers it reached the first bend on top gear, when in went the low, and the engine romped away towards the top. Within twenty yards of the summit the engine stopped, not from conking or overheating, but from being overloaded; an indirect 8 to 1 gear is barely low enough for a $3\frac{1}{2}$ h.p. engine on hills like Kineton, and to prove it was due to gear and load the same combination brought the writer and a boy weighing together 17½ stones right over the first knob on the top, then the low and high ratios were used alternatively for about fifty yards, and finally the low to the summit. The way it took the last section of gradient was excellent, the engine doing about 2,000 r.p.m., and the machine travelling at about 18 miles an hour.

Now with regard to the general behaviour of the machine. First the engine starts remarkably easily with gear lever in neutral; the clutch manipulation by inverted lever on handle-bar is a charm, the whole combination starts readily on low gear by steadily releasing the lever and there is no jerk. Changing gear is rapid and reliable, no grinding takes place, and the clutch picks up the load without it being necessary to manipulate the levers gingerly. Of course, the machine is not a milestone devourer, as it has

not been built for that purpose. We should say it would average nearly twenty miles an hour on give and take roads, and with a slightly lower ratio on bottom gear would go anywhere except on heavy winter roads and against a strong head wind when a little bigger engine might be used with advantage.



The two-speed Singer sidecar combination half-way up Edge Hill.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

A Machine for Ireland.

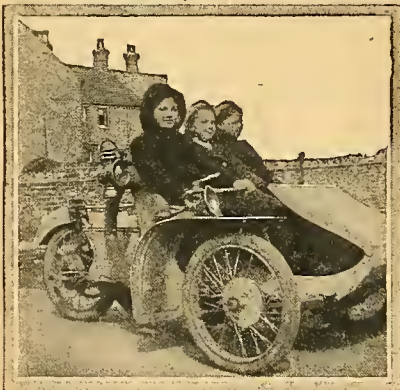
[?] Being a prospective purchaser of a motor cycle, and not knowing much about them, I would be thankful if you would give me information on the following subjects. My height is 6ft., weight 13 stones. The district here is fairly hilly, several hills of 1 in 10 gradient, and some of 1 in 6: (1.) What is the lowest horse-power I could use with comfort under such conditions? Would 2½ h.p. be too low? (2.) Could I get a reliable second-hand machine for £15 or £16? (3.) Would the ordinary height of frame suit me?—C.E.H.

(1.) What we should recommend is a 3½ h.p. (2.) If you could go to about £20 you would get a good magneto machine. (3.) Yes, the ordinary frame would suit.

Touring Abroad.

[?] I think of taking a holiday in France, Germany, Belgium, or Holland with my motor cycle. How shall I arrange for tax and driver's licence?—A.S.

First of all you had better take steps to become a member of one of the motoring organisations, and through this take out an international pass. The organisations also issue these passes to non-members, but you could not expect to obtain other facilities from them without becoming a member. The international driving licence is available in all the countries you name. Through becoming a member of one of the motoring organi-



Miss Connie Vine, who, after only one day's instruction, drove an A.C. sociable from London to Birchington-on-Sea. The A.C. is becoming popular among ladies, the tiller steering rendering it wonderfully easy to handle.

sations you can take your machine into France, Belgium, and Holland free of duty, but not so into Germany.

Rebushing.

[?] My machine, after 13,000 miles, is still running very sweetly, but shows loss of power upon the worst hills and against the wind. I should like a little enlightenment with regard to what I believe is the crankshaft. The ends, which are visible upon each side of the outside of the crank case, seem to have a little play, and I have been recommended to have them rebushed. Is the machine likely to suffer any damage by postponing this until there are more definite signs of trouble?—W.S.

No, as long as you do not put off the rebushing too long, you will do no great harm. Rebushing is only necessary if there is serious vertical play. A little end play does not matter.

Lubrication of Free Engine Clutch.

[?] I have lately had delivery of a standard 1911 free engine machine and have ridden the same 500 miles. For the last fifty miles or so I have had a lot of trouble with the clutch. As soon as I operate the lever to let in the clutch the back wheel, instead of taking up the drive smoothly as formerly, refuses to move. On lowering the gear from 4½ to 5 to 1 I find this difficulty with the clutch has disappeared. Can you let me know why this should be? As regards lubricating the clutch the makers recommend a certain brand of oil which is not obtainable locally. Will ordinary cylinder lubricating oil do instead, and if so how often should it be applied, or would it be better to use grease as for the magneto chain?—F.C.M.

We should imagine that in the case in question the clutch is liable to slip when the high gear is used, but that this slip is not sufficient to prevent the machine moving when the low gear you mention is fitted. Special oil of thin nature should be used for the clutch, as exceptionally thick oil, such as is sometimes used for engine lubrication, would cause the plates to adhere and prevent the satisfactory withdrawal of the clutch. We should imagine that at the present moment you are over-lubricating the clutch in question, and should, under no circumstances, advise you to put grease into the back hub. It would be much better to obtain a thin oil and use that instead.

Unbusinesslike Methods.

[?] What would you advise me to do in this case? About the end of April last I sent my back hub to be rebuilt with new rim and belt rim. On May 18th I received a letter from the firm saying that some delay had occurred with the belt rim, but that it was now in the works, and the wheel would be despatched the next day. Getting no further communication for a month, and the wheel not having arrived, I wrote four times within a fortnight, and only at the fourth time did I get a reply—that was last week. I was then informed that delay had occurred with the belt rim but that wheel was being sent that very day. It has not yet arrived. You will see that they have had my hub for eleven weeks (also my money), and for the last eight weeks I have been expecting it. What can I do? I have written as strongly as I can, but when they deign to answer it is only to put me off for a few more days. In fact, the only answer I got was when I wrote demanding the return of my hub and money.—W.W.

Our legal adviser's reply to the above is: Your correspondent "W.W." can sue the firm he mentions for the return of the back hub, or its value, and also for the return of the money paid. He should first send them a letter by registered post, telling them that unless this is done by return he will immediately place the matter in the hands of his solicitor.



An Aylesbury motor cyclist named F. S. Morton who has driven his Motosacoe with the above carrier attachment 3,482 miles in four months. The total weight of machine is 203 lbs. driver 147 lbs. and the average weight of goods carried is 98 lbs.

Sparkling at Contact Breaker. Overheating.

Recently I bought a second-hand motor cycle, which I believe is a 1906 model. It is fitted with a Longuemare h.b. controlled carburetter, and is fired with an accumulator and trembler coil. The compression is very good, and the engine has run about 300 miles since new rings were fitted and the deposit was cleaned off. For a while it ran all right, but lately it has developed the following defects: (1.) I get a spark at the contact breaker when machine is running. (2.) Engine overheats very badly. (3.) Where I could get nearly 30 "all out," now I only get about 12 m.p.h. (4.) The engine has spasmodic fits of misfiring, and will only climb hills very slowly that it used to "roar up."—A.S.H.

(1.) It is not surprising that you get a spark at the contact breaker when the machine is running. There is nearly always a weak spark at this point. (2.) Overheating may be due to a variety of causes: bad oil, excessive carbon deposit, or too strong a mixture. (3.) The symptoms almost seem to indicate that you have a partial obstruction in the carburetter. It is difficult to help you without seeing the machine, but a good repairer ought to be able to put the machine right without much difficulty.

A Mysterious Clank.

I have a 3½ h.p. 1911 Humber which runs and climbs splendidly; compression and everything is A1. On favourable stretches when the engine goes faster owing to falling gradient, and when run fairly fast on stand I get a single loud clank now and again in the engine. There is only one clank at a time, at various intervals. The same thing occurs sometimes if I lift the exhaust valve at speed. It can also be brought about by suddenly opening the air lever and occasionally when going over a bump when coasting down hill. To what is it due, and how can it be remedied?—G.B.S.

It is extremely hard to tell what this clank is, as there are so many kinds of noises, each of which might roughly be

called a "clank," and each of which is due to an entirely different cause. If you could give rather fuller particulars of this type of noise, as, for instance, does it slow the machine, and does it feel like a backfire, we might be able to put you on the right track. Turn the pulley round carefully when you have the cylinder off for cleaning the deposit, and listen for any strange noises in the crank chamber, in which event it is imperative that the engine be taken down at once.

A.C.I.V. Trouble.

I have a great deal of trouble with the a.c.i.v.'s of my 1911 machine. With strong springs there is great power at high speeds, but the machine will not run slowly, as the engine is unable to open the valves sufficiently. With weaker springs the bicycle starts easily, and can be run slowly, but cannot develop sufficient power. I also find that after removing and replacing the inlet valves the engine runs very badly for the first ten miles or so, as if there were a loss of compression. It is also very difficult to fit two springs of equal tension. Would it be possible to replace the valve cups and cotters with a screw-on cap, so that the tension on the springs could be adjusted?—T.H.J. This is one of the difficulties of auto-

matically-operated valves which cannot be overcome, and this is where the mechanically-operated valve scores over the other. There is obviously no cure. Probably there is really a loss of compression after replacing the valves, and a little oil and carbon gradually seal up the joints. Yes, you can fit a nut and lock-nut on to the valve stem for adjustment purposes, but really, with the ordinary cotter system, it is easier to get fairly good adjustment by means of different sized washers.

Faulty Ignition.

I have purchased a second-hand 1½ h.p. Minerva, and as far as getting it to start and keep running while on the stand everything seems to be in perfect order, but when taken on the road it requires some pedalling to get it to start, and then when started will fire two or three times, then miss one or two, and go on this way for a hundred yards before you can get it under way, and in some cases will stop until again assisted. (1.) Can you explain it? (2.) I am thinking of fitting in one of Siemens dry batteries, and if so will it work with a plain coil, or is any alteration required? (3.) Should the spark on this machine when starting be advanced or retarded, and where shall I find out when moving the lever that I am doing right?—STRATHDON.

(1.) We should advise you to examine the ignition and see if the contact points are perfectly clean, and that the spark occurs regularly at the plug. (2 and 3.) The spark, when starting, should be retarded. In order to verify this, note the way in which the cam rotates, and then that movement of the lever which alters the contact blade in the direction of rotation will retard the spark.

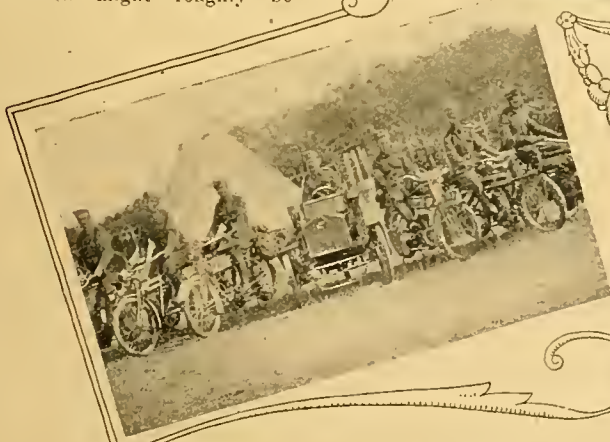
EXPERIENCES WANTED.

"H.B." (Putney). 7 h.p. T.A.C. with sidecar.

"Less Noise" (Hertford). 3½ h.p. Scott and sidecar, reliability of gear, etc.

"R.W." (Gothenburg, Sweden). 3½ h.p. Scott with sidecar.

"S.S.T.S." (Bury). 5 h.p. Indian and 3½ h.p. Bradbury, particularly as to cost of running and manipulation in traffic.

MOTOR CYCLISTS IN THE TERRITORIAL MANŒUVRES.

(1) H. Beedman, jun., whose two-speed Humber gave every satisfaction.

(2) A group of riders attached to the motor cycle section of the London Cyclist Battalion.

(3) Motor cyclists at the Territorial Camp, Royal Engineers, Thetford.



I WOULD introduce myself as a fairly enthusiastic pedal-cyclist wondering whether propulsion by muscular action of his legs is not an unnecessary "fag," and so contemplating with a certain amount of hesitation the purchase of a motor cycle. My hesitation may be attributed to my perplexity as to whether the advantages of the motor-driven machine sufficiently outweigh its disadvantages—so I may term them—to allow of my buying one with the feeling that I am getting a good bargain. And I have no doubt that there are hundreds of others in very much the same state of mind—debating whether to become motor cyclists or not—who may be interested if I state my case more fully.

The Crucial Point.

The main question I am asking myself—and, if I were certain of being able to answer it in the affirmative, I should hesitate no longer—is this: Can I, with my very limited mechanical knowledge and entire lack of experience of petrol motors, regard it as reasonably certain that the machine will keep in decent running order without large and frequent repair bills? Friends who motor cycle assure me that I can be fairly sure of that, as the modern machine of a good make has now reached such a state of excellence that mishaps are of rare occurrence. Just use a little commonsense, they say. This is all very well, but besides this useful quality one must possess a certain amount of necessary knowledge, and this is what I am afraid I have not got. Although I have read up all the information on the mechanism of motor cycles I have been able to obtain, I confess I am not yet quite clear as to the functions of the various parts of a magneto, while the idea of dismounting a cylinder or taking a carburetter to pieces and cleaning and replacing it fills me with something like dismay. ["Pedal-Cyclist" can rest assured that hundreds of motor cyclists do not know the exact functions of a magneto, and beyond a little attention to the contact points these machines will run a whole year without being touched.—Ed.] I have no doubt that while it is new the machine will run excellently without need of much, if any, attention on my part; but I want it to last, and it is the condition of the engine after six months' or a year's hard riding, of which I am apprehensive. I daresay after a little experience one can adjust and keep in good condition these (as it seems) extremely complex components of the power plant, but it will be understood that to one used to the empty frame and absolute simplicity of the pedal cycle such a task seems rather formidable.

Amongst the pleasant visions that I have of spinning along a straight level road at something over the legal limit there also come less pleasing forebodings in which I see myself one evening stranded,

through some trouble which I am entirely unable to locate, on a country road miles away from anywhere, with the result that I have either to push the machine or pedal it at a rate of about five miles an hour towards the nearest town or railway station.

Initial Expenses and Upkeep.

Then there is the matter of expense. The light weight model which I have provisionally selected costs, with lamp, horn, and licences, approximately £40—a considerable sum compared with the cost of a pedal cycle of very good quality. Do you get proportionate value for this discrepancy? Again, the yearly sum necessary for the upkeep of a motor cycle is out of all proportion to that which has to be spent by the owner of a pedal cycle. The latter's outlay is practically confined to the purchase of a new pair of tyres every year or eighteen months, a new chain at longer intervals, and occasionally, if he has not much spare time, a general overhauling of the machine by a repairer at the cost of a few shillings. On the other hand, the expenditure required for a motor cycle appears very considerable to one with a limited purse. Tyres cost about three times as much and (so one gathers) wear out a good deal more quickly than those on a pedal cycle. There are, too, the running costs for petrol and lubricating oil, as well as the numerous "spares" of all sorts which it is presumably necessary, or at least advisable, to carry. These, with the frequent repair bills, which, as hinted above, I am anticipating, seem almost to demand a greater sum than I am prepared to afford.

Other Points that Worry one.

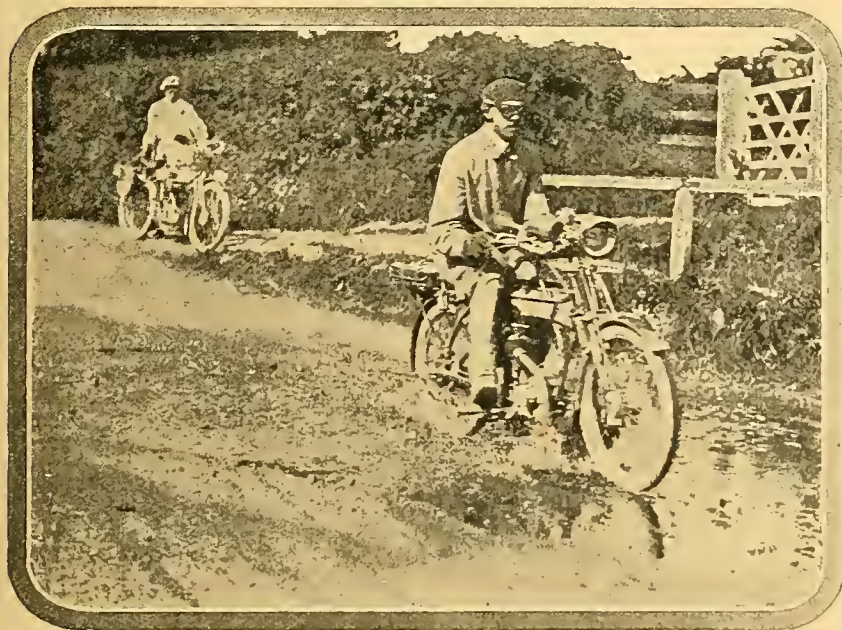
There are one or two other apprehensions I may as well mention. With regard to lubrication, it appears that if by some mischance I should forget to give oil at the correct intervals (though this, I hope, is scarcely likely) I shall ruin the engine altogether; but if, on the other hand, determined to be on the safe side, I give more oil than the engine needs, I shall encounter trouble in the shape of sooted plugs and so on. Then there is the question of cleaning the machine. One can pound through the thickest winter mud on a pedal cycle with the certainty that half an hour's or less attention on the next day will do all that is necessary. With a motor cycle under similar circumstances one would imagine that the time needed to bring the machine into decent condition would run into hours. Also those minor adjustments and repairs which I may learn to do myself seem likely to take up a very great portion of my spare time.

Another rather important consideration is that of the weight of the machine and the resulting modification of that ability to go almost anywhere that is a great characteristic of the "push" bicycle. I have had many enjoyable rides through lanes and along footpaths where there have been stiles and closed gates

Shall I Buy a Motor Cycle?—

to negotiate, and with my 30 lb. light roadster to surmount them was quite an easy matter. With a motor cycle of about four times the weight, however, these

defects—or, let us say, points wherein it falls short of perfection—in the motor cycle (which I have perhaps painted rather too black in the attempt to illustrate my point of view) do not outweigh the incontrovertible fact that an effortless speed of anything up to thirty miles an hour is beyond all comparison with an average speed of only ten miles an hour produced by physical exertion, which causes, after forty or fifty miles, a decided "weariness of the flesh." If (as is probable) I decide on the purchase of a motor cycle, and determine to take my chance of any of these unpleasant consequences, I trust I shall be able to sail up hills which previously I either had to walk or else surmount by an altogether disproportionate expenditure of energy; to run along a level road at a speed that really will get me over the ground; and when forty or so miles lie between me and home, far from being rather uneasy at the thought, that I shall look forward to the run, confident that on arrival there I shall not be in a more or less tired condition, but as fresh as the proverbial daisy. I look forward, too, to tours on a machine which will enable me to reach and explore the districts I select with far more comfort and in



AN INCIDENT OF THE 1,000 MILES TRIAL.

A. C. Robbins (3½ h.p. two-speed Humber) passing through the water near Coxwold. There were four water splashes on the course.

obstacles would not by any means be easy to tackle. At the same time, I realise that for unobstructed lanes and tracks, that scarcely can be called roads, the motor cycle is generally very nearly as handy as its less speedy prototype.

However, all these (I suppose) quite unavoidable

much less time than I could ever dream of on a pedal cycle. In view of all these benefits, then, which the motor cycle confers on its owner, I ought not to insist any further on my conception of its disadvantages, which are possibly rather more apparent than real. Such, at any rate, I hope they may turn out to be.

An Italian Hill-climbing Contest.

THE Mont Cenis hill-climb for this year has been a conspicuous success. All records have been beaten, and the first five men in the half-litre class have succeeded in lowering Riva's record, namely, 28m. 5s., which was established in 1905. The following are the results:

Lightweight machines, cylinder capacity not exceeding 333 c.c.—1, Luigi Semeria, 25m. 8²/₅s.; 2, Jean Borgotti, 25m. 36²/₅s.; 3, Facchetti, 26m. 0²/₅s.

Half-litre class.—1, Riva Alexandre, 22m. 32⁴/₅s.; 2, Della Ferrera, 22m. 53¹/₅s.; 3, Berlie, 23m. 34³/₅s.

Class for machines with cylinder capacity exceeding half-litre.—1, Gelasio, 32m. 7³/₅s.

The Stampa Sportiva Cup for machines with engines not exceeding 290 c.c. rests with the S.I.A.M.T. This latter, thanks to Riva, also gains the Turin Motor Club Cup, and with Borgotti and Peracchio the prizes for the first machines in the 333 and 250 c.c. classes. Semeria rode a 290 c.c. machine.

Thanks to the excellent organisation, and to the fact that the principal makes and riders took part, the Mont Cenis meeting this year has been one of the finest ever held in Italy. The length of the climb was about thirteen and a half miles, which is a good

distance for a hill-climb, but the maximum gradient does not exceed 1 in 12.



WINNERS OF THE MONT CENIS HILL-CLIMB.

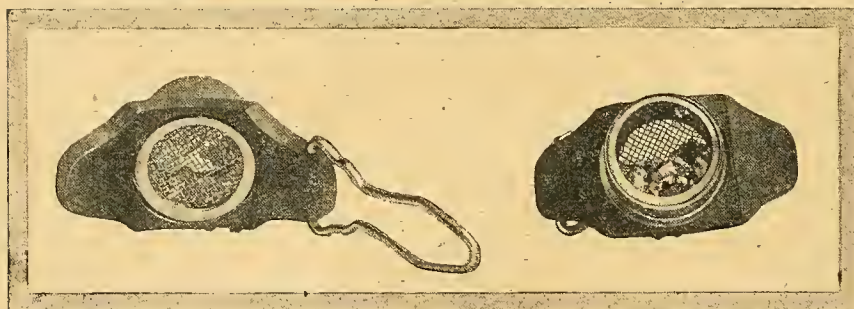
From left to right they are: Peracchio, Riva, Luigi Semeria (inventor and maker of the S.I.A.M.T.), and Borgotti.



A New Puncture Locator.

Below we publish an illustration of a new form of puncture locator, which has been designed by Mr. H. L. O. Gough, of Carlton Road, Nottingham.

The puncture locator designed by Mr. Gough and described on this page.

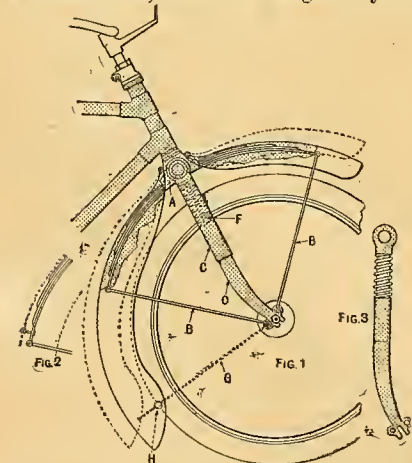


Showing the wire gauze backing and the method of fixing round tyre.

As will be seen, it is composed of a semi-circular piece of wood, and a folding handle to keep it in place when on the tyre. In the middle is a metal case with a glass front, and on the underside a piece of gauze enclosing a quantity of aluminium foil. The whole thing is passed over the tyre, and when it passes over the puncture the foil will be distributed all round the glass, thus obviating the necessity of taking the whole tyre out and immersing it in water.

A New Pattern Spring Fork.

The spring fork, of which we publish an illustration, has been designed by H.



Lanzerotti Spina, of 19, Upper Woburn Place, W.C. It may be described as follows:

To the heavy crown A of the fork is

fixed a long four-leaf flat spring, which extends in front of and behind the fork to the extent of about a quadrant of a circle. To each end of the flat spring is pivoted a rod B, which is also hinged at the lower ends of the forks. The forks

Front view showing metal case with the aluminium foil behind the glass cover.

are composed of two hollow upper parts C (pivoted to the heavy crown), and of two lower parts D, which slide in the hollow of the former, or they may be as shown in fig 3, viz., with upper parts that slide in the hollow of the lower. A spiral spring F is set between the two parts in each case.

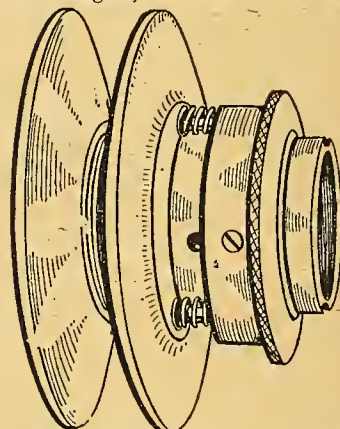
The upper ends of the rods B B, as well as being attached to the end of the flat spring, work on a pivot fastened to the mudguards, which latter are hinged fore and aft of the heavy crown A, or they may be fastened by bolts which pass through a slot in the mud-guard (see fig. 3). Thus, when the spiral spring F is depressed, the mudguards are forced upwards and outwards with the flat springs, being supported on hinges attached to the fork crown.

As may be seen in the drawing, when the cycle meets with an obstacle the front wheel is forced upwards and the long flat leaf spring helped by the spiral spring is claimed to absorb any kind of shock received by the machine.

The Lindum Pulley.

No one will deny that it is extremely advantageous to be able to adjust the engine pulley without the aid of tools. The Lindum Engineering Co., St. Peters-at-Gowts, Lincoln, have recognised this, and in designing their new quick adjustable pulley they have made it so that it is readily adjustable by finger and thumb without the aid of tools. The pulley is composed of the three usual parts—the fixed flange and boss, loose flange, and adjusting nut. In the locked position the outer ring covers two steel balls which act as keys and hold the loose flange in different positions. When the

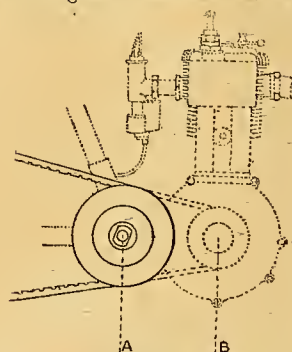
ring is pressed in with the thumb and finger the balls rise into an internal groove in the adjusting ring. The outer flange can then be moved to any position desired, and on releasing the ring small coil springs force the ring back until the balls register with the nearest slots. The pulleys are made in three sizes—4½ in. for lightweights, 5½ in. for medium weights, and 6 in. for heavy



weight twins. We append an illustration of the pulley which has been submitted to us for inspection.

Countershaft Gears.

The annexed sketch of a well-known make of engine illustrates the arrange-



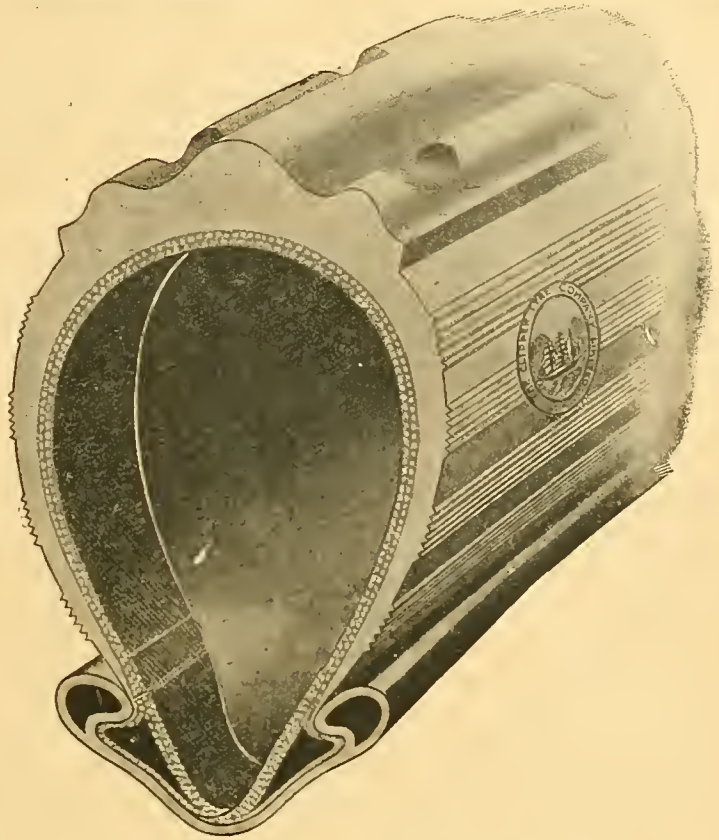
ment of a countershaft gear which is likely to become popular on 1912 models. As will be seen, though the lineal speed of the belt is reduced, this drawback is counteracted by the fact that a very much larger pulley is employed, giving a bigger gripping surface for the belt. Our experience of this type of transmission is that there is no more slip than is usually allowed by the intervention of a belt between engine and road wheel, which gives an ideally elastic drive, and is, moreover foolproof.

THE REFLEX-CLIPPER “IDEAL” TYRE FOR MOTOR CYCLES.

WHAT'S IN A NAME?

Respecting Tyres—the name Reflex-Clipper stands everywhere as the hall-mark of excellence. The Reflex-Clipper “Ideal” Tyre for Motor Cycles gives fullest expression to that sentiment.

Just notice the build of it. Made entirely on Car Tyre lines. Of perfect proportions. Has weight where most needed, yet Al for speed. Is secure against side-slip, and stands foremost in the quality line.



Price of Tyre	£2 8 0
Price of Cover	1 18 0
Price of Tube	10 0
(For 26 x 2½ Beaded Edge.)	



For best Motor Cycle Accessories
always ask for “CLIPPER Brand.”

THE CLIPPER TYRE CO., LTD.,

52 - 60, STEELHOUSE LANE, BIRMINGHAM.

LONDON—18, Chiswell St., Finsbury Square, E.C. COVENTRY—Alma St.

In answering this advertisement it is desirable to mention “The Motor Cycle.”

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

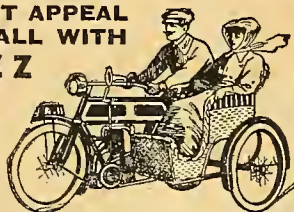
SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

A1 DERFUL SHOW OF BARGAINS

THAT APPEAL TO ALL WITH Y Y Z Z

is Always on View.



AT WAUCHOPE'S

All Bargains in newest models of all best makes of Motor Bicycles at prices that cannot possibly be beaten. All Bargains in genuine second-hand machines, renovated, tuned up for the road, and fully guaranteed.

GET OUR TO-DAY'S LIST, which includes—

4312.	3 1/2 h.p.	1910 Standard	TRIUMPH	£37 10
4313.	3 1/2 h.p.	1909 Free Engine	TRIUMPH	£38 10
4318.	2 1/2 h.p.	DE DION Pattern		£12 10
4322.	3 1/2 h.p.	1911 Two-speed	N.S.U.	£37 10
4323.	3 1/2 h.p.	1911 Two-speed	HUMBER	£40 0
4287.	3 1/2 h.p.	1909	TRIUMPH	£38 0
	3 1/2 h.p.	1910	KERRY-ABINGDON	£29 0
4240.	3 1/2 h.p.	1911 Standard	BRADBURY	40 Gns.
4284.	1 1/2 h.p.	1910	MOTOSACOCHE	20 Gns.
4295.	3 1/2 h.p.	1910	T.T. TRIUMPH	£38 0
4298.	7 h.p.	1910	REX DE LUXE and sidecar	£47 10
4299.	3 1/2 h.p.	1908 Two-speed	N.S.U.	£22 10
4305.	1 1/2 h.p.	CLEMENT-GARRARD		£5 0
4307.	3 1/2 h.p.	1910 Two-speed	HUMBER	£35 0
4308.	7 h.p.	1910 Two-speed	V.S. and sidecar	£52 10
1309.	3 1/2 h.p.	1909 Two-speed	P. and M.	£36 10
4238.	6 h.p.	1909 Twin	MATCHLESS	30 Gns.
4247.	3 1/2 h.p.	1911	ZENITH-GRADUA	£47 10
4249.	3 1/2 h.p.	1911	BAT	40 Gns.
4250.	3 1/2 h.p.	1910	SCOTT	£45 0
4252.	2 1/2 h.p.	1911 3-speed	NEW-HUDSON	40 Gns.
4260.	2 1/2 h.p.	BRADBURY		10 Gns.
4264.	3 1/2 h.p.	1911	BROWN	£35 0
4269.	3 1/2 h.p.	1911 free-engine	RUDGE	£43 10
4276.	1 1/2 h.p.	MOTOSACOCHE		£12 10
4277.	1 1/2 h.p.	1910	MOTO-VELO	£22 10
4285.	5 h.p.	1911	REX Sidette	48 Gns.
4286.	7 h.p.	1911	REX Sidette	65 Gns.
4207.	3 1/2 h.p.	1910 Tourist	REX	£32 10
4208.	7 h.p.	1910 Two-speed	V.S.	£45 0
4216.	3 1/2 h.p.	1910 Standard	TRIUMPH	37 Gns.
4218.	7 h.p.	1909 Two-speed	V.S. and sidecar	
4219.	3 1/2 h.p.	MATCHLESS-J.A.P.		£25 0
4226.	3 1/2 h.p.	1910	MIDGET Bicar	£22 10
4229.	8 h.p.	1910	Twin BAT	£45 0
4180.	2 1/2 h.p.	BRADBURY		£8 10
4181.	3 1/2 h.p.	1908	BROWN	£22 10
4198.	3 1/2 h.p.	1909	MINERVA	£25 0
4154.	5 h.p.	1910 Two-speed	Twin ROG	40 Gns.
4160.	2 h.p.	1908	MOTO-REVE	£15 0
4040.	7 h.p.	1910 Two-speed	INOIAN	£47 10
4133.	2 1/2 h.p.	ARIEL		£8 10
4135.	5 h.p.	1909	Twin REX DE LUXE	£22 10

THE HOUSE THAT GUARANTEES—

London's most satisfactory value in every deal, whether for cash or exchange. Send brief details of present machine, and we will forward liberal cash allowance offer for same in part purchase of any new machine.

WAUCHOPE'S

9, Shoe Lane, Fleet St., LONDON, E.C.

'Phone—5777, Holborn.
Telegrams—"Opifcer, London."

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Ibbie and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

1911 6h.p. Matchless, V.S. 2-speed; immediate delivery; £70.

1910 Phelon-Moore and Aulford sidecar and spares, done 2,000, in splendid condition; cost over £70, sell at £54; owner bought car.

BRADBURY, new 1911 model, 3 1/2 h.p., just out of crate; list price £48, quick sale £44; no offers.

1908 T.T. Triumph, in splendid order, like new; £28.—Lockerbies, Motor Works, Carlisle.

REX, 3 1/2 h.p., magneto, torpedo tank; £6/10.—Jackson, New Rd., Kendal.

TRIUMPH, 1909, engine splendid condition, fast, good climber, original front tyre; £29.—Jones, tobacco-nist, Crook.

3 1/2 h.p. Triumph Cycle, 1909 model, in perfect running order at £33.—Turvey and Co., The Motor House, Sunderland.

3 1/2 h.p. Triumph Cycle, 1907 model, h.b.c., magneto ignition, in good running order; at £24.—Turvey and Co., The Motor House, Sunderland.

3 1/2 h.p. Rex Motor Cycle, 1909 model, Amal carburettor, h.b.c., and magneto, grand running order; at £23; inspection and trial.—Turvey and Co., The Motor House, Sunderland.

TRIUMPHS, HUMBERS, B.S.A., Royal Enfield motor cycles, lightweights, 2 speeds, free engines; write, wire, or 'phone for immediate deliveries.—Turvey and Co., The Motor House, Sunderland. Tel.: No. 626.

1909 Triumph, Carey speedometer, Lucas head lamp, plating unsratched, splendid order; £35.—W. Walker, The Gables, Hurworth, Darlington.

4 h.p. Roc, magneto, Chater-Lea frame, 26x2 1/2 tyres, B. and B. carburettor, footboards, very fast, perfect order; £27.—Box 8,264, The Motor Cycle Offices, Coventry.

3 1/2 h.p. Triumph, 1907, fitted with new cylinder and piston late 1910, machine in complete running order, including tyres; £25.—Hayward, Skinnergate, Darlington.

THE Following can be delivered immediately from stock: 3 1/2 h.p. free engine Singer, new, £55; 2 1/2 h.p. A.J.S. lightweight, 2-speed and free engine, new, 44 guineas; 5 h.p. Twin Rex de Luxe, slightly used, customer bought 7 1/2 h.p. Sidette; £55.—Hayward, Skinnergate, Darlington.

TRIUMPH, 1910, free engine, £40; 1911 3 1/2 h.p. Singer, not run 400 miles, £42; 6 h.p. N.S.U., 2-speed, free engine, £53; all perfect.—Stout's Garage, Egremont, Cumberland.

3 1/2 h.p. Fafair, Chater-Lea, accumulator, torpedo tank, lamp, and spares, good tyres, very powerful and fast; £21.—Box 8,265, The Motor Cycle Offices, Coventry. Photos on application.

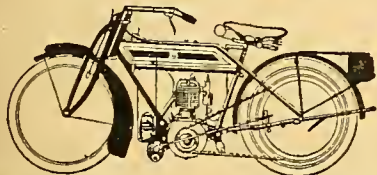
In answering these advertisements it is desirable to mention "The Motor Cycle."

BARGAINS

in New Solo and Sidecar machines.

Maker's Price, £48. OUR PRICE, 34 Gns.

BRAND NEW 1910 3½ h.p. TOURIST REX.



SPECIFICATION.—84 bore, 89 stroke, spring forks, very low dropped frame, cantilever seat, ball bearings to engine-shaft, Bosch magneto, handle-bar control, foot and hand brakes, 1 in. Lycett's Lyso belt, 26×2½ in. Continental rubber non-skid tyres, footrests, number-plate, tools, tool-bag, stand, and carrier.

Sold under maker's catalogue guarantee.

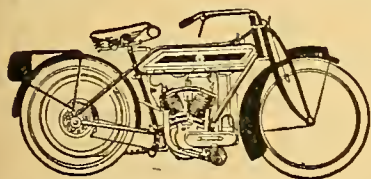
NOTE.—Reduced Price, 34 gns. Two speeds, £5 15s. extra.

NEW 1911 MACHINES IN STOCK.

1911 3 h.p. Tourist Rex	43 Gns.
1911 5 h.p. Two-speed Rex de Luxe	
1911 7 h.p. Sidette	80 Gns.
1911 3 h.p. Bradbury	£48 0
1911 3 h.p. Two-speed Bradbury	£55 0
1911 3 h.p. Rudge Whitworth	£46 0

BRAND NEW 1910 5 h.p. TWO-SPEED TWIN REX DE LUXE,

1911 cylinders, mechanical overhead inlet valves, Bosch magneto ignition, cantilever seat, spring forks, extra large capacity tanks and filler caps, special sidecar fittings, handle starting and other 1911 fittings, fully guaranteed, 26×2½ in. non-skids, £53 10s.



In general design and appearance the only material difference between this machine and the 1911 model at £63 is the position of the magneto and footboards, are not fitted. As a successful passenger machine it will bear the most searching criticism and tests.

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2 h.p. HUMBER ..	£7 10	3½ Clutch HUMBER	£9 10
3½ h.p. REX	£8 10	3½ h.p. REX	£15 10
3 h.p. ROTHWELL	£10 10	3 h.p. FAFNIR ..	£10 10
2½ h.p. J.A.P.	£8 10	3 h.p. QUADRANT	£11 10
2½ h.p. QUADRANT	£7 10	2½ h.p. ROYAL ..	£9 10

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3½ h.p. 1909 Rex, 2-speed, free engine, Bosch, splendid order, only wants seeing, £29; also 1908 3½ h.p. magneto Rex, very good, £20. — W. F. Jones, London, near Shrewsbury.

TRIUMPH. 1908, splendid condition, new piston just fitted, spare tyre, belt, etc., Powell and Hammer lamp; £26, or will exchange for second-hand push bike and cash.—Lowe, Mains Gray, Mottram.

1911 T.T. Rudge, very fast, knee grips, horn, long exhaust pipe, spares, tools, £40; also two Dunlop covers and tubes, 35/-; Brooks bag, 5/6; Lin. Lyso, 7/6.—E. S. Brittain, Orient Lodge, Baxton.

2 h.p. Clement-Garrard, 2-speed gear, 1910 B.B. carburettor, h.b.c., spring forks, handle starting, rubber covered footboards, polished copper tank, all complete with stand, horn, and toolbag; any trial; bargain, £8/10.—W. Jones, 64, Rhosddu Rd., Wrexham.

3½ h.p. Chater-Minerva, 1911 B. and B., Bosch DA2. 32 N.S.U. 2-speed (foot operated), spring forks, new Continental, Lomax band (back), Veedol trip, footboards, exhaust whistle, very low, take two anywhere; £26, or exchange lightweight and cash.—Stonk Farm, near Chester.

NEW Hudson, 2½ h.p., Armstrong gear and clutch, only bought this month, not done 400 miles, with F.R.S. lamp, horn, Veedol cyclometer, spares, cost over £53, tyres unpunctured, selling owing to ill-health, splendid machine for medical man; price £44, no offer; could ride short distance to purchaser.—Capt. Beadnell, Hafod, Llandinam, Montgomeryshire.

THE North Wales Motor Exchange, Rhosddu, Wrexham.—Every machine a genuine bargain; 1911 Humber lightweight absolutely like new Druid forks, £30; 1907 3½ h.p. Rex, ball bearing engine very low built, French grey finish, splendid puller, £26; Peugeot, 3½ h.p., h.b.c., adjustable pulley, magneto ignition, footboards, will climb anything, absolutely reliable, £17/10; Rex, 3½ h.p., Bosch magneto, 1910 Amac, spring forks, Clyno pulley, £15; Minerva, 3½ h.p., 1911 B.B. carburettor, spring forks, just been overhauled, nice condition, complete with carrier and stand, £13; don't miss it; beginners send for lists; some wonderful bargains.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

PEUGEOT Lightweight, 2½ h.p., low built, newly done up; £10; photo.—Bate, Newtown Row, Birmingham.

ENFIELD. 1910, 2½ h.p., tyres perfect, splendid condition; £21.—3, Wellingborough Rd., Northampton.

B.S.A., 1911, 3½ h.p., new, in stock, fully equipped; £50.

PREMIER. 3½ h.p., 1911, free engine model, fully equipped, new; in stock; £54/10.—Westgate Motor Co., Peterborough.

1910 4-cyl. P.N. Rom tyres, like new; £33.—17, Dorking Rd., Nottingham.

2½ h.p. Wolf Lightweight, Amac, perfect, ready ride away; £9/10.—63, London Rd., Grantham.

REX de Luxe, 5 h.p., Roe clutch, free engine; £25; photo.—10, Lincoln St., Balsall Heath, Birmingham.

1911 Bradbury, just delivered, in crate; £40 cash only; no offers.—Grocock, Liberal Club, Boston.

1911 A.J.S., 2½ h.p., 2-speed gear, chain drive, ridden 400 miles; £39/10.—Albert Cooke, Ruddington, Notts.

MOTO-REVE, 2 h.p. (November, 1909), splendid condition, just overhauled; £17, no offers.—2, Coleby St., Lincoln.

ENFIELD Lightweight, late 1909, not ridden 1,000 miles; £25, or near cash offer.—Owen, Sleaford Lincolnshire.

ROVER, 3½ h.p., 1911, Triumph clutch, Palmer cords, absolutely as new; £42.—41, Horsefair, Birmingham.

ENFIELD, 1910, 2½ h.p., Dunlop tyres, Brooks saddle, in excellent condition; £24.—Colmore Motor Cycle Depot, Birmingham.

DOUGLAS, 1910, 2½ h.p., R.M. tyres, only used for demonstration purposes; £27.—Colmore Motor Cycle Depot, Birmingham.

PREMIER. 3½ h.p., 1910, Dunlop studded tyres, Brooks saddle, in good condition; £32.—Colmore Motor Cycle Depot, Birmingham.

TRIUMPH. 1908, 3½ h.p., Mabon clutch, just had £10 spent on it, perfect condition; £32.—Colmore Motor Cycle Depot, Birmingham.

SCOTT, 1910, 3½ h.p., water-cooled 2 speeds, Palmer cords, take sidecar easy, only wants seeing; £42.—Colmore Motor Cycle Depot, Birmingham.

REX, 1908 twin wheel, clutch, 5 h.p., been re-bushed, new tyres, new carburettor, grand 4-decar mount; £26.—Colmore Motor Cycle Depot, Birmingham.

ROYAL Enfield, 2½ h.p., 1910, bought last October; buying heavyweight.—Applly, 40, East St., Horn-castle.

MINERVA, 2 h.p., m.o. valves, h.b.c., low frame, 1 ng bars; £5; first P.O. has it.—St. Edmund Garage, Northampton.

PRECISION 3½ h.p., Mabon clutch, new May, Kempshall back, perfect, with sidecar £45, without £39.—St. Edmund Garage, Abington Sq., Northampton.

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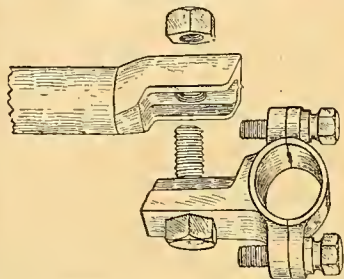


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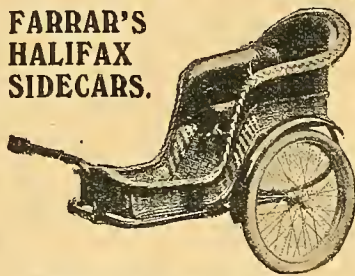
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HUMBER.—Birmingham and district depot, 78, New St. Phone: Central 7298. T.A.: Dependable, Birmingham.

HUMBER, 3 1/2 h.p., the ideal sidecar machine, handle starting, delivery from stock, £50; with torpedo coach-built sidecar, £60; the perfect combination.

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HUMBER 2-speed, 1911, excellent condition, £38; with Mills-Pulford rigid sidecar, £42/10.

HUMBER Depot, 78, New St., Birmingham.—In addition to the above, we always have a few bargains in second-hand machine. Garner whistles supplied and fitted.

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TRIUMPH, 3 1/2 h.p., perfect condition, tyres and belt nearly new; £33.—Glenroy, Wake Green, Birmingham.

£8.—Humber, 3 1/2 h.p. h.b.c., footboards, low, comfortable, easily started, good tyres.—Glenroy, Wake Green, Birmingham.

ENGINE, J.A.P., 4 h.p., water-cooled, new, also C.A.V. magneto; bargain, £12.—56, Sutton St., Aston Manor.

3 1/2 h.p. Humber, free engine, h.b.c., tyres good, splendid order; £11.—Dennis, Leicester Rd., Loughborough.

4 h.p. J.A.P., 1911, battery ignition, complete touring trim, perfect; £29, or near offer.—J. Fancourt, Stamford.

TRIUMPH, 1910, perfect condition, Lucas 50/- lamp, and spares; £33.—6, Weatheroak Rd., Sparkhill, Birmingham.

1911 Bradbury, free engine, very little used; 43 guineas, near offer considered.—Callington, Spa Villa, Hinckley.

1911 Clutch Triumph, done 500 miles, £50; another D.D. engine, £46; both perfect.—Hazel Smith, Leamington Spa.

MOTOSACOCHE, 1909, accumulator, good going order, tyres equal new; £10.—3, Wellingborough Rd., Northampton.

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1911 Scott, lamp, horn, Cowey, only run 600 miles, perfect condition; £52.—Box 8,274, The Motor Cycle Offices, Coventry.

VINDEE Special, 5-7 h.p., first-rate order, goes best with sidecar, or good weight, non-skids; £25.—Skinner, Bank, Sleaford.

TRIUMPH, 1911, Tourist Trophy roadster, quite new, lamp, etc.; £45, near offer.—Box No. 8,252, The Motor Cycle Offices, Coventry.

DOUGLAS 1910; excellent condition throughout; approval arranged; great bargain, 25 guineas.—Morris, photographer, Beane.

TRIUMPH, 1908, recently overhauled, splendid condition, lamp and spares; £27.—Box 8,273, The Motor Cycle Offices, Coventry.

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1911 2 h.p. Humber Lightweight, 2 months old, Palmer tyres, no fault; £33, or nearest offer.—Box No. 7,749, The Motor Cycle Offices, Coventry.

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DOUGLAS 2 1/2 h.p. Twin (1910), good condition, lamp, and everything complete for the road; £27, or nearest offer.—Apply, Guzzwell, 43, Duke St., Grimsby.

MOTOSACOCHE, 1911, 2 1/2 h.p., free engine, not ridden 20 miles; owner leaving country; cost £38, take £30.—Box 8,263, The Motor Cycle Offices, Coventry.

F.N., 4-cyl., magneto, spring forks, central intake, h.b.c., excellent condition, not changed hands since new; lowest cash £18, bargain.—Willerton, Holbeach.

2 1/2 h.p. 1908 Rex Lightweight, magneto, 1910 B. and 2 B. carburettor, new Dunlop studded tyre, engine re-bushed, excellent condition; £14/10.—P. Wilcox, Dyke Bourne.

MINERVA, 4 1/2 h.p., magneto, Roc free engine, 2 speeds, h.b.c., automatic lubrication, perfect condition; any trial. £28.—95, Tintern Rd., Witton, Birmingham.

TRIUMPHS, 1910, special P.T., spare cylinder, wheels, handle-bars, etc., 39 guineas; Triumph gradua, 45 guineas; both overhauled recently; genuine bargains.—Full details Roy Walker, New Hudsons, Birmingham.

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We have secured a fine consignment of Moto-Reves, some being brand new. All have magnetos and handle-bar control.

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1910-11 2 1/2 h.p. Twin, done 100 miles	£26 0
1911 Single-cylinder, record machine	£22 0
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3 1/2 h.p., 1910, with 1911 spring forks	£35 0
3 1/2 h.p., 1910, black finish	£32 0
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3 1/2 h.p., 1909, Tourist, very good	£28 0
3 h.p., 1908, Featherweight magneto	£18 0

TWIN-CYLINDER REXES.

5-6 h.p. 1909 two-speed de Luxe	£36 0
or with sidecar attached	£39 10
7 h.p. de Luxe, two speeds, M.O.V.	£43 0
5-6 h.p., 1908, two-speed, and sidecar	£32 0
5-6 h.p., special model, 1909, magneto	£27 10
5-6 h.p. de Luxe, clutch model	£24 0
5-6 h.p., two speeds and free engine, Bosch	£28 0
5-6 h.p. de Luxe, 1908, two-speed model	£28 0
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5-6 h.p., 1908, two-speed de Luxe, 1909 engine	£32 0
5-6 h.p., 1907, Tourist, Bosch magneto	£21 0
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5 h.p. Twin, Bosch magneto	£19 0
1908 Lightweight, oscd magneto	£17 0

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3 1/2 h.p. 1910 Clutch Triumph, very fine	£45 0
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3 h.p. Triumph, M.O.V., very good	£18 0
3 1/2 h.p. Fafnir, M.O.V., grand goer	£12 0

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5-6 h.p. Clutch Model Rex and new sidecar ..	£29 0
5-6 h.p. 2-speed 1908 Rex and Sidecar	£33 0
One ditto	£32 0
7-9 h.p. two-speed Rex and Sidecar	£53 0

All fitted with Magneto and Spring Forks.

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1908 N.S.U. Lightweight, Bosch magneto ..	£17 0
3 h.p. Triumph, M.O.V., 26 in. wheels	£18 0
1908 Magneto Rex, low and smart	£18 0
5-6 h.p. Twin Rex, Bosch magneto	£21 0

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6 1/2 h.p. Peugeot Cat, two-seater	£35 0
5 1/2-6 1/2 h.p. Rexette, two speeds, a beauty	£24 0
One ditto, re-varnished	£20 0
6 h.p. Rover Tricar, good goer	£17 0

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Rigid Sidecar, 26 in. wheel	50/-
Farrar's Sidecar, 26 in. wheel	£4 0
Coronet Sidecar, coach-built	£4 17 6
F.R.S. Lamp, mirror back	12/6
Bosch Magneto for V twin	£3 15
Bosch Magneto for 3 1/2 h.p. single	£3 5
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EAGLES.—Douglas 2½ h.p. Twin, late 1910, had little use, nearly new; £28/10.

EAGLES.—N.S.U., 3½ h.p., 1908, magneto, spring forks, B. and B. carburetter, fine condition; £18/10.

EAGLES.—Rex de Luxe, 5½ h.p. twin, 1910, Bosch magneto, cantilever seat, 2 speeds, free engine, Millford sidecar; £42/10; any trial.

EAGLES.—Motosacoeche Lightweight, Hellesten ignition, Whittle belt, fine condition; £11/10.

EAGLES.—N.S.U., 3½ h.p., magneto, spring forks, h.b.c., excellent condition; £19/10.

EAGLES.—Minerva, B.S.A., 2½ h.p., m.o.v., spring forks, adjustable pulley, h.b.c.; £11/10.

EAGLES.—Minerva, 3½ h.p., m.o.v., magneto, adjustable pulley, h.b.c., very low built; £16/10.

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24 h.p. 1908 F.N. throughout, tyres as new, all spares and lamp, horn, generator, etc.; £16.—Below.

32 h.p. Vindec, 1908, Truffaut forks, splendid condition, ready for the road, lamp, horn, generator, etc.; £20.—Below.

42 h.p. Noble Tricar, coach-built forecar, painted French grey, 4 speeds, splendid condition, all spares and tools; £18.—Below.

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32 h.p. N.S.U., magneto, good going order; only £15.—Chriss, Mytchett, Frimley Green, Surrey.

BAT, 3½ h.p., Palmer and Clincher tyre, magneto; price £18, or offer—145, Sydenham Rd., Sydenham.

14 h.p. Light Motor Bicycle, Michelin tyres; £4, or exchange push bike.—73, High St., Caterham.

1911 Motosacoeche, 2½ h.p., only been 50 miles, Whittle belt; £30.—Boyle, 23, Grand Parade, Highgate.

RALEIGH, 3½ h.p. Fafnir, excellent condition, tyres good; £12.—Rose, Atlas Works, Hayes, Middlesex.

MINERVA, 2½ h.p., wants accumulator and small repairs; £35.—46, Aeneas Rd., St. John's Wood.

32 h.p. Minerva, Chater-Lea, Brown and Barlow, sidecar, brand new Continental tyres, death of owner; exceptional bargain, £16.—40, Egremont Place, Brighton.

£16.—Kerry, 3½ h.p., magneto, h.b.c., perfect running order, new tyres.—Clark, 3, Artillery Rd., Guildford.

CLEMENT Lightweight, 1911, B. and B., petrol and oil gauges, low, perfect; £9.—357, High Rd., Ilford.

£7/15, bargain.—2½ h.p. Kerry, fine order, new tyre, splendid condition.—134, Highgate Rd., Kentish Town.

1907 Triumph, 1911 improvements, enamelling, plating as new, perfect; £25.—Clifton, Cudham, Kent.

HUMBER, 1911 model, 3½ h.p., magneto, 2 speeds, Druids, like new; £38/10.—36, Skelbrook St., Earlsfield.

24 h.p. Douglas, 1911 model D, not run 100 miles, £4 condition new; £36.—Budd, 10, Hazelmere Rd., Kilburn.

24 h.p. Minerva, m.o.v., B. and B. carburetter, h.b.c.; £27/15.—Yarley, 7, New St. Cottages, Wilton Rd., Victoria.

DOUGLAS, 1910, run 2,500 miles, splendidly equipped, perfect condition.—R., 73, Birkbeck Rd., Enfield.

MOTOSACOCHE, fine condition, 2 belts, horn, lamp; trial; sacrifice. £14/10.—Singleton, 1, Besley St., Streatham.

REX Twin, 6 h.p., Bosch, 1910, 2-speed, Amac, all as new; £26; after 7 o'clock—68, Leigham Vale, Streatham.

DOUGLAS, single geared, late 1910, engine better than new, spares; £28.—Taylor 19, Clifton Rd., Wallington.

5 h.p. Twin Antoine-Chater, spring forks, h.b.c., long bars spares; £15.—138, Revelstoke Rd., Southfields.

32 h.p. Minerva, B. and B., h.b.c., good tyres, accumulator, low, fast, reliable; £15.—34, Balfour Rd., Ilford.

CHATER-LEA-PEUGEOT, 3½ h.p., 1910, magneto, Amac, h.b.c.; £21.—70, Evering Rd., Stoke Newington.

32 h.p. Ariel-Swift, 1910, just overhauled, perfect condition, tyres new; £25.—Owen, 7, Belsize Grove, Hampstead.

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WE DO NOT offer you a 1910 (so-called) model, fitted possibly with an experimental spring fork, etc., which the makers have now discarded; or a 1910 machine with a few of this year's improvements. BUT the machines we shall offer are the very latest 1911 models, and carrying

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LATEST MODEL 3½ h.p.

1911 ARIEL

with Decompressor and Spring Seat,

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MOTOR BICYCLES FOR SALE.

F.N., 2½ h.p. 2-speed, 1911 model, practically new; £36.—N. Motor Agency, 106, Great Portland St., London.

REX, 3½ h.p., good running order, trembler footboards, new back tyre and belt; £8.—Seen 19, Montague Rd., Craydon.

MINERVA, 4½ h.p. twin, new Roms, accessories, speedometer, extremely low; nearest £18.—47, Burnt Ash Hill, Lee.

DOUGLAS, 1911, ridden 630 miles, Jones speedometer, valve, spares, etc.; £34.—Brewer, 14, Goldstone Villas, Hove.

42 h.p. Bat, splendid condition, very fast, tyres and belt as new; £15, or near offer.—Allman, Rusper Rd., Horsham.

BAT, 8 h.p., 1911, J.A.P. engine, spring frame, Roms, Chater sidecar; £52/10.—50, Manor Rd., Brockley, S.E.

TRIUMPH, 1910, 3½ h.p., Mahon clutch, and sidecar; £40, no offers; appointment.—Lafferty, 7, Vale Terrace, Chelsea.

£20.—N.S.U., 3½ h.p., winner in five reliability trials, condition perfect, suit novice.—166, Chapter Rd., Willesden Green.

KERRY-ABINGDON, 1911, 3½ h.p., splendid condition; £27.—Beaumont, 32, Stapleton Hall Rd., Crouch Hill, N.

1911 Free Engine Triumph, two months old, with fittings, spares; £46, no offers.—Aldridge, Juu., Valtham Abbey.

MOTOSACOCHE, 1909, magneto, Whittle belt, perfect condition; £17.—Slampson, 6, Battersea Rise, Clapham Junction.

24 h.p. Kelecom, good running order, Shamrock belt, Palmer, Bates tyres; £9.—34, Lea Hall Rd., Lea Bridge Rd., Leyton.

TRIUMPH, 3½ h.p., magneto, 1908, excellent condition; bargain, £27, or offers.—Tobaccoist, 66, High St., Kingston.

TRIUMPHS.—1911 Free Engine Models now in stock; £55.—F. Spearman, Motor Wks., Bridge St., Bishop's Stortford.

1911 Free Engine Triumph, just delivered, not scratched; £55; will ride 50 miles to facilitate delivery if required.

12 h.p. Motosacoeche, accumulator, free engine, very good condition; £15.

1911 Singer Moto Velo, in good condition; £20, or near offer.—L. R. Tippins and Son, Triumph agents, Mistley, Essex.

WANDSWORTH—Fairy Lightweight, 1909, 2½ h.p., twin magneto, spring forks, beautiful order; bargain, £14/10.—Below.

WANDSWORTH—Griffon, Zedel engine, 3½ h.p., m.o.v., 1911, Bosch magneto, h.b.c., perfect; sacrifice, £12/15.—Below.

WANDSWORTH—Roc with sidecar, 5-6 h.p., twin magneto, 2 speeds, like new; cheap, £36.—Below.

WANDSWORTH—V.S., 1909 model, twin, magneto, Truffaut forks, h.b.c., splendid order; £23.—Below.

WANDSWORTH—F.N., late 1909, 5-6 h.p., 4 cys., magneto, spring forks, guaranteed as new; £28.—Below.

WANDSWORTH—N.S.U., late 1908, 3½ h.p., m.o.v., magneto, Gradua gear pulley, nice order; £17/10.—Below.

WANDSWORTH—Chater-Lea, 3½ h.p. M.M.C. engine, low position, very fast, reliable; cheap, £10/10.—Below.

WANDSWORTH—Griffon, 2½ h.p., m.o.v., extra machine; £11/10; exchanges.—Wandsworth Motor Exchange, Ebner St., Wandsworth.

TRIUMPH, 3½ h.p., 1909, splendid condition, tyres good, accessories, tools, spare belt; £30.—7, Circus Rd., St. John's Wood.

ORACLE Motor Cycle, about 3½ h.p., very good condition, fast, reliable; £12/10.—35, Manor Place, Amhurst Rd., Hackney.

MOTOSACOCHE, 1½ h.p., 1908, with spare accumulator, free engine, Whittle belt; £12.—P. Bounds, 33, Willesden Lane, N.W.

£10.—3½ h.p. Rover engine, Chater frame, variable pulley, h.b.c., splendid condition, many spares.—81, Chesham St., Walthamstow.

1911 P. and M., 3½ h.p., condition perfect; £52; appointment only.—Hooper, 56, Lavender Gardens, Clapham Junction, S.W.

24 h.p. Minerva, perfect running order, new tyres, brass tank; bargain, £6/10.—Martin, 14, Imperial Rd., Gillingham, Kent.

3 h.p. Kerry-Abingdon; £11, or exchange with cash for higher power magneto machine and sidecar.—Roberts, Oap Rd., Wimbledon.

1910 V.S., 2-speed, £31; 1911 Humber, 2-speed, month's use, £42; 1911 J.A.P., unused, £35.—84, Rodenburth Rd., Clapham.

TRIUMPH, 1911, standard, all usual spares, mud shields at rear, very little used, just like new; £41.—Weaver, Shamley Green, Surrey.

MOTOR BICYCLES FOR SALE

TOTTENHAM—Bradbury, 3½h.p., 1911, standard £48; clutch model, £54/10; 2-speed model, £55 delivery from stock.—Below.

TOTTENHAM—Triumph, 1911, clutch model, £55, standard, £48; delivery from stock.—Below.

TOTTENHAM—Rudge-Whitworth, 1911, clutch model £55; standard model; delivery from stock.—Below.

TOTTENHAM—Humber, 1911, 2-speed model; delivery from stock; £50.—Below.

TOTTENHAM—Triumph, 1911, standard model; delivery from stock; £48/15.

TOTTENHAM—Fafnir, 4½h.p., Simplex, new engine and magneto, Whittle, spring forks; £27/10.—Below.

TOTTENHAM—Kerry, 5h.p., twin, free engine, and coach-built sidecar; £20.—Below.

TOTTENHAM—Kerry, 5h.p., twin, Bosch magneto, rebored, rebushed, and new pistons fitted; £20.—Below.

TOTTENHAM—N.S.U., 5h.p., twin, Whittle, magneto, low built standard Chater-Lea, spring forks; £33.—Below.

TOTTENHAM—Rex, 1909, 5h.p., twin, tourist model, all as new; £28/10.—Below.

TOTTENHAM—Rex, 3½h.p., single-cyl., 1909, magneto, grand machine; £25.—Below.

TOTTENHAM—1910 Motococche, just overhauled by makers; £25.—Below.

TOTTENHAM—Triumph, 3½h.p., perfect order, with sidecar; £20.—Stamford Hill Motor Co., 128, High Rd., Tottenham. 'Pneue 1982.

3½h.p. Kelecon, m.o.v., new accumulator and belt, £2 tyres good; £8/10, or exchange piano. — W. Harris, 62, School Rd., Woking.

TRIUMPH, 1910, delivered February last, splendid condition, Powell-Hammer lamp; £44.—23, Kinmont Terrace, Willesden Junction.

BRADBURY, 2½h.p., splendid condition, just overhauled, spring forks, accessories; what offers? — White, 48, North Hill, Highgate.

SCOTT, 1910, excellent condition, owner taking delivery new Scott; trial, appointment; £37.—Enderwick, 43, Kellerton Rd., Lee, S.E.

LIGHTWEIGHTS. — New Enfield, as new, £29; Premier, 1911, as new, £30; exceptional bargains.—Lafferty, 7, Vale Terrace, Chelsea.

£14—3½h.p. Clarendon, in good running order, new tyres and tubes, engine just been overhauled.—167, Burdett Rd., Bow, London, E.

3½h.p. Minerva, with sidecar, free engine, 2-speed, £22 new cylinder, new tyres, perfect order; £20.—Batty, Lewes Rd., Newhaven, Sussex.

3½h.p. A.G. Motor Cycle, Longemare carburettor, low £22 position, perfect order; bargain, £28, or offer.—Harding, 98, Canal Rd., Mile End, E.

TRIUMPH, 1909, 3½h.p., standard model, in perfect condition, new rims, lamp, horn; £33.—Longley, Gifford Lodge, Grove Rd., Sudbury.

TRIUMPH, 1910, free engine, sidecar, and all accessories, perfect condition; £38/10.—Walker, Fairview, Woodstock Av., Golders Green.

CRIFTON-ZEDEL throughout, 3½h.p., m.o.v., very low perfect condition; sacrifice, £7/15.—33, Cadogan Terrace, Victoria Park, N.E.

2½h.p. Quadrant, good going order, B. and B., h.b.e., £22 new tyre on back, new belt; £5/18.—Mr. G. Gibbs, 88, Iverson Rd., W. Hampstead.

1911 Triumph, £50 Tourist model, everything as new, F.R.S. lamp and generator, tyres unpunctured.—Draper, Beresford Sq., Woolwich.

TRIUMPH, 1910, perfect condition, appearance as new; £37; Kempshall back. — H. Brown, 32, Girdlers Rd., Brook Green, London, W.

HUMBER, new May, 1910, 2-speed, free engine, condition like new, Cowey speedometer; must sell, £36.—Arondale, Bective Rd., Putney.

£30—1909 3½h.p. Bradbury, Druid spring forks, new tyres, lamp, horn, tools, etc.; callers after 5 o'clock.—J. Weston, 16, Compton Rd., Canonbury.

6h.p. Twin N.S.U., magneto, spring forks, Whittle, N.S.U. 2-speed gear, with rigid sidecar; £29/10, lower power part.—Sinclair, East Molesey.

2½h.p. Racing J.A.P., built April, accumulator, £17; £4 2½h.p. lightweight, new tyre and tube, rebushed, £7, exchange.—13, Maple Rd., Surbiton.

B.S.A.—Early deliveries of these splendid mounts from the Cripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

1½h.p. F.N. Lightweight, magneto, spring forks, tyres 14 perfect, engine new, horn, and tools; £14/10; write.—F., 11, West View, Highgate Hill, N.

TRIUMPH (September, 1909), A.S.L. seat pillar, lamp, and all accessories, been carefully used, condition as new; £35.—C., 130, Brixton Rd., S.W.

2½h.p. Kerry, just been overhauled, fast, and light, £4 new accumulator, new Palmer tyres; £14, or near offer.—Robinson, 21, Suffolk Rd., Dartford.

TRIUMPH T.T. Roadster, 1911, F.R.S. lamp, backrest, and whistle, Cowey, spare cover, watch, valve, etc.; £48.—47, Shooter's Hill Rd., Blackheath, S.E.



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MOTOR BICYCLES FOR SALE.

BARGAINS. — Rex, 3½h.p., magneto, good order £17/10; 2½h.p. F.N., low perfect order, £8/10 1½h.p. boy's Minerva, £4/4.—12, King St., Twickenham.

3½h.p. Triumph (1909), racing, just home from makers as good as 1911 model, £35; also 3½h.p. Singer magneto, £13.—Clifford Cant, Cliff Hotel, Felixstowe.

MOTOSACOCHE, magneto, spring forks, spring seat pillar, spare belts, etc., in first-class order; price 19 guineas.—Davenport, Vernon, Ltd., High Wycombe.

LOOK—I want £12 for one of the smallest machines on the road, do over 50, 3½h.p. Ariel engine, in perfect order, most comfortable.—Richard Jensen, Hereham.

LIGHTWEIGHT Humber, with accessories and spares, in perfect condition, new February last; price only £25.—E. Gibbs, 45, Heix Rd., Brixton Hill, S.W.

ZENITH Gradua, 1911 T.T., 3½h.p., new June, perfect condition; owner bought twin Zenith; first cheque £48 secures.—Fenton, 65, Upper Gloucester Place, London, W.

8½h.p. Centaur, magneto, Druid forks, h.b.e., splendid condition, new 26x2½ non-skids; £16; lightweight Douglas or F.N. in exchange.—Hall, 35, Upland Rd., Croydon.

1908 N.S.U., 3h.p., magneto, 1911 Brown-Barlow, new Continental on back, tools, lamp, horn, etc., splendid condition; £15.—Elliott, 19, Shakespeare Rd., Hanwell.

3½h.p. Chater No. 6, new this year, enamelled grey, £32 magneto, splendid condition; bargain, must sell, £24, no offers.—Broughton, Heston Rd., Spring Grove, Isleworth.

2½h.p. Royal Enfield, 1910 model, first-class condition, £24; 2½h.p. Motococche, 1910 engine, in good running order, £16; bargains.—Robins and Day, Rochester.

£17—Minerva, 3½h.p., in good condition, 1911 B. and B., spring forks, nearly new tyres and belt, light sidecar (trailer converted).—Anstey, Fire Station, Southwark, S.E.

IF You Want Bargains in second-hand motor cycles, you can get them at Wauchops.—Wauchops, 3, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

TRIUMPH, clutch model, new August 3rd, 1911, only ridden 100 miles; £45, cost £55, original receipt given. — Bat Motor Manufacturing Co., Peuge, London, S.E.

NYES, the specialists for quick sales; no charges; free fire and burglary insurances; apply for particulars, many testimonials.—138, Gray's Inn Rd. Tel.: 5299 Holborn.

2½h.p. Royal Enfield, 1911 model, 2-speed and free engine; 2½h.p. Douglas, Model D; 2h.p. Humber Lightweight; all new, immediate delivery.—Robins and Day, Rochester.

1911 Special 5h.p. London-Edinburgh clutch Rex, with handle starting; all accessories and spares; immediate cash £41, or with Millford, £45.—Frank, 38, Mortimer St., W.

MOTOSACOCHE, late 1910, 2h.p., spring forks, Whittle belt, free engine, extra wide mudguards, etc.; not ridden 600 miles; £23.—J.B.B., 35, Palmerston Rd., Forest Gate.

3h.p. Minerva, h.b.e., new back cover and tube, new Fuller accumulator and coil, absolutely first-class running order; only wants seeing; £12/12.—11, Church Rd., Brixton, S.W.

8-10h.p. J.A.P. type twin engine, m.o.v., with Bosch O.A.V. magneto, B. and B. carburettor, and silencer; £17/17.—H. Murray, 14, Alford Rd., Wandsworth Rd., London, N.W.

3½h.p. Brown, Druid spring forks, Brown and Barlow carburettor, h.b.e., accumulator ignition, Clincher tyres, perfect running order; £14.—C. Robb, Heath Rd., Harpenden, Herts.

2½h.p. Minerva-B.S.A., 1911 refinements, everything new, only ridden 2,000; write for particulars; appointment; sacrifice £12/10, no offers.—11, Groombridge Rd., South Hackney, N.E.

3½h.p. Scott, 1910, just overhauled, perfect condition throughout, 1911 forks fitted, also F.R.S. lamp, generator, watch, horn, tools, etc.; £42.—Everingham, 37, Auckland Rd., Ilford.

1909-10 6h.p. Vindex Special, as new, unspratched, new Palmer studded, 1911 B. and B., Whittle, Truffaut forks, etc.; cash needed; £28/10.—14, Bushey Rd., Harrington, Middlesex.

7h.p. Twin Chater-Peugeot, magneto, practically new, ideal sidecar machine; £33, decent accumulator machine taken in part payment.—B., 12, Shrubbery Villas, Bushey Rd., Sutton.

LADY'S 1911 3½h.p. Brough, excellent condition, just overhauled, winner of many competitions; £35, or near offer; having faster machine.—Miss Berend, 2, Almeida St., Highbury, London.

ROC 2-speed Gear, brand new rim, just overhauled by makers, perfect condition, to fit Triumph, £5/15; also nearly new sidecar, to fit Triumph, £4/10.—45, Clarendon Rd., Downham Rd., N.

ZENITH Gradua, 1911, 3½h.p., little used, good as new, complete with all accessories; £43, cost £54/12 three months ago; seen any time.—Dear, 58, Parkhill Rd., Haverstock Hill, N.W.

THE MOTOR CYCLE

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Sept. 7th, 1911.

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ADDRESS: 20, TUDOR STREET, LONDON, E.C.

Sociable or Tandem.

It is rather a strange coincidence that, despite the booming in some circles of the quadricycle type of vehicle, this pattern appears to hang fire a good deal. However, there are one or two experimenters at work, and in a few months we may see some results of their efforts in the form of new pattern runabouts which will be a welcome addition to those vehicles which are already running and in some cases giving satisfaction to their owners. The fact that such machines are being used on our roads, and the possibility of them becoming ere long keen competitors of the motor bicycle and sidecar, causes one to ponder on the advisability of making the seats of this type of vehicle side by side or tandem.

Every sidecar user knows that nothing tries his engine more than a strong head wind. The continual hard work the engine is subjected to calls for a big throttle opening, and the area of the sidecar, motor bicycle and passengers is considerable. In consequence the engine very often overheats rapidly, and if a stiff hill has to be taken after riding a considerable distance against a strong head wind the engine is very likely to fail. This is one of the disadvantages of sociable seats, and as a large amount of the wind surface is reduced by placing the driver behind the passenger, it is not improbable that on this question alone tandem seating may be finally adopted.

Everyone with a knowledge of motor cycles will agree that the ideal passenger motor cycle is one of low power and great simplicity; if it is made with sociable seats and a car type of body, it is almost essential to employ a powerful twin-cylinder motor cycle engine, owing to the weight and windage. We should not like to say that, because the windage is

reduced and seats placed tandemwise, all the designer's troubles in connection with this type of vehicle would be over, but we do say that, with tandem seats and a very light construction of framework and wheels, it might be possible to obtain excellent results with a 500 c.c. engine. If this were possible, with the aid of a good variable gear, a considerable saving would be made in tyres, belts, chains, etc., and although a machine of this type would not average very high speeds, it would be in many ways superior to the detachable pattern.

Our original arguments on this subject still hold good, viz., that the moment a powerful engine is fitted to a motor quadricycle type of vehicle, the framework, tyres, transmission, and other details require to be strengthened up until it is difficult to differentiate between vehicles of this type and a small motor car. The majority of motor cyclists have had very little experience of fast passenger work, and do not realise the cost of upkeep involved with a comparatively heavy passenger vehicle travelling at an average speed of twenty-five miles an hour, which is about the ideal sought for by those who favour this form of vehicle.

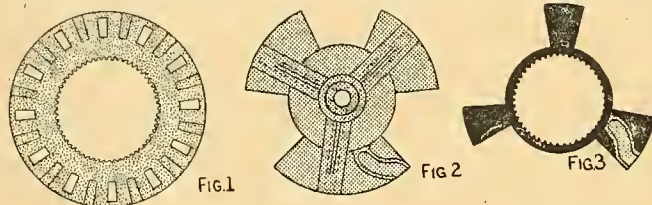
The old types of quadricycle were fitted with three-horse engines, geared 8 to 1, and averaged about eighteen miles an hour. Their total weight was just over 4 cwt., and their seats were placed tandem. Had they been sociable seats we are certain they would not have done as well as they did. Allowing for improvements in general construction, it is doubtful whether an up to date tandem quadricycle could be made very much lighter even with a single-cylinder 500 c.c. engine. The sociable seats have great advantages in other ways, but can the vehicle be made and sold at a moderate price?

Why not a Vapour-driven Machine?

THE little four-wheeler described and illustrated on this and the following page is one in which the designer is attempting to obtain the silent running and flexibility of the steam-driven car in a light vehicle built on motor cycle lines. It will perhaps be well to state at the outset that the machine is being built, and that the power plant has already seen several years service in a launch. The latter is not an untried experiment, nor is it a mere idea existing only on paper. I mention this advisedly, since everyone to whom I have described the engine have had their doubts that it will work, others have expressed their conservatism by avowing that they would prefer to sit on a barrel of dynamite at a fifth of November celebration. This is probably the view many motor cyclists will take when they learn that the power is derived from vapour made by boiling petrol in a flash-point boiler, and using the gas expansively, instead of by internal combustion, as in the petrol engine with which we are so familiar. Hence it is necessary to state that these engines were so popular in American

and identical in every way with the one I am about to describe.

Built by the Marine Vapour Engine Co., of Jersey City, U.S., this engine develops 7 h.p. under normal

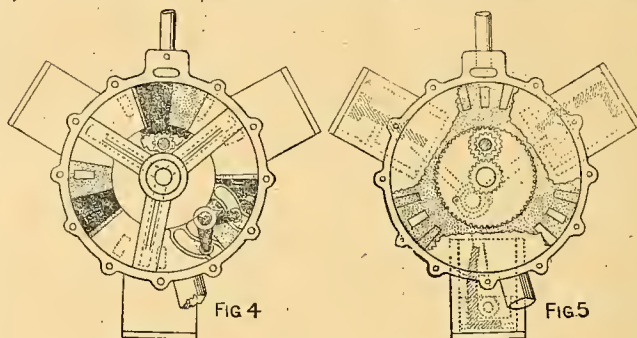


launches that one firm alone—the Gas Engine Power Co., of Morris Heights, New York—have built thousands during the past fifteen years, and so safe are they considered that their owners are not required by law to engage a qualified engineer, as is the case when steam is used.

Expansion versus Explosion.

The internal combustion engine has largely taken their place owing to its greater power for weight, but there are now to be seen many of these boats still doing good service, while younger sisters engined by internal combustion motors have been scrapped as worn out.

I have a photograph in my possession taken from an American yachting paper some fifteen years old, which depicts a motor boat race in those days, and the five power craft shown are all equipped with this type of engine. Further, one may often see a launch of this type in the Solent whenever any of the older American steam yachts, which carry them as tenders, are in the vicinity. The German Emperor, the late Khedive of Egypt, and Prince William of Wied were among the many yachtsmen on this side of the Atlantic who have owned this type of launch, while for several years the late President Cleveland used a launch which was equipped with an engine made by the same firm



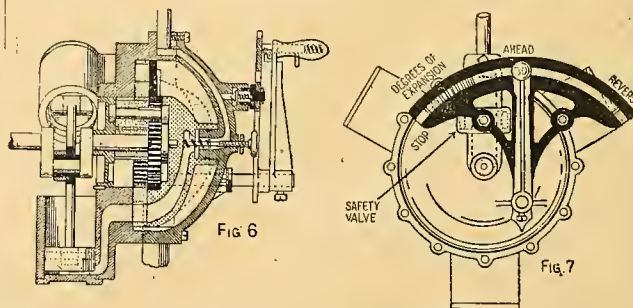
conditions, but for short spurts it is possible, by increasing the pressure, to obtain something like 10 h.p.

Although apparently very complicated, it is really very simple in action, and a few minutes' study of the accompanying drawings will show this to be the case.

Details of the Engine Mechanism.

The three cylinders are arranged at an angle of 120 degrees apart, with the three connecting rods working upon one crank, but its greatest feature is the valve motion. The valve (fig. 1) is an annular disc, with twelve admission and twelve exhaust ports, the disc being so geared that it is made to revolve once to twelve revolutions of the crankshaft, thereby eliminating friction to a greater degree than is possible with the usual type of steam slide valve.

The riding cut-off valve (fig. 2) admits of expanding the vapour to any extent, and a forked shaft controls it, and the reversing rack (fig. 3) through the medium of rollers and cams (see fig. 4). When the motor is running ahead with the lever at the point of greatest

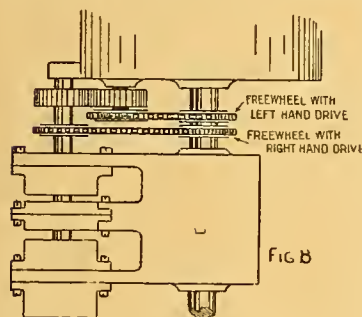


expansion, and the lever is then moved quickly to the reverse position, the cut-off valve (fig. 2) is brought to a point which gives admission of the vapour the whole length of the stroke before the moving valve

Why not a Vapour-driven Machine?—

mechanism is influenced at all. This overcomes to some extent the dead centre effect. The boiler, as originally equipped, is very small, and consists chiefly of a single coil of steel tubing, but the owner, who, by the way, is not the writer of this article, contemplates using an even smaller affair with four coils of tubing which will be hydraulically tested to 1,200-lbs. per square inch, which, with a working pressure of 200 lbs., should guarantee safety at this point.

The boiler will hold about six pints, and will be automatically fed by a drum pump, which will be



driven from a counter-shaft embodied in the gear box casing. Another pump feeds the burner with cheap grade petrol or a mixture of petrol and petroleum, which will be carried in a tank at the rear. A third pump will return the petrol to its welded

tank beneath the machine, while a fourth will give a strong blast of air to the burner. For starting, and as a stand-by when the engine is not working, an auxiliary burner with hand pump will be used. A few strokes of this pump is all that has been found necessary, and it is possible to get under way within two or three minutes from cold.

The condenser will be placed beneath the chassis, and will consist of steel tubing with radiating outer surface, while the funnel will be a long pipe running along the off side of the machine, turning in and under the frame work to discharge clear of the wheels. This pipe will not be of the dimensions shown in the drawing, but much smaller, and enclosed is a light tube lined with asbestos.

A final word or so regarding the power plant. Safety valves are fitted both on engine and boiler, discharging into the exhaust. These valves will be set at 250 lbs., and should a leak occur within the generator the vapour will burn like an ordinary gas jet, hence danger at this point does not exist.

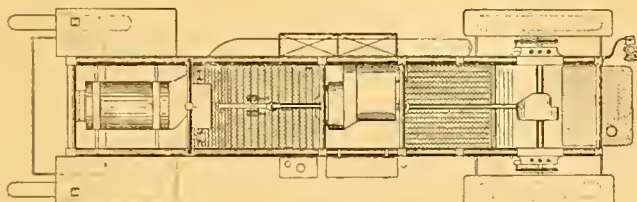
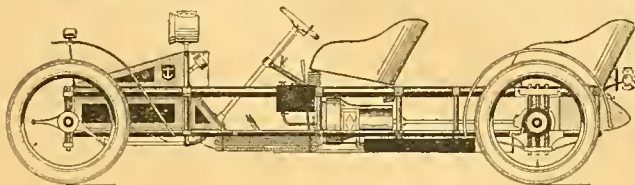
The entire power plant, including gear box and differential, is estimated to weigh about 300 lbs.

General Design of Chassis.

With regard to the machine in general, the drawings are sufficiently clear to need little description. The chassis, being built of steel tubing, will be left open as shown in the drawing, no body work being employed for two reasons; to save weight and because the owner desires a motor cycle type of vehicle and not a car in miniature. Two bucket seats will be fitted, the front one being carried on four coil springs and the rear seat on two.

All four wheels are sprung, and the steering will be effected by means of a drum on a horizontal shaft, which will be connected to the steering column by a short flexible shaft. The gear box contains a variable gear, drum brake, and reverse, but the latter will not be connected up in view of the fact that the engine is of the reversing type.

The oil tank and pump will be carried outside and on the left side of the chassis, while behind it a tool bag will be located. On the right side of the machine a carrier will be fitted on the lower framework. Three inch tyres will be fitted, and the dashboard will carry the auxiliary burner tank and pump, and the accumulator for the two small swing lamps on the mudguards, all enclosed in a case, on either side of which will be a speedometer and a pressure gauge. Forward of this case will be the generator for the head light, which will be on a revolving stand and connected to the steering-shaft by means of Bowden wires, so that the



The complete design of vapour-driven quad with tandem seats.

rays will illuminate the course of the machine in round corners as in the case of a single tracker [This form of searchlight lamp, though desirable for many reasons, is not legal in Great Britain.—ED.]

Two hand brakes will be fitted to the rear wheels, which, like the drum brake on the cardan-shaft, will be controlled by pedals. The engine control lever will be carried to the steering wheel, while two levers or the diagonal connecting tube will control the burner and exhaust valve.

Such is the design as at present laid out, but no doubt many alterations will be found necessary when the machine is assembled.

SPES.

THE MICHELIN GUIDE.

Most of our readers who have travelled abroad have learnt to appreciate to the full that most excellent little work, the "Guide Michelin," the information contained in which is full, reliable, and of the greatest utility. It is with pleasure, therefore, that we have to record that a "Michelin Guide to the British Isles" has now been issued, price sixpence. The excellent system preserved in the Continental publications of the Michelin Company has been followed in the British guide. The book contains hints on tyre management, which is then followed by a most useful list of circular trips in the most interesting portions of England, Wales, Scotland, and Ireland. Next follows an alphabetical list of towns, with exits, routes, and distances. A small wheel placed near the name of a town indicates that Michelin tyre stockists are to be found in this place. The method of denoting the style of hotels is a good one. A small map, in which the streets are numbered clearly, denotes the way through the town. At the end of the book is an atlas of great utility.

THE 1912 T.T. RACES.

WILL THEY BE HELD?

WE have already mentioned that manufacturers have had under consideration the question of supporting or boycotting the Tourist Trophy Motor Cycle Race as held under present A.C.U. regulations on the four-inch course in the Isle of Man.

This is not a trade journal, and it is not our practice to argue trade points until they have been deliberated in the trade councils and the industry has come to some definite conclusion respecting them, but as riders are particularly interested in the T.T. Races, we feel bound to discuss the situation as it develops. Therefore, in the event of the Isle of Man races being quashed, it will be advisable, perhaps, to suggest alternatives and point out whether the Isle of Man event or an alternative competition would be more advantageous to motor-cyclists.

Reasons for Dissatisfaction.

We gather that a good deal of dissatisfaction in connection with the Isle of Man races has arisen in certain quarters due to the number of accidents that have occurred in the past, the expense of holding the races, and the fact that the events are not won on standard machines which can be supplied to the public, and in many instances accessories such as tyres and other details are employed which are equally unobtainable by the general body of riders. There is a certain element of truth in this, and it has occurred to us that in the event of the A.C.U. being sufficiently persuaded and influenced not to hold the race, and provided it is not participated in by the bulk of the industry, it is advisable to look around for alternatives to keep up the interest in what the trade must recognise as an incentive to the purchase of motor cycles and a means of improving their general efficiency.

Quite early in the history of the Tourist Trophy Races it was suggested in this journal that, in connection with the difficulty of the selection of what was a standard touring mount, a committee of the governing body should select a machine from a manufacturer's stock which should be sealed and not used until the day of the race. It has also been suggested in these pages that, in the event of the Isle of Man authorities refusing permission to hold the race, it might reasonably be held on Brooklands Track. Of course, the same conditions would hardly be in evidence, owing to the absence of hills and corners at Brooklands, but if the desire of the promoters of the T.T. Race is to test motor cycles and their engines to the limit of destruction there are very few better places than Brooklands on which to do it. A good deal of the sporting element in corner work, hill-climbing, etc., would be eliminated, but the race would be better than nothing.

Roadster Models of Standard Make.

With regard to the selection of roadster models of standard make, this again presents difficulties. Those

who legislate for the industry hardly appear to realise in this connection that there is a process known as "tuning." A committee might select an absolutely standard machine, and unless it was placed under lock and key and carefully guarded until the day of the competition it might be transformed very easily into a semi-racer by any expert rider who was accustomed to making those little adjustments which are essential to high speed and power. We cannot help thinking that to some extent the industry is making an error in its desire to eliminate the T.T. Races from its programme. Of course, we are referring here to the majority who are not in favour of any race. Possibly they imagine that we have practically reached finality, but we do not agree with them.

It is generally conceded that the T.T. racer of to-day possesses features which are embodied eventually in the flexible roadster of a year or two later. This is true to a limited extent. A real racer possesses features which must be modified to some extent before they can be embodied in a comfortable and easily controlled roadster; but the mere efficiency of the engine fitted to this type of machine is often so attractive that it is purchased in preference to heavier machines of possibly a more comfortable and flexible type. That being the case, there is, of course, more *raison d'être* for the race than appears at first sight. The experiences gained by manufacturers in the races in one way and another enable them to take the coarseness out of the running of the racing machine without very much impairing the all-round power efficiency of the engine.

Will the Races be held?

Our article must not be taken as conclusive proof that the race will not be held, because in all probability, if the A.C.U. is sufficiently influenced to withdraw from the Isle of Man event, the race may be held by another organisation. It is almost certain that sufficient support would be forthcoming from amateur riders to ensure the success of a race, whether it be held in the Isle of Man or at Brooklands. In the meantime we must ask our readers to bear in mind that no definite decision has been arrived at.

To stop all forms of racing leads to stagnation of design, and the industry would fall to the level of a sordid manufacturing ideal, which could only be likened to the production of sewing machines or some similar article of commerce—a humdrum, wearying output of goods on the Transatlantic principle, which may be money-earning, but is not calculated to keep this country in the forefront of progress: a position it now holds, and which we hope it will retain.

What has placed the British motor industry in its premier position is nothing more or less than first-class reliable workmanship, assisted by competitions such as the T.T. races, the 1,000 miles trials, and other events.

MILITARY Motor Cycling

By "CELEBRITER"



Pudney R. Jones

NOTES

THOSE motor cyclists who attended the Army Manœuvres in years past as despatch carriers and generals' orderlies are beginning to wonder whether there will again this year be an opportunity of combining a delightful holiday together with military instruction during September. It will be remembered that in these pages an earnest appeal was made to all civilian motor cyclists to refrain from again offering their services to the military authorities until such time as the latter saw fit to provide a suitable organisation for creating a volunteer motor cycle corps. Already two committees have had this matter under consideration. The one appointed by the A.C.U. forwarded a report more than a year ago to the War Office, of which no notice has since been taken; whilst the other committee, appointed by the War Office, has done little.

A Deadlock.

The result has been a deadlock, and in the meanwhile it has been decided not to hold the Army Manœuvres in Cambridgeshire on account of the drought, and civilian motor cyclists will not be invited to take part in whatever manœuvres may be held. During the past year several motor cyclists have been added to the establishment of Royal Engineer units, and also many officers in the regular Army have taken up the motor cycle pastime. It is believed that the military authorities are fondly relying upon these two sources to supply them with such motor cyclists as they may require pending the formation of a volunteer motor cyclist corps. On paper this sounds a very feasible idea—in fact, just the sort of idea which would be likely to commend itself to the theorists of Whitehall—but in practice, as every practical motor cyclist will realise, especially if he has had much to do with motor cycle amateurs, the idea is absurd. To the theorist, a motor cyclist, no matter what the experience of the rider or the make of his machine, is a man-machine capable of averaging thirty miles an hour over any roads, under any weather conditions. We civilian motor cyclists are responsible for having inculcated that opinion into the minds of the General Staff. We have sent them our best riders mounted on their best machines, each one of whom was not only deadly keen to excel in the work he undertook, but each one of whom was extremely well equipped in the matter of experience, knowledge, and ingenuity to undertake the work that falls to a motor cyclist at army manœuvres.

The motor cyclists who have lately been incorporated in the Royal Engineers are doubtless good all-round mechanics, but so far as motor cycling is concerned they cannot be compared with the expert enthusiasts who have volunteered for this work in the past; whilst as regards the officers who, having become possessed of a motor cycle during the past twelve months, are now willing to come out and help the General Staff on manœuvres, there are few who would be likely to shine in a reliability test.

Despatch Carrying.

In despatch carrying for military purposes, you not only require the very best kind of man and the very best and most suitable kind of machine, but it is essential to have a man who has every reason to place implicit confidence in himself and in his machine.

The ordinary motor cyclist is usually content and more or less

competent to tootle along the main roads at twenty miles an hour, stopping at a repair shop when adjustments are to be made or at the nearest hostelry when the weather becomes inclement or night supervenes. For this purpose, a lightweight machine in fair running order is all that is required, but that is not the sort of mount that is suitable for the orderly who has to "puff" for a general at army manœuvres. *Imprimis*, he has to carry all he wants for the duration of the manœuvres on his mount; he has to traverse roads which are not only blocked with troops, but which have been cut to pieces by the transit of army transport waggons and traction engines. More usually his journeys have to be accomplished at night, and it is seldom that he has an opportunity of getting on to a high road. What he requires is a high-powered two-speed mount with a free engine which is both fool-proof and weather-proof. If he is wise, he will carry all his spares with him, and he must know how to replace them himself, as repair shops are infrequent in the track of an army, and even when one is found it is liable to fall into the hands of the enemy. Personally—and I speak with considerable experience—I believe that the motor cyclist who goes through army manœuvres without a breakdown has qualified for a first place in the most stringent reliability test that man's ingenuity could contrive, and it is no aspersion on the motor cycling knowledge and capacity of the average R.E. or subaltern when I say that very few of them are fit to enter for such a test.

Will the Authorities take notice?

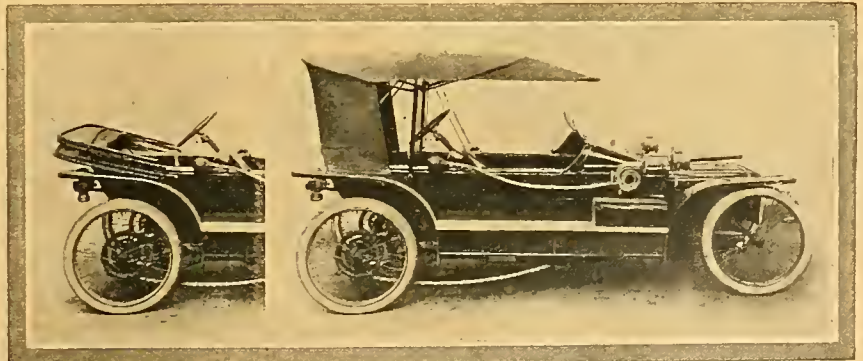
Let us hope that the authorities will realise these considerations as facts, and that during the winter they will in earnest take up the matter of forming a motor cycle corps of experts. Among the various suggestions already offered to the War Office in this connection the three following schemes appear to be the most practicable, and it is probable that at least one of them, if not all three, will be adopted.

(1.) One officer and seventeen motor cyclists added to the establishment of each of the thirteen authorised cyclist battalions.

(2.) Two officers and forty motor cyclists to be attached to the headquarters of each of the fourteen Territorial divisions.

(3.) Twenty groups of motor cyclists, each consisting of one officer and twenty men armed with Rexer automatic rifles (250 rounds a minute) for coast defence in case of war, and for staff duty on manœuvres.

In each instance it is suggested that the men should be attached for drill purposes to the Territorial unit nearest to their homes in order to enable them to learn the first rudiments of military knowledge.



A CRESCENT RUNABOUT fitted with the Astill patent easily-folding hood. The maker of the machine demonstrated to us a few days ago the ease with which the hood may be opened and closed without leaving one's seat.

Occasional Comments *by "Iron"*



Garage Assistance in the Six Days'.

The weirdest incident of the Six Days' was the close discussion between the officials as to whether C. T. Newsome should receive a gold medal, seeing that, though he finished with full marks for reliability and hill-climbing, his machine had a broken front brake wire at the last check.

Surely the officials are aware that the "parcel scandal" was as much in evidence as ever. Many men rode for a day or two minus some fitting quite as vital as a brake wire, and receiving a replacement from the factory, fitted it during the concluding stages, and scored full marks for bringing their machines to the finish "in good condition." As Mr. Merrall mentioned in our issue of August 31, one machine had nearly every spoke broken in the back wheel, and is described as being "in good condition" in Mr. Sharp's report. (N.B.—I do not blame either machine or rider, as the men should have been warned to climb some of the rough hills slowly.)

Another rider broke his stand, and exchanged stands with a private owner he met on the road; the report read, "Machine in good condition." For this the officials need not be criticised, as they were unaware of it; an extension of the "sealing" is their sole safeguard here.

Here is another graver item. Many men removed portions of their machines before entering the Harrogate garage at night, and then visited a repair shop, a plumber, etc., during the evening. A garage close to the hotel was literally crowded with competitors one evening.

Another man broke vital parts, made measurements with bits of string and wire, had new parts made at a repairer's during the evening and fitted them next morning. While admitting that the officials cannot watch all the garages along the route, I think they might stop the influx of parcels another year; and I think they might keep an eye on the garages near headquarters; also, they might compel competitors to leave their overalls, spare belts, tubes, etc., in the locked garage at night.

Perhaps the motor cycle has reached a stage when it is possible to seal the toolbags, and to do away with the half-hour for "adjustments" each morning. If such rules are a shade too stringent for present development, they could be applied and temporarily eased by a brief return to the old system under which a rider could lose a small percentage of marks and yet receive a gold medal. This would show up the performances in more accurate colours, without unduly penalising small adjustments.

When the official awards are out, competitors begin to unseal their lips; and I have heard many sensational items since the medals were allotted. But it is only fair to add that the great majority of the gold medal winners got through without trouble and without infringing the rules.

Overheating or Overloading? A Curious Phenomenon.

On August 24th I described an experience with a overhead inlet valve. The tappet and rocker had worn down a trifle so that the valve opened late and closed early, the spring being too strong to permit the valve to function automatically, independently of the tappet action. Loss of power naturally resulted, accompanied by abnormal engine heat. A week later one of my most precise readers objected to my use of the word "overheating" in describing the behaviour of the engine. Almost simultaneously I notice a report by Mr. B. H. Davies of a somewhat similar trouble with an engine of a different make, when he was climbing Keighley Gate in the Six Days. In his case the tappet adjuster nut shook loose, and reduced his inlet valve "drop" to $\frac{3}{32}$ in. Like myself, he suffered from loss of power, but no heating accompanied it. In fact, he goes so far as to say that after he had climbed the hill on the instalment system, running alongside for much of the ascent, his engine was almost stone cold. I instantly verified the diverse results on my own engine. If my inlet valve is adjusted with a slightly excessive gap at the tappet and rocker; I get loss of power plus a hot engine; if the gap is made so excessive that the valve hardly opens at all; I get loss of power plus a very chilly engine. The real trouble in both cases is no doubt correctly described as "overloading."

Which is the Stiffest Trial?

A discussion has been raging amongst the leading competition riders as to which six days' trial has proved the most severe on record. I have been exchanging views with a number of the riders, and with pressmen and others who have attended all the recent events, and their almost unanimous opinion places the trials in the following order of severity:

1. The Scottish Trials of 1910.
2. The Scottish Trials of 1911.
3. The A.C.U. Harrogate Trials of 1911.

Last year's Scottish Trials are considered to have combined the greatest amount of severe hill-climbing with the worst surfaces on record. Such hills as Glendoe, Cairnwell, Cockbridge, and Amulree were notably worse than any of the Yorkshire acclivities, while the surfaces were notoriously execrable. The 1911 Scottish Trials were probably inferior to the Harrogate Trials, so far as the compulsory hills were concerned, but on several days the going was simply dreadful from start to finish, a rare combination of grease and rough roads being provided.

In the Harrogate Trials there was a record quantity of hill-climbing, but not one of the hills exhibited that conjunction of phenomenal gradient and unique cornering which is calculated to unseat a first class rider on a first class variably geared machine, while there was not one mile of grease in the entire trial. Had the weather been bad in the A.C.U. Trial it could probably have taken first place for severity.

A COMFORTABLE LOW-BUILT SIDECAR.

THE accompanying illustrations are of an interesting sidecar attachment of registered design, submitted to us by Mr. W. S. Turner, Wyncolm, Streetly, near Birmingham. The shape of the low-built sidecar is distinctly original, and its uncommon appearance attached to an equally low-built four-cylinder three-speed T.A.C. attracts much attention.

We are told—and we can readily believe—that the attachment is perfectly weather and wind proof with its covered in canoe-like front, and the sitting position is recumbent like a modern two-seated car. The screen and top lift up for the entrance. Being long and low it gives the minimum of wind resistance. Since the photographs were taken a hood has been added and the passenger is kept cosy and dry, even if rain is pouring in torrents.

The sidecar has undoubtedly come to stay, but so far comparatively few makers have launched out on original lines. There is no reason why every sidecar should not be handsome in appearance as our illustrations testify.



Mr. W. S. Turner's registered design sidecar.

THE SPIDER QUAD.

FOR more than four months I have owned and driven a light air-cooled quadcar, and in my opinion it is perfectly practicable, and is no more limited in its scope than a motor bicycle and sidecar. The machine I have weighs about 5 cwt., and cost about £95. As regards comfort it takes precedence of a bicycle and sidecar, as anyone who has driven both types in a storm of wind and rain will readily admit. Now, to my mind, one of the real difficulties in designing a quad is to decide on the nature of the body. Sheet-iron, backed by wood, and wicker-work both have their drawbacks. The former is much inclined to rattle, and also magnifies sound; the latter does not last well, and looks extremely "gauche" and out of place. Of the two I should prefer a sheet iron body properly stayed. My own car has a body of this description, but this originally was not sufficiently stayed, and rattled a good deal. A writer in this journal some time ago made very disparaging remarks about seats of the deck-chair type. Now, I can assure him that I find my seats very comfortable, and so do my passengers. They are simply leather, arranged on the lines of the

Some Experiences and Deductions.

ordinary canvas deck-chair, and their weight is just 8 ounces.

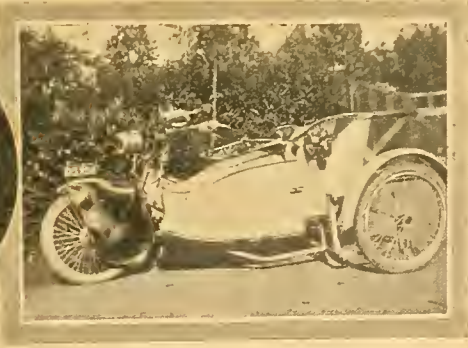
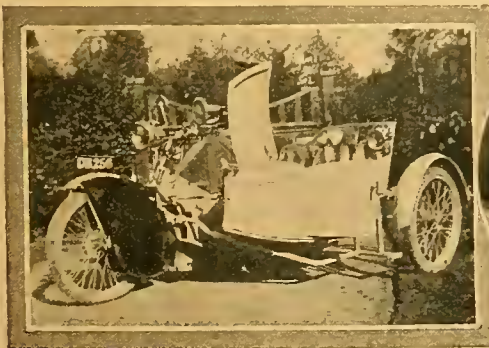
If a man wants a padded, upholstered easy chair style of seat, he had better buy a car.

Let us remember that these four-wheeled Spider quads are a compromise, and for £90 or so do not let us expect the comfort and luxury of a £300 car. For his £90 a buyer of a well-designed quad gets more than the comfort of a sidecar, and more than the speed of any car up to 20 h.p. My little quad will now do forty-eight miles an hour with a gear of 4 $\frac{2}{3}$ to 1, which speaks well for the 7 h.p. twin J.A.P.

Now one word about gears, and I have had my say.

Why will makers of these quads fit a dog clutch gear? In my opinion, it is too tricky to handle. Mine collapsed twice with most careful handling, and I see that a similar fate overtook Morgan—a plucky pioneer—in the Six Days' Trials. Why not fit an epicyclic gear, which a novice or a lady can easily handle? This is a good "talking point." At any rate, let us have no more clutches with their jar and clatter, and their need for the greatest care in changing gear.

"MUGWUMP, M.B."



Further views of the low-built T.A.C. and sidecar referred to on this page.

A New Lucas Lamp and Generator Bracket.

FOR use with their well-known "King of the Road" motor cycle projectors and generators, Messrs. Joseph Lucas, Ltd., Great King Street, Birmingham, have recently introduced a new adjustable bracket which is quite one of the most effective things of its type that we have yet seen. It will be remembered that the earlier combination brackets designed to support both the generator and the lamp from the handle-bar, were intended to be affixed to the handle-bar stem. The new

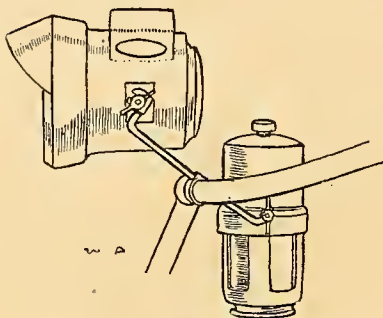


Fig. 2.

every shape, and they allow also for a very wide choice in the relative positions of the generator and head lamp. Fig. 2 illustrates one of these positions in which the lamp is kept high. As a matter of fact, however, it can be put even higher, or can be brought down so as to be level with the generator.

Fig. 3 indicates how useful the bracket is in the event of punctures or other repairs having to be carried out by the roadside at night. To obtain a light on

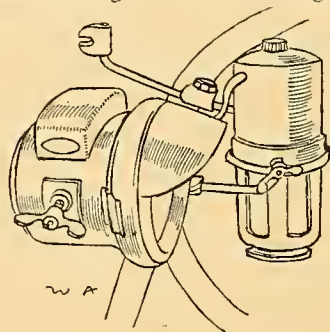


Fig. 3.

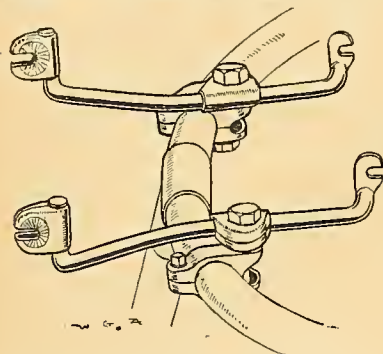


Fig. 1.

pattern, however, is clipped to the handle-bar itself and thus allows the combination to be fitted without alteration on almost any motor cycle, whether there be a fixed existing lamp bracket or not.

Fig. 1 illustrates the combination carrier which it will be seen comprises no cast lugs, etc., all such portions being steel stampings, which in addition to being much neater in pattern, are also much lighter in weight. The various members of the carrier are articulated to one another in such a way that they can easily be made to fit handle-bars of any and

the rear of the machine it is only necessary to undo one of the wing nuts which bind the head lamp to one of the carrier clips, and to swivel the lamp on the other clip, when it can be faced backwards, as shown in the diagram.

A New Generator.

In the annexed diagrams is shown a new type of generator which Messrs. Lucas have recently introduced, and which takes the place of the type with the underneath swing clip for binding the carbide container to the water chamber.

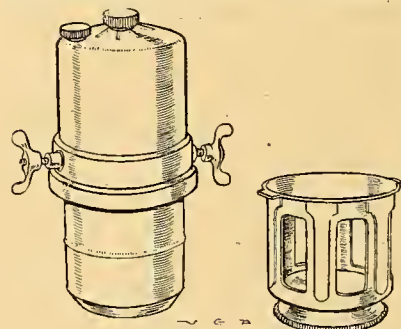


Fig. 4.

The new type is shown in fig. 4, and is of very simple and sound construction. The rim of the carbide container is forced against a rubber washer attached to the base of the water container by a perforated cup, on the top edge of which are two small ledges which engage with a coarse cut thread in the base of the water container. This thread consists of a helically wound strip, and there is no possibility of "crossing" the threads or screwing up in any but the right manner.

The attachment of the clips has also been strengthened by carrying them in a stout ring encircling the water container.

HINTS AND TIPS FOR MOTOR CYCLISTS.

By ROAD RIDER.

SOME RUDGE-WHITWORTH TIPS.

370. To remove an R.W. exhaust valve, unscrew the sparking plug and put the handle of the Quickgrips through the plug hole. This will keep the exhaust valve down on its seat, and a little leverage with a screwdriver will instantly raise the spring and enable the cotter to be withdrawn. This plan is quicker and easier than the use of any patent tool on this engine.

In removing the cylinder there is no need to disconnect the exhaust pipe. Simply loosen the nuts on the front footrest, lower the silencer, and then raise the cylinder when the exhaust pipe will lift out of the silencer. The exhaust pipe may be withdrawn with the cylinder, if the connecting rod is at the back of the slot in the crank case, and the piston is tilted forward. The cylinder should be turned round to the pulley side of the machine, and it may then be pulled off with the exhaust pipe still attached to it.

Oil the overhead inlet valve rocker at intervals, or its spindle will wear loose in its carrier, and become noisy.

Whenever the rear axle nuts are touched their threads should be cleaned with paraffin and oiled, otherwise the advantages of the quick detachable wheels will be lost, owing to one nut or the other becoming tight on its thread. A screwdriver slot may be filed in one end of the spindle, which enables the spindle to be held while the nuts are removed. The cone adjusting nut on both axles is on the left-hand end, and, of course, the axle nut and cone on the right-hand side of the spindle should be tight home before the cone is adjusted.

The oil pump ball valve is, as is usually the case, a somewhat delicate fitting. If the oil pump appears to be working irregularly, delivering a small charge, or very stiff to operate, the valve should be unscrewed from the underside of the tank and washed in paraffin, to clear out any grit. There is no need to take it to pieces. If there is oil in the tank, an ordinary whisky cork will plug the hole while the valve is out.

A BELT TIP.

371. When a belt requires shortening always cut that end which was not

cut on the last occasion of taking a bit out. Thus you ensure the alternate renewal of each bolt hole and reduce the probability of a pull through to the minimum. Some inexperienced riders cut off either end at random, and, as a consequence, their belts often pull through and become too short. If a belt becomes so short that the insertion of a second fastener is necessary to restore it to a working length, fit one fastener of the fixed type. If a belt contains two hook fasteners it is irritating to handle.

CARRYING A ROUTE CARD.

372. In competitions, or indeed on any lengthy ride across a strange country, it is convenient to carry a route card somewhere on the machine in constant sight, without having to ferret in the pockets at intervals. A good tip is to lay the card against the acetylene generator (now usually mounted on a bracket projecting backwards from the steering head), and secure it by slipping a couple of rubber rings round the top and bottom of the generator barrel. The card is then always in sight, and being vertical, no rain will remain on it to spoil it.

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NO OILY DIRT NO NOISE NO GYMNASTICS

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 Bristol M.C.C. Hill Climb, April 29th, 1911.
 Sydney M.C.C. Hill Climb, April 29th, 1911.
 Walsall M.C.C. Hill Climb, May 13th, 1911.
 M.C.C. Members' Hill Climb, May 13th, 1911.
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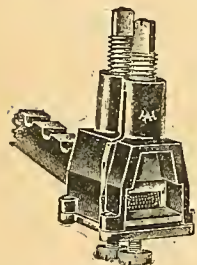


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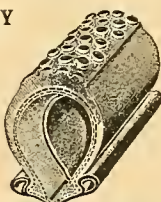
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of Motor Cycle Tyres. All standard sizes stocked. Chucher A Won, rubber-studded, 26 x 2, 33/-; tube 11/-, 26 x 2 1/2, 35/-; tube, 11/-, London Agents for Continental Tyres. All standard sizes stocked. Standard patt. 26 x 2 24/6, tube 9/-, 26 x 2 1/2 29/6, tube 10/9, 26 x 2 1/2 32/3, tube 11/6. Continental Rubber Non-skids, 26 x 2 32/9, 26 x 2 1/2 40/9, 26 x 2 1/2 43/9. Continental combination rubber and steel-studded, 26 x 2 1/2 81/3, 26 x 3 110/-. Rom combinations, rubber and steel studded non-skids, 26 x 2, £2 12s. 26 x 2 1/2, £2 15s. 26 x 2 1/2, £2 17s. 6d.



THE HUNT

EXHAUST WHISTLE.

A splendid road clearer. Operated by the foot.

Easily fitted.

Fits on exhaust pipe. Effective on one or more cylinders.

Price 5/6, postage 3d.



The Auxiliary Air Inlet.

Fits on inlet pipe. Gives a wider range of mixture. Useful on a hot day. Price 3/6 Postage 2d.



The Hunt North Road Overalls, suitable for wearing with the above coat.

These meet a long-felt want. They can be instantly slipped on over the ordinary trousers. They fasten round waist with a leather strap and buckle. Being made in one piece, they are a great protection to the stomach, also it is impossible for the rain to drive in as with the ordinary overalls. Made in three lengths—short, medium, and long. Shaped to go over boot. Patent side fasteners.

Manufactured of Double Texture Paramatta, thoroughly waterproof.

PRICE, quality No. 1. 24/- per pair.

" " " 2. 16/6 "

" " " 3. 13/6 "

THE HUNT DRIP FEED LUBRICATOR.



For inserting in existing oil pipe. Adjustable to any number of drips. Oil can be forced through by pump if desired.

Price (plated) 5/6, postage 3d.

The Hunt Valve Spring Remover.

By means of the compound action the stoutest spring is easily raised by a slight turn of the winged nut, leaving both hands free



Price, 2/6 post free.

THE "HUNT" REGD. COAT.

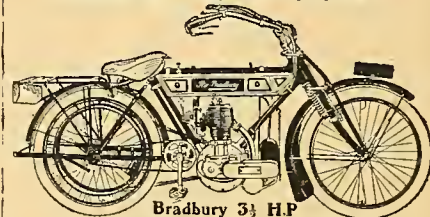


This coat is essentially a storm one. From the collar, where the opening is started under a watertight pocket, to the bottom the fastening is cut on a curve, so as to fall perpendicularly and down the side of the wearer when riding. This excludes the severest head storm, and gives the user a coat the equal of the sleeved poncho without its disadvantages. Pockets are placed not on the hips, where but little can be carried, and with inconvenience, but on the chest. The large one is pleated, and takes Bartholomew's 3-in. scale motor map, and has a small cash pocket within. On the other side is a smaller pocket, suitable for a "vest" screw-hammer and minor tools. The contest and trials rider will find this coat a boon, for by means of the push buttons used it can be fastened and adjusted while riding, notwithstanding the thickest gloves being worn.

Manufactured of Double Texture Paramatta, thoroughly waterproof, fitted with collar, wind and rainproof sleeves, ventilated under arms. Best guaranteed proofing. Length 26in. Stocked to fit chest 40in., 42in., 44in. (outside measurement).

PRICE, quality No. 1, 40/- Quality No. 2, 25/-.

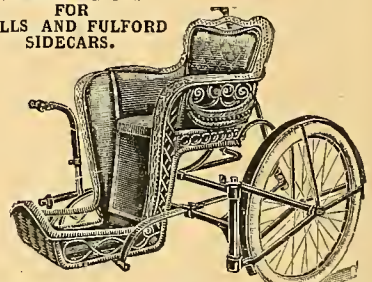
BRADBURY MOTOR CYCLES.



Bradbury 3 1/2 H.P.

Immediate delivery. Price £48.
With two speed and free engine, £55.

LONDON AGENTS
FOR
MILLS AND FULFORD
SIDECARS.



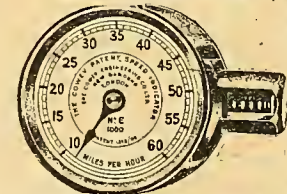
A full range of 1911 Models now on view, stocked to fit all makes of machines. Immediate delivery.
Prices from £6 6s. 0d.



THE HUNT RELLESEN DRY CELL.

No corroding terminals. No acid. No charging. Always ready, clean, and dry. The "Flash." Height 6 1/2 x 4 x 2 1/2 in. Approx. mileage, with single-cylinder engine, 1500. Price 6/6. The "Flight" ditto. Height 5 1/2 x 5 1/2 x 2 1/2 in. Price 6/6. The "Midget" emergency ditto. Height 5 1/2 x 4 1/2 x 1 1/2 in. Will run approx. 300 miles. Price 4/4. Postage 6d. extra.

THE COWEY SPEED INDICATOR AND MILEAGE RECORDER (Guaranteed).



Registers a speed up to 60 miles per hour. Mileage recorder registers up to 10000 miles, then automatically starts again. The indicator can be easily attached by any motorist, and once fitted requires no attention or adjustment whatever. It will continue to render good service as long as it is attached to the cycle, for it is constructed throughout of the best and most suitable materials by expert British mechanics at Kew Gardens.

Price, in Nickel, 84/-, carriage paid.

THE "ACME" WATCH AND CASE.



These Watches are constructed to stand vibration. Each watch guaranteed for twelve months. To clip on handle-bar. Very neat. Made in Aluminium. Complete with Ingersoll Watch.

Price 8/6, postage 2d.
Case only, 3/6.

The "Hunt" ALL Metal Switch.

The design of this Switch is so extremely simple that there is nothing in it to get out of order; the contact is quick and definite for both make and breaks. The whole of the switch is made out of heavy sheet brass well finished and nickel-plated, the terminals insulated with extra large ebonite washers and the fixing clip is attached by a bolt and a nut passing through the sides of the metal case, thus ensuring a reliable attachment to the handle-bar.



Price. One Way, 2/3. Two Way, 2/9. Postage 1d.

Illustrated Catalogue sent gratis and post free.

In answering this advertisement it is desirable to mention "The Motor Cycle."

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

A New Zealander's Views on a Knotty Question.

[5854].—Probably by the time this reaches you all interest in the subject of which wheel of a sidecar combination lifts will have been dropped. However, I think I have solved the question, at least to my own satisfaction. Driving a Montgomery No. 5 castor wheel sidecar with a light passenger and car fitted on the left side, I took a right-hand corner a great deal faster than I ought. The corner is sharp, a good deal sharper than a right angle. I felt the outfit tilt in a rather curious way, and as I had to stop a few yards further on, I went back to look at the tracks. There had been recent rains and the tracks were quite clear and not at all obscured by other tracks. The sidecar wheel had not left the ground at all, nor had the rear wheel of the bicycle, but the front had lifted for 12ft. H 075.

The Advantage of Advertising Prices.

[5855].—May I have a grumble? Some little while ago I wrote to the Co. for a new mudguard for my sidecar, also asking them for a price list of spares, and I had a curt reply to the effect that they only dealt through agents.

This market is only now opening out for motor cycles, so is, I suppose, not worth any attention from the makers, hence their letter.

It might interest you to know that two years ago there were not more than five motor cycles in British East Africa. Within the last six months something like another fifteen have been added, and a good many more are on order. Triumphs and F.N.'s so far hold the market. Of course, this is very small, but so is the place.

Nairobi, British East Africa.

S. T. LYDFORD.

Businesslike Methods.

[5856].—Will you allow me to give readers of your instructive a diary of a "business" transaction, not yet completed?

On June 24th, 1910, I wrote to a sidecar manufacturing firm in the Midlands to ask for a quotation for alterations to a sidecar frame of their own make in my possession.

On June 28th I got their quotation, and that the job could be done in fourteen days.

On July 7th, 1910, the firm acknowledged receipt of sidecar, quotations having been accepted by me.

On July 20th, 1910, the firm wrote saying spring wheel parts had not been delivered from Chater Lea.

On July 26th, 1910, Chater Lea wrote me saying that no order had been given by the firm, only enquiry made.

From that time until September 8th, 1910, I waited. Then, in reply to a note of mine, I was told the firm had again written to Chater Lea.

I now got rather worried over the high speed of the business, and asked the firm to fit their own spring wheel, and on September 19th, 1910, they wrote and said the job had been put in hand.

I felt mildly pleased that we were moving, if ever so slowly. However, my joy was short-lived. Christmas came, so did the New Year, but no sidecar. So another attempt at a start was made, and on January 6th, 1911, I sent a registered letter, as ordinary letters seemed to go astray in the post, for replies were not received.

This mild remonstrance of mine brought a reply on January 8th, 1911, full of various excuses, and proposing I should take a complete new stock frame of their own at a revised quotation. This estimate I accepted, provided delivery was made in one week.

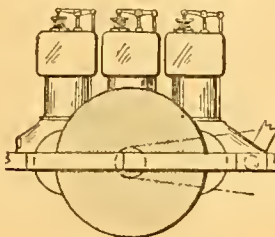
On January 11th, 1911, I received a reply: "We beg to acknowledge your esteemed order as below, and same shall have our very best attention." From then till now silence has reigned. I begin to think the article I sent the firm could not have been mine at all, though I did originally buy it from them and paid hard coin of the realm for it.

Mr. Editor, what would you do now? Or will readers advise? ONLY A MEDICO.

Tandem Geared Engines.

[5857].—I note in your last issue a description of a multi-cylinder engine having separately geared crankshafts. Herewith I send you an old specification of mine, which illustrates, describes, and claims an engine somewhat similar to the one you illustrated. You will note there are two adaptations of this engine—one for a heavy tricar engine—one for a heavy tricar

CHAS. Y. HOPKINS.



The Mont Cenis Hill-climb.

[5858].—Why do not our manufacturers compete in the Mont Cenis hill-climb? As an interested spectator in the recent contest on this famous pass on August 13th, I should like to say that a more difficult test for motor cycles would be hard to find. The hairpin bends are terrible, and the course is a long one. Three teams of Italian makes, besides several French machines and one English machine, competed, and an Italian machine called the S.I.A.M.T. carried everything before it. Their new 500 c.c. twin, ridden by Riva, the holder of the record of 1905 on a 12-14 h.p. Peugeot, actually beat his own record, and made an average speed of over 60 kiloms. (37½ miles) per hour in this climb of 6,000 feet in 23 kiloms. (or 14½ miles). I think there are ten or eleven real hairpin bends on this small pimple, and only 1½ kiloms. of anything like straight road. It was interesting to watch the competitors, including the winner, on their single-geared machines, jam on their brakes, jump off at the hairpins, and run, with their engines still firing, round the corners—a gymnastic feat which is necessary owing to the sharpness of the turns. It may be also interesting to note that the S.I.A.M.T. won every class, and that the 290 c.c. single-cylinder averaged 34½ m.p.h. for the climb.

An exhibition being held in Turin, and several magnificent exhibits of British machines being shown, it was very disappointing to us to find that only one of our most famous makes competed, although it was said that two of their special racing models arrived too late for the contest.

Let us hope to see quite a number of English machines make a show next year, as motor cycling is fast becoming a favourite pastime in Italy, and, as shown by the marvellous times on the hill-climb this year, the Italian machines have apparently exceptionally efficient engines. [We published the times in our last issue; see page 917.—Ed.]

Perhaps it will be remembered that the famous Nazzaro on a 140 h.p. F.I.A.T. took only 19m. (record) for this climb.

No doubt in the near future you will have the S.I.A.M.T. machines in England, as I hear that an English firm has secured the agency for this handy little lightweight motor cycle. I do hope to see a few of our manufacturers enter next year in such a fine contest as the Mont Cenis hill-climb.

Turin.

CYRIL A. SNIPE.

Road Hogging.

[5859.]-Re E. C. Morris's letter in issue of August 24th on road hogs. I experienced a few days ago a most unpleasant sensation while riding over the Hog's Back towards Farnham.

I noticed a car coming towards me, about a mile away, at a very rapid pace, and when the distance got to about 200 yards, a second car shot out from behind and got alongside the front car. The pace was terrific and neither seemed to give way; they came along neck and neck with not a foot of the road to spare. I feel, had I left it a moment later to dash at the bank, which at this point was about eight inches high, I must have been killed instantly; as it was I came off the machine and seemed to turn four or five somersaults while the machine was on the grass bank a few yards away. When I had collected my wits again, the cars were specks in the distance. I, fortunately, escaped with a scratch or two, but the machine seemed all doubled up. On examination the back carrier was twisted all out of shape, lamp and controls were smashed, and several other minor damages. You will imagine my feelings to be run off the road in this dastardly manner, while on the other hand not a soul was near to witness this to enable me to benefit by my insurance policy. C. H. COOK.

Change-speed Gears and Sidecars.

[5860.]-I have read with interest the several letters written on the above subject, but do not think that anyone has mentioned the very excellent N.S.U. two-speed gear. I have had for the last two years a 6 h.p. twin N.S.U. fitted with this gear, which has not given me a moment's trouble, and has only needed one operating roller renewing, which can be done in one minute without removing the gear. The low gear clutch will start the machine and sidecar with 22 stones and luggage comfortably on hills of 1 in 15 or so, and will do so on 1 in 10 if the driver walk alongside while putting in the clutch until the machine has got a bit of "way" on it, and he can then step on board. I have used my present machine for three holiday tours to Land's End and back via the coasts of North and South Wales, Derbyshire, South Dorset, and Devon, and it has never failed on any hill, and my single trouble has been one broken inlet valve.

Engine averages sixty to eighty miles to the gallon. The sidecar tyre is in its third year, and the ribs are still on the tread. The front cover has just been replaced because it was worn through to the canvas. The present is the second back tyre, and will probably finish out the season. The section is 2½ in. on bicycle and 2¼ in. on sidecar.

AX 37.

The Life of Tyres.

[5861.]-I have often seen complaints in your correspondence columns about the life of tyres, particularly from those who drive high-powered machines either solo or with sidecar. My own experience may interest you.

I bought a 650 by 65 mm. grooved Dunlop last summer for £3 5s., when the price of rubber was at its highest. I put the tyre on the back wheel of my 8 h.p. Bat driven solo throughout, and it stayed there for 4,280 miles, the first puncture occurring just before 3,000 miles. I had the tyre retreaded and rehbed by the Dunlop Co. and put it on the back wheel of my new 8 h.p. Bat at Easter. It is now worn down to the canvas, but has completed 2,735 miles all on the back wheel, of which 1,655 miles have been with sidecar. The tyre has thus a mileage of 7,015 on the back wheel of an 8 h.p. twin to its credit.

I have driven fast over Lancashire and Yorkshire roads, the Devonshire hills and Lake District passes, and though there is no doubt that the spring frame on my machine adds greatly to the life of tyres, yet this does not lessen the credit which I think is due to the makers. The wonderful wear of tyres on my machine enables me to run it at a less cost than a 3½ h.p.

If those who complain about their tyres and tyre troubles would only fit accessories which are suitable to the power of their machines and the work they have to do, we should hear less of them. G. ARTHUR GREGSON.

P.S.—I have no interest in either tyre or machine beyond a purely personal one.

Variable Gears in Hill-climbs.

[5862.]-I am obliged to you for inserting my letter on the subject of variable gears in hill-climbs, but I think that your editorial note apparently discredited my complaint.

I would now like to answer your note with a view to showing that the complaint is real.

First of all, the original programme only included six events, and then (I understand to meet our objections) another class was added. This seventh class is open to any machine without restriction, so that any freak machine of any weight, and whether stripped for racing or not, can complete. This does not, in my opinion, meet the objection.

When you say that out of seven classes variable gear machines are eligible for four, you are including this seventh class and also the class for ladies, which with the lightweight class and the variable gear class make up the four.

There is no doubt that the public are more concerned with the classes for 3½ h.p. machines, and of these classes there are two—one for touring machines and the other for T.T. machines, and Zenith-Gradua machines are barred from both these classes.

The only classes in which an ordinary variable gear machine can compete are the variable gear class, in which singles and twins are lumped together, and the new class No. 7 in which any freak can run.

I think you must, therefore, agree with me that your editorial note, though quite correct in fact, gives a totally wrong impression, and an impression which could only be removed by careful analysis of the programme.

The significant fact to my mind is that whilst single-gear singles and single-gear twins have separate classes, the variably geared singles and twins are thrown together in one class, despite the fact that the variably-gear machine is more largely used for trials than the single gear machine.

Bear in mind that the single-gear 3½ h.p. singles and the single-gear twins get three classes exclusively to themselves, whilst the variably-gear 3½ h.p. and twins get one class only, excluding the classes for lightweights, ladies, and freaks.

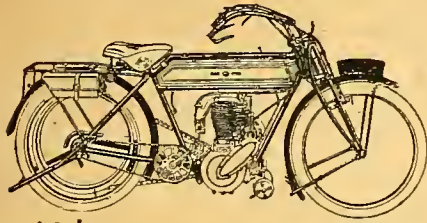
W. G. BOWER.

Managing Director Zenith Motors Ltd.

[In arranging the classes those receiving the least support last year were deleted by the Coventry and Warwickshire Motor Club. We should like to point out to Mr. Bower that there were only seven variably-gear single and twin-cylinder machines in class 6, so that separate classes would not have filled. There were twenty-four and thirty-three single geared machines respectively in classes 1 and 5.—Ed.]

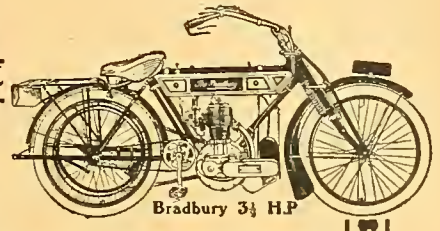


Miss May Walker and her three-speed Handy Hobart of which she is a delighted owner. Miss Walker was a competitor in the Coventry & Warwickshire M.C. Hill-climb last Saturday.



A CUSTOMER WRITES—

"... I purchased a 1½ h.p. machine, second-hand, from the Service Co. (no connection other than satisfied user), and these people have laid themselves out to give me ever satisfaction, and most courteously, too; yet it was only an accumulator machine, and of low price."



Bradbury 3½ H.P.

NEW MACHINES IN STOCK OR FOR EARLY DELIVERY

most of which we are prepared to supply on extended payments at net cash prices.

BRADBURY, 3½ h.p. Standard.
BRADBURY, T.T. Model.
REX, 3½ h.p. Tourist.
SERVICE, 3½ h.p. Tourist.
MOTO-REVE, 2½ h.p. Twin.
HUMBER, 2½ h.p. Lightweight.
WANDERER, 3½ h.p. Twin.
TRIUMPH, 3½ h.p., free engine.
ARIEL, 3½ h.p., variable gear.
B.S.A., 3½ h.p. Standard.
DOUGLAS, 2½ h.p. Lightweight.
DOUGLAS, 2½ h.p., 2 speeds, free engine.
HUMBER, 2 speeds, handle starting.
WANDERER, 1½ h.p. Lightweight, in stock.
EUDGE-WHITWORTH, 3½ h.p., free engine.

F.N., 5-6 h.p., 4-cyl.
F.N., 2½ h.p., 2-speed, lightweight.
PREMIER, 3½ h.p. Standard.
ROVER, 3½ h.p., free engine.
ZENITH-GRADUA, 3½ h.p.
ZENITH-GRADUA, 6 or 8 h.p.
TRIUMPH, 3½ h.p. Standard.
And others.

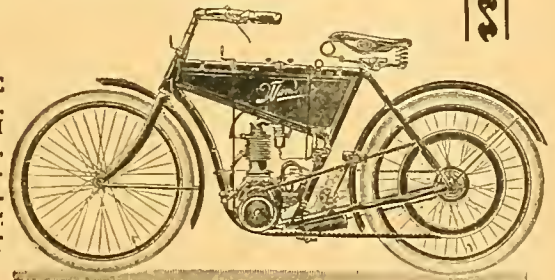
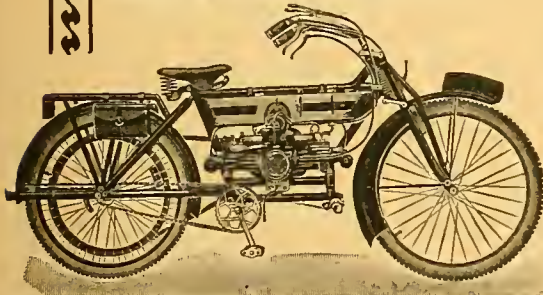
A few Second-hand Selections.

103. RED INDIAN, 1910, 5-6 h.p.; £37.
148c. N.S.U. Lightweight, 1½ h.p.; £18.
146c. 1911 Free engine 3½ h.p. SINGER; £47.
145c. 1911 5 h.p. REX DE LUXE and Milford side-car, with spares; £55; others.
657. HUMBER Lightweight, soiled only; £34.
140c. ARIEL, 1910, variable gear and free engine; £25.
504. F.N., 4-cyl., 4½ h.p.; £21.
147c. DOUGLAS, 1911, nearly new; £34.
DOUGLAS, 1909; £25/10.
797. P. AND M., late 1909, overhauled and parts renewed; £40.
20. P. AND M., 1908; £30.
692. REX, Grey Speed King, 1910, 5 h.p.; £37.

Cash, Gradual
Payments, or
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THE SERVICE
CO. LIMITED.
292-3, HIGH
HOLBORN,
LONDON, W.C.

S. & H.



CLINCHER

DREADNOUGHT MOTOR CYCLE TYRES

Should be fitted to machines which are in continual use over all sorts of roads, and in every kind of weather. The rubber studded tread is designed to take advantage of any projection or inequality of the road surface, and thus gives the highest non-skid efficiency possible. The studs wear down evenly and (owing to the thickness of the tread) after they are entirely gone, the cover is as good as an ordinary round tread. Tyre upkeep is the bugbear of the Motor Cyclist.

"STUDY ECONOMY."

"SPECIFY CLINCHERS."

THE NORTH BRITISH RUBBER CO., LTD.,

Tyre Sales Department:—

Bedford Chambers, Covent Garden, London, W.C.

'Phone: Gerrard 8578 and 8579.

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**1
GOLD
MEDAL**

**1
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MEDAL**

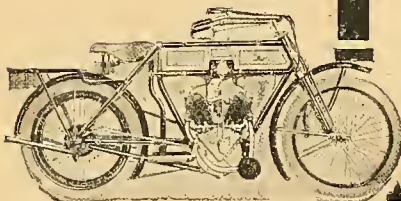
The Book of the Bat
free from ———

**THE BAT MOTOR
MANFG. CO., ———
PENGE, LONDON,
S.E. ———**

LOST NO MARKS

That's the way to emerge from the Six Days' Trials—without the loss of a single mark. That is what Mr. S. T. Tessier accomplished on his 5 h.p. **BAT** thus proving absolute reliability and constructional perfection. Mr. E. Babington a private owner lost only 7 marks throughout the whole 1,000 miles. You cannot do better than invest in a British built Bat with Bat Spring Frame, Bat Spring Forks, Protected Magneto in Tank, Automatic Lubrication, and many other exclusive feature.

REMEMBER—the Bat created another Class Record at Brooklands on August 26th in the B.M.C.R.C. Speed Trials.



3½-4 h.p., £48 10s.
5-6 h.p., £58.
7-8 h.p., £60.

Continental Touring.

[5863.]—In your last issue the Car Supply Co. say, "We notice Mr. Fawcett complains that he was charged £1 for his motor cycle when crossing from Folkestone to Boulogne." Will the Car Supply Co. please read my letter again, and they will see I said for my machine and Mr. Grange's, a totally different thing. W. FAWCETT.

Motor Cycle Insurance.

[5864.]—With reference to my previous letters on the above subject and Mr. A. H. Priestley's reply [No. 5666, 5703, and 5720], I now beg to say that as a result of Mr. Priestley's intervention, the Insurance Co. have admitted my claim, and sent me a cheque for the full amount. I may say that my first letter was not intended as a "grumble," as I considered the argument perfectly logical, but as a warning to others, who, like myself, might err unthinkingly. ADSUM.

[5865.]—Your correspondent in the last issue raises a point of vital importance to motor cyclists who use their machines partly or chiefly for business purposes, say, commercial travellers, doctors, etc.

I gather that doctors get their motor cycles insured at the "pleasure" rate without question, and as they have to be out at all hours of the day and night, and in any weather, and are often called to urgent cases, they can hardly be considered a good risk. At any rate, the commercial traveller, who is more concerned to get along steadily and reliably than to "scorch," and who prefers to get his business over during regular business hours; in fact, *has* to do, would seem to be a much better risk.

Yet, in half a dozen proposal forms, I find similar restrictions. The A.A. and M.U. and a Lloyd's form specify "private pleasure purposes," the A.C.U. and the Car and General say "private purposes," and only the C.T.C. thinks of "combined pleasure and business." TRAVELLER.

Hill-climbs—A Suggestion.

[5866.]—When the competitors do not all ride, one cannot be sure whether the last man in any class has ascended the hill. It is even more uncertain when post entries have been accepted and not printed on the programme.

This uncertainty entails some risk to spectators when, say, a lightweight class is followed by an open class, and a clear road is needed for fast machines.

It is suggested that the last man in each class should wear a red sash handed to him by the starting marshal. Then all would know the class was completed. OLDHAM.

Broken Piston Rings.

[5867.]—I thought I should like to mention that I have had a similar experience with a broken piston ring. On coming up a very slight hill one night my machine (running well at the time) started a most weird knocking and pulled up in a few yards. On trying to start again it fired as though blowing past rings, but finally picked up well enough to take me home. When I had the cylinder down I also found that the small overlapping piece on the underside of ring was missing, and there were no traces of it, cylinder as bright and polished as when new. I am sure that the piece did not go in crank case, as that has been taken down to fit new bushes which I found was the cause of the trouble that I asked you about some time ago.

MORTIMER W. LARKIN.

The Six Days' Trials.

[5868.]—I was surprised to see in the list of private owners competing in the A.C.U. 1,000 miles trials a person who works daily at the trade at a dealer's shop, and who did not own the machine used in the trials. This extract is from a newspaper published where he lives.

"A notable triumph has been achieved by Mr. —, head engineer to —, of the — cycle and motor works, on one of the famous — motor cycles. With his usual enterprise, — who has always had full confidence in the —, decided to be represented in the A.C.U. Motor Cycle Reliability Trials. Riding a — taken out of the — works, — rode 1,100 miles and covered the steepest hills in Yorkshire, Wass Bank, Sutton Bank, Blue Bank, Whitby, and Garrowby. Mr. — not only made a clean ascent of all the hills, but out-distanced many of the professional riders who were representing some of the biggest firms in the trade.

He was awarded full marks and a gold medal for his fine performance, which also enhanced the reputation of the — machine locally and nationally."

As this rider figures amongst the six from which the best amateur performer was selected, a decided injustice would have been done to any genuine private owner had it been awarded to him.

Surely it is time the A.C.U. made some enquiry into the status of some of the so-called private owners.

PLAY THE GAME FAIR.

[The A.C.U. inform us they do make enquiries.—ED.]

Shall I Buy a Motor Cycle?

[5869.]—On reading last week's issue of your paper, I came across the article by "Pedal Cyclist."

I was considerably interested in it, as I have a friend who was in a similar predicament. However, he took the hazardous step, and invested in a well-known make of lightweight twin.

I may say, without any discourtesy to my friend, that his knowledge of petrol engines is a minus quantity; and the reason why the thing should go at all, so far as he is concerned, is an addition to the seven wonders of the world.

I took upon myself the arduous duty of instructing him how to start the machine, lubricate, and control it.

I am glad to say he more or less digested this, but when I gave him a general description of the mechanism, he looked nonplussed; it had all gone out the other ear.

However, he now makes journeys of a considerable length with great success. Punctures he cannot mend. He has them done where he can, but engine trouble has practically been non-existent.

I undertake the cleaning of the plugs and carburetter periodically. He finds the gardener competent enough to keep the machine clean externally.

He has now ridden for some nine months, and I may say he derives a considerable amount of pleasure from the pastime, as he has often told me, though ignorant of the mechanism of his power unit.

If "Pedal Cyclist" took the rash step, I feel sure that curiosity and a little experience would produce the required knowledge in time. J. E. M.

Will O. J. Taylor, who gave the address G.P.O., Carlisle and lent a spanner to a motor cyclist between Kirkham and Blackpool, kindly communicate with Arthur Martin, c.c. the Editor? A communication addressed to him has been returned marked "Not called for."



ANCIENT AND MODERN.

Harry Long on an old boneshaker with his Triumph alongside. Mr. Long had completed 30,000 miles when this photograph was taken. (See page 927.)

THE NEWNHAM HILL-CLIMB.



Competitors' mounts ranged in order on Newnham Green. A space was allotted to each class, so that riders knew exactly where to place their machines. The excellence of much of the local organisation is due to the efforts of a Davenport member, Mr. Hubert Reynolds.

UNDER the above title the Coventry and Warwickshire M.C. open hill-climb may not be recognised except by competitors, officials, and the actual spectators, so well had the secret been kept. Newnham hill was selected by the Coventry Club committee last week, although permission had also been obtained to use Willersey Hill, the steeper gradient used last year, but which was ruled out on account of its dangerous nature, the bad corner and rough surface not being suitable for fast speeds.

The selection of Newnham proved a popular one, though it certainly would have been better if the gradient had been more severe.

The surface was in very fair condition generally, but the corners were just gradual enough to necessitate extreme caution at speed. A record entry for the club was again the result, the entries numbering 120 with the teams.

Preliminary Operations.

The weighing was carried out in the morning on Newnham village green, the machines being subsequently examined by the scrutineer, Mr. B. H. Davies, only one touring machine being prevented from starting, as it had dropped handle-bars in contravention of the rules.

After being passed by the examiner, the machines were ranged in thoroughly business-like order alongside pegs bearing numbers, and the big assembly of machines glittering in the sunlight was indeed a sight to behold.

The horse-power was calculated on the Coventry and Warwickshire Motor Club's formula, which is—

$$\text{H.P.} = \frac{D^2 \times \sqrt{S} \times N}{18,000}$$

$$\text{H.P.} \times T$$

and the formula was :

W

Where T = time in seconds, W = weight in lbs., D = bore in mm., S = stroke in mm., and N = number of cylinders.

The lowest figure of merit denoted the winner.

A start was made soon after 1 p.m. in glorious sunny weather. There were few spectators at this stage, owing to the early start, so that the task of the boy scouts and marshals was a comparatively easy one.

Single-cylinder Touring Machines.

There were twenty-four competitors in Class 1 for single-gear, single-cylinder touring machines up to 500 c.c., S. Russell Cooke (Rudge) leading off the ball. The Ivy-Precision team created a great impression, as also N. Ayres and his 3½ h.p. Singer, and Geoffrey Smith, whose new model 2½ h.p. Singer romped up the hill, putting to shame many a 3½ h.p. machine. E. A. Burney was a non-starter, owing to a cracked cylinder, and W. F. Newsome withdrew.

The results on time and formula are as under. In cases where position numbers are alike it indicates that the riders tied :

CLASS 1. Single-gear single-cylinder touring motor cycles, with engines not exceeding 500 cubic centimetres capacity.—First on formula, the President's cup. Second on formula, club prize. First on time, Triumph gold medal. Second on time, club prize.

Rider, H.P. and Machine.	Cyl.	Bore and Stroke.	Position.	
			On Time	On Formula.
		mm.		
J. Woodhouse, 3½ Comet-Precision	1	85×88	1	3
H. C. Newman, 3½ Ivy-Precision ..	1	85×88	2	9
V. Pratt, 3½ Ivy-Precision	1	85×88	3	6
J.-H. Pountney, 3½ Rover	1	85×88	4	5
N. Ayres, 3½ Singer	1	85×88	4	2
H. Rem Fowler, 3½ Ariel	1	85×86½	5	12
J. H. Slaughter, 3½ L.M.C.	1	85×88	6	8
B. Alan Hill, 3½ Rudge	1	85×88	6	16
A. L. Ommaney, 3½ Rudge	1	85×88	7	4
C. S. Burney, 3½ Rudge	1	85×88	8	11
W. Stanhope Spencer, 3½ Rudge ..	1	85×88	9	7
Capt. H. Clarke, 3½ Triumph	1	85×88	9	14
W. J. Spittle, 3½ Premier	1	85×88	10	13
J. R. Haswell, 3½ Triumph	1	85×88	11	12
S. Russell Cooke, 3½ Rudge	1	85×88	12	15
G. Smith, 2½ Singer	1	69×79	13	1
C. R. Roper, 3½ Ivy-Precision	1	85×88	13	18
J. Cocker, 3½ Singer	1	85×88	13	10
Reginald W. Ashley, 3½ Triumph ..	1	85×88	13	17
S. C. Perryman, 3½ Ariel	1	85×85	14	19
F. P. Davies, 3½ Rudge	1	85×88	15	20

In Class 2, for lightweights, there were only six entries, Roy Walker (New Hudson) winning on formula, although his stand dropped down during the ascent, and slowed him somewhat. R. H. Viggers (Enfield) was fastest.

Class 3, for T.T. machines, attracted thirty-four entries, and some splendid speeds were witnessed, the machines hardly slowing a tick on the last stretch of 1 in 6. The belt on Stanhope Spencer's Rudge was apparently slipping. H. Goodwin (4 h.p. Blumfield) slowed almost on the finishing line, owing to the air control wire coming adrift. He passed the post and was timed, but, of course, he was out of it. Singularly enough, the next man "A. Gee" (3½ h.p. Precision), whose belt had become smothered with oil, repeated the performance. He succeeded in passing the line, but only on foot. W. Croyton (3½ h.p. Triumph) unfortunately fell at the



Coventry and Warwickshire M.C. hill-climb. Weighing competitors and their machines on Newnham Green. The lady on the scales is Miss Baxter with her 3½ h.p. Rex.

cross roads, and was lucky to get off with but a few skin abrasions. Creyton and other Triumph trade riders always wear leather suits, a wise precaution in these events. Woollen clothing in Creyton's case would have meant serious flesh wounds. W. F. Newsome (Triumph) rode splendidly in making fastest time. Results of Classes 2 and 3:

CLASS 2. Lightweight motor cycles in touring trim. Single-cylinders up to 300 c.c. Multi-cylinders up to 340 c.c. Fixed or variable gears.—First on formula, club prize. First on time. Britannia Foundry Co.'s gold medal.

Rider, H.P. and Machine.	Cyl.	Bore and Stroke.	Position.	
			On Time.	On Formula.
		mm.		
R. H. Viggers, 2½ Enfield	2	53×75	1	4
Roy W. Walker, 2½ New Hudson ..	1	76×65½	2	1
H. V. Colver, 2½ Enfield	2	53×75	3	3
J. Dudley, 2½ Hobart-Precision ...	1	70×76	4	2
George Bell, 2½ New Hudson	1	70×76	5	5

CLASS 3. Tourist Trophy machines. Conforming to the A.C.U. definition. Fixed gears. Single cylinders up to 500 c.c. Multi-cylinders up to 585 c.c.—First on formula, silver cup (presented by the Dunlop Tyre Co., Ltd.) Second on formula, club prize. First on time, The Motor Cycle silver cup. Second on time, club prize. Results:

Rider, H.P. and Machine.	Cyl.	Bore and Stroke.	Position.	
			On Time.	On Formula.
		mm.		
W. F. Newsome, 3½ Triumph	1	85×88	1	8
S. T. Tessier, 4 Bat-Jap	2	76×64	2	25
J. Woodhouse, 3½ Comet-Precision ..	1	85×88	3	2
H. C. Newman, 3½ Ivy-Precision ..	1	85×88	4	9
F. G. Edmond, 3½ Premier	1	85×88	5	9
A. L. Ommaney, 3½ Rudge	1	85×88	6	3
J. R. Haswell, 3½ Triumph	1	85×88	6	5
K. Clark, 3½ Corah-Jap	1	85×85	7	21
S. Crawley, 3½ Triumph	1	85×88	8	23
C. T. Newsome, 3½ Rover	1	85×88	9	11
C. R. Roper, 3½ Ivy-Precision ...	1	85×88	10	6
G. W. L. Meredith, 3½ Triumph ..	1	85×88	10	10
W. G. McMinnies, 3½ Triumph ...	1	85×88	11	13
Howard Smith, 3½ Triumph	1	85×88	11	12
P. Brewster, 3½ Norton	1	79½×100	12	7
B. Alan Hill, 3½ Rudge	1	85×88	13	17
A. B. Jepson, 3½ Triumph	1	85×88	14	15
J. H. Slaughter, 3½ L.M.C.	1	85×88	15	14
V. Pratt, 3½ Ivy-Precision	1	85×88	15	15
John Gibson, 3½ Rudge	1	85×88	16	4
A. Mackenzie Cott, 3½ Triumph ..	1	85×88	17	9
S. C. Perryman, 3½ Ariel	1	85×85	18	19
C. S. Burney, 3½ Rudge	1	85×88	19	18
Capt. H. Clarke, 3½ Triumph	1	85×88	19	20
G. L. Haydon, 3½ Calthorpe	1	85×88	20	26
G. Smith, 2½ Singer	1	69×79	21	1
H. Goodwin, 4 Blumfield	2	67×83	22	28
E. B. Ware, 3½ Rudge	1	85×88	23	22
R. N. Corah, 3½ Corah-Jap	1	85×85	24	24
W. Stanhope Spencer, 3½ Rudge ..	1	85×88	25	29
W. H. Elce, 3½ Rudge	1	85×88	26	27
A. "Gee," 3½ Precision	1	85×88	27	30
W. Creyton, 3½ Triumph	1	85×88	Feil	

Newsome's time is equal to a speed of 51.8 m.p.h., which is a truly marvellous pace for a 500 c.c. engine on such a hill as Newnham, which, although fairly straight, is very steep and has a rough surface.



J. Woodhouse (3½ h.p. Comet-Precision) starting in Class 3. Woodhouse was third on time and second on formula, whilst riders of Precision engines in Class 1 were first and second on time.

The Newnham Hill-climb—

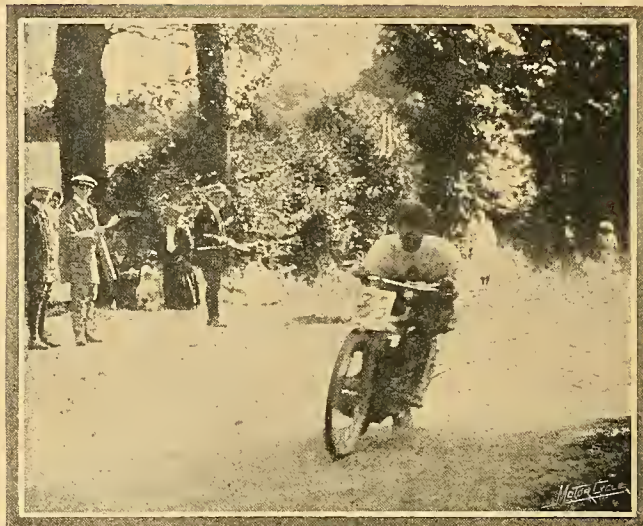
CLASS 4. For ladies' riding touring pattern motor cycles adapted for their special use. No other restrictions.—First on formula, Mr. Edward Lycett's prize. First on time, Rex Motor Mfg. Co.'s gold medal.

Rider, H.P. and Machine.	Cyl.	Bore and Stroke.	Position.	
			On Time.	On Formula.
		mm.		
Miss Muriel Hind, 5 Rex	2	77½ × 80	1	5
Mrs. K. H. Simpson, 3½ Rudge ...	1	85 × 88	2	1
Mrs. Baxter, 3½ Rex	1	84½ × 89	3	2
Miss Nina Baxter, 3½ Rex	1	82½ × 88	4	3
Miss May Walker, 2½ Hobart	1	70 × 78	5	4

CLASS 5. Multi-cylinder touring motor cycles. With fixed gears. Engines up to 1,000 c.c.—First on formula, club prize. First on time, Messrs. Douglas Bros.' prize.

Rider, H.P. and Machine.	Cyl.	Bore and Stroke.	Position.	
			On Time.	On Formula.
		mm.		
J. J. Cookson, 7 Matchless	2	85 × 85	1	5
S. T. Tessier, 4 Bat-Jap	2	76 × 64	2	4
H. Graham-Dixon, 2½ New Hudson	2	60 × 60	3	1
Miss Muriel Hind, 7 Rex	2	84½ × 89	4	6
G. E. Cuffe, 5 Indian	2	70 × 82½	5	3
R. H. Viggers, 2½ Enfield	2	53 × 75	6	2

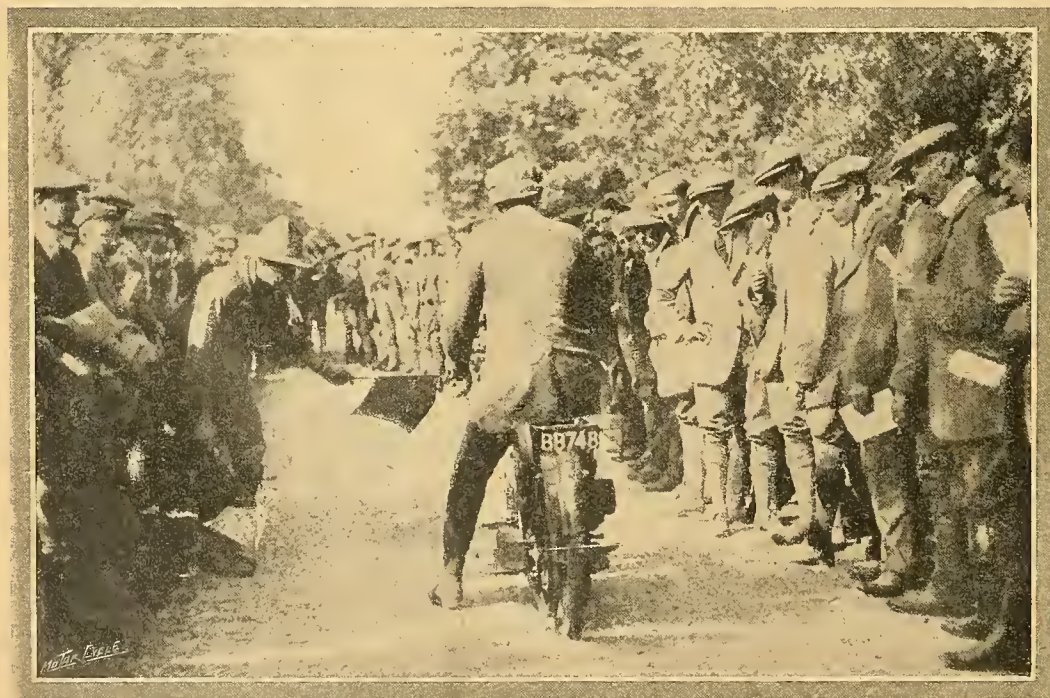
CLASS 6. Variable-g geared touring motor cycles. Single-cylinders up to 500 c.c. Multi-cylinders up to 1,000 c.c.—In this class a standing start must be made without assistance, and competitors will be required to bring the road wheels to rest between two strips in the middle of the hill, and restart without assistance at a given signal. First on formula, prize (presented by Messrs. Hobart Bird and Co., Ltd.) First on time, club prize.



H. C. Newman (3½ h.p. Ivy-Precision) passing the cross roads. Newman rode with good judgment, and succeeded in securing second position on time in Class 1.

Rider, H.P. and Machine.	Gear.	Cyl.	Bore and Stroke.	Position.	
				On Time.	On Formula.
			mm.		
B. Alan Hill, 3½ Rudge ...	N.S.U. ...	1	85 × 88	*	*
C. T. Newsome, 3½ Rover	Armstrong	1	85 × 88	1	1
A. L. Ommamey, 3½ Rudge	Rudge ...	1	85 × 88	2	4
H. V. Colver, 2½ Enfield ..	Enfield ..	2	53 × 75	3	2
Vernon Busby, 3½ Precision	Armstrong	1	85 × 88	4	3

*Allan Hill made fastest time but, as he failed to stop between the strips, the prize was awarded to C. T. Newsome.



L. B. Hart-Davis (scoutmaster) stopping a competitor between the strips in the variable gear class. The scouts rendered yeoman service in keeping the course.

The Newnham Hill-climb.—



As was expected, Miss Hind made fastest time in the ladies' class, riding her usual mount, a 5 h.p. Rex. Mrs. Simpson, 3½ h.p. Rudge, was first on formula. Unfortunately, our pictorial artist did not secure a good photograph of this lady.

The All Comers' Class.

Naturally the most excitement was in Class 7 open to all classes of motor cycles, no restrictions being made. O. C. Godfrey's failure to put in an appearance with his 7 h.p. Indian caused some disappointment, as the duel between him and the Coventry Club speed amateur A. Mackenzie Cott was expected to provide a close race. As it was Cott made the fastest ascent of the day on his 8 h.p. J.A.P., to which he had fitted a C.A.P. carburetter with wonderful results, though W. F. Newsome on his T.T. Triumph was less than a second slower. On formula G. Smith (*The Motor Cycle*), riding the touring 2½ h.p. Singer, was again successful, despite the fact that his magneto machine came adrift and had to be held on to its platform by means of straps. It is worthy of mention that this is the thirtieth different machine Mr. Smith has ridden this year. Roy Walker, on an overhead valve New Hudson-Jap, was second on formula. The leading positions will be found hereunder:

All the events had been run off by 3.45 p.m., greatly due to the efforts of chief marshal Holroyd and his staff of helpers. Further, the results were posted in Daventry before 5 p.m., thanks to the energy of the results calculators, Messrs. J. W. Roebuck, Wh. Ex., J. L. Milligan, B.Sc., and C. B. Waterlow, B.Sc. The official awards on formula in Class 1 were withheld on Saturday evening, as G. Smith's 2½ h.p. Singer on which he won had a 2in. tyre on the front wheel and a 1½in. on the rear wheel, thus giving the impression that the smaller tyre was not standard. As soon as the makers produced their printed list showing that 1½in. tyres are the standard equipment, the results were passed by the committee.

Coventry being the seat of the motor cycle industry it is not surprising that the industry was more strongly represented than is usual at motor cycle competitions, the leading lights in the trade from Coventry, Birmingham and district, being either lookers-on, officiale, or competitors.

W. F. Newsome rushes for the cross roads at full speed on his 3½ h.p. Triumph. Newsome only just missed fastest time of the day by fractions of a second.



The Newnham Hill-climb.—

CLASS 7. All-comers'. No restrictions as to equipment of machine.—First on formula, Rudge-Whitworth cup. Second on formula, club prize. First on time, the club cup. Second on time, club prize.

Rider, H.P. and Machine.	Cyl.	Bore and Stroke.	Position.	
			On Time.	On Formula.
		mm.		
A. Mackenzie Cott, 8-10 J.A.P.	2	85½ × 85	1	23
W. F. Newsome, 3½ Triumph	1	85 × 88	2	9
J. J. Cookson, 7 Matchless	2	85 × 85	3	22
J. Woodhouse, 3½ Comet-Precision	1	85 × 88	4	3
S. T. Tessier, 4 Bat-Jap	2	76 × 64	5	21
F. G. Edmond, 3½ Premier	1	85 × 88	6	8
W. Stanhope Spencer, 3½ Rudge ..	1	85 × 88	7	16
E. F. Baxter, 7 Rex	2	84½ × 89	7	25
C. S. Burney, 3½ Rudge	1	85 × 88	8	4
W. H. Elce, 3½ Rudge	1	85 × 88	9	13
Tom Pollock, 3½ James	1	86 × 96	10	20
W. G. McMinnies, 3½ Triumph	1	85 × 88	11	12
G. W. L. Meredith, 3½ Triumph ..	1	85 × 88	12	12
A. L. Ommaney, 3½ Rudge	1	85 × 88	13	6
P. Brewster, 3½ Norton	1	79½ × 100	13	10
A. B. Jepson, 3½ Triumph	1	85 × 88	13	14
J. H. Slaughter, 3½ L.M.C.	1	85 × 88	14	11
J. Gibson, 3½ Rudge	1	85 × 88	15	5
B. Alan Hill, 3½ Rudge	1	85 × 88	16	18
M. F. Pilkington, 5 N.L.G.-Jap ...	2	76 × 85	17	24
H. V. Colver, 2½ Enfield	2	53 × 75	18	7
Miss Muriel Hind, 7 Rex	2	84½ × 89	19	26
H. Greaves, 2½ Enfield	2	53 × 75	20	15
G. Smith, 2½ Singer	1	69 × 79	21	1
Roy W. Walker, 2½ New Hudson ..	1	76 × 65½	22	2
S. Crawley, 3½ Triumph	1	85 × 88	23	17
F. P. Davies, 3½ Rudge	1	85 × 88	24	19

Other Prizes.

The *Midland Daily Telegraph* prize was awarded to A. Mackenzie Cott for the fastest ascent of the day.

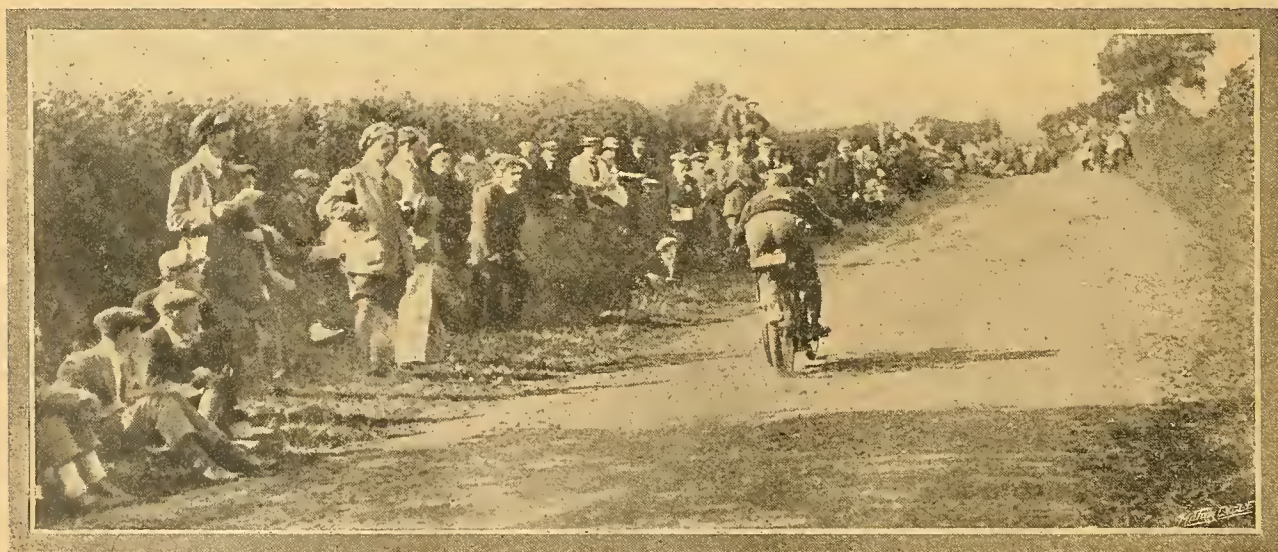
SPECIAL COVENTRY CLUB MEMBERS' PRIZES.—Club prizes for the best performance on formula by a member who has not won a prize in a hill-climb were awarded as follows: In Classes 3 and 7 to A. B. Jepson (3½ h.p. Triumph) and C. S. Burney (3½ h.p. Rudge). The special team prize was won by the K.N. team: J. Gibson (3½ h.p. Rudge), Geoff. Smith



C. T. Newsome who, riding a 3½ h.p. Rover with Armstrong three-speed gear, won the variable gear class both on time and formula. In the photograph he is seen restarting between the strips.

(2½ h.p. Singer), and Roy Walker (2½ h.p. New Hudson). With regard to the placing on formula it should be noted that A. Mackenzie Cott would have had to ascend the hill at something like 80 m.p.h. to have beaten Geoff. Smith, supposing the latter's pace to have been about 25 m.p.h. Obviously an impossible performance. This points to the need of a new formula. While the present formula is in use, if the h.p. is double for a given weight of machine and rider the speed must also be doubled. This is, of course, quite out of the question, for air resistance alone increases as the square of the speed. For this reason it is probable that the formula suggested in our correspondence columns a few weeks ago would give better results. This formula is

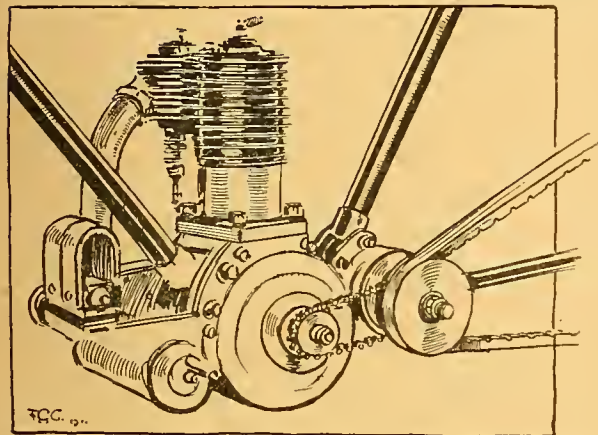
$$W$$

$$C \times T^2$$


A fast climb was made by S. T. Tessier on a 4 h.p. Bat-Jap in Class 3 when he ran second to W. F. Newsome, but he was not quite fast enough to get level with the Triumph crack.

THE TRIUMPH TWO-SPEED GEAR.

FOR some months past we have known that the Triumph Cycle Co., Ltd., Coventry, were experimenting with a two-speed countershaft gear fitted in a box behind the usual pedal bracket, but at the special request of the makers we refrained from mentioning it in these pages. However, as a contemporary has seen fit to publish a photograph and description of the gear our hands are no longer tied, and we now have pleasure in reproducing a line sketch showing the external arrangement of the drive and the gear



The Triumph experimental countershaft two-speed gear with combined chain and belt transmission. It is not yet ready for the market.

box, and append a technical description of the gear. It is, however, advisable to point out that the Triumph Cycle Co. are not in any way prepared to deliver this gear, and only last Saturday, in conversation with their works manager, Mr. Hathaway, we were informed that the final design was not yet decided upon, and that before the gear was offered to the public there would doubtless be some alterations.

SCORCHING.

AS Mr. Hugh Gibson and Mr. Hart-Davies have been taking my name in vain somewhat freely of late, I am asking the Editor's permission to reply, especially as I am charged with inconsistency. I was unaware my name had ever appeared at the foot of an article condemning End-to-end record breaking, but possibly these gentlemen are correct, and my position needs explanation.

Let me say at once quite frankly that I see nothing dangerous in averaging thirty miles an hour over the majority of our good roads, that I should welcome the extension of the speed limit to 30 m.p.h. if we are to be permanently afflicted with a speed limit, and that like 999 out of every 1,000 motorists I not infrequently drive at speeds in excess of legal limit.

These opinions are perfectly compatible with the strongest condemnation of the End-to-end record rides. It is one thing for a solitary rider to average thirty miles an hour over a broad, straight road for a short distance, up to 250 miles or so. He selects this pace because he regards it as safe under the circumstances, and because he enjoys it. If grease or corners or traffic or a change in the character of the road suggest that he should slow down to 10, 15, or 20 m.p.h., he generally does slow down. Anybody who saw me passing through a village, or approaching a hidden corner on one of my worst "blinds," would take me for the tamest rider on earth.

The circumstances of an End-to-end record are as different as chalk from cheese, and this is just what the outlaws refuse to recognise. A combination of forces urge the record breaker to snatch every available second. He has devoted his annual holiday to the attempt, he has possibly laid out a sum of money on the affair, he knows he can only succeed by a very small margin, and when danger looms ahead, all these influences combine to make him take risks. The odds are 100 to 1 against his slowing down when he ought to, whereas commonsense has free play with the fast tourist.

The chief features of the gear are that starting can be effected on either high or low speed without the use of a separate clutch, and that the chain connecting the gearing to the engine can be easily adjusted. The gear mechanism comprises a small gear box with two shafts passing through it, one of the shafts carrying two expanding clutches, somewhat of the type used on the earlier De Dion cars. By expanding either clutch, starting can be effected on the corresponding gear, the higher of which is direct, whilst in the lower the power passes through the gearing, giving a reduction of speed. The expansion of the clutches is effected by means of a rod sliding through one of the shafts, and actuated by means of a link from a double-ended pedal. When the pedal is in one position, both clutches are out of engagement; when one end of the pedal is depressed, one gear is engaged; whilst to change speed the other end of the pedal is depressed, bringing the first clutch into the neutral position and engaging the second. There is thus no sliding of gear wheels or engaging of positive clutches, and consequently starting can be effected gradually and easily on either gear—which is a very important point, as it obviates the necessity for employing any external starting clutch or "free engine."

One of the gear box shafts can be fitted with a starting handle if desired, enabling the engine to be started with the machine stationary. As will be gathered, the engine transmits the power to the gear box by means of a chain, and, as can be seen in the illustration, the motion is transmitted from the gear box to the back wheel by means of a belt. The method adopted for providing simple means of adjustment of the chain is very clever.

The exterior of the gear box is made circular, and it is carried in a circular bracket or housing, which forms part of the main frame. The centre of the chain sprocket is eccentric to the centre of the gear casing, so that if the casing is rotated the chain sprocket is moved nearer to or further away from the corresponding sprocket on the engine-shaft. Thus the chain is adjusted by merely rotating the gear box slightly, whilst it is held firmly in place by means of a simple form of clamp carried by the gear box housing. This type of gear should be almost fool-proof.

By B. H. Davies.

We have to add to this the fact that only one record breaker in twenty is wholly *compos mentis* over the concluding stages of the classic route. Averaging thirty miles an hour for two stages of 100 miles apiece between meals is a very different thing from averaging thirty-five miles an hour including stops for nearly 900 miles; there is a certain intoxication which results from prolonged compulsory speed, combined with a degree of physical exhaustion, or at least abnormal physical conditions.

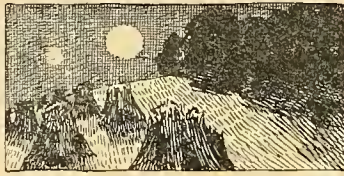
I have more than once seen a record breaker "blind" through a small and tortuous village, preceded by his "pilot" and rear-guarded by his "followers," the whole crowd roaring along at nearly 40 m.p.h. with their cut-outs open, and their hooters tooting madly, and each man in the team excited, or, as I put it above, in an abnormal physical and emotional condition. They do not shrink from risks like the fast tourist; they rather trust to luck and to superb steering to override risks. Surely there is some justification of the A.C.U. attitude in these considerations.

I need hardly say I am completely at one with Messrs. Gibson and Hart-Davies in desiring to see "blinding" eliminated from the English and Scottish Six Days. I do not think either trial has produced much reckless driving, though the desire to save marks now and then has just the same effect as the desire to smash a record, but if the "scorching" is not undertaken to save marks, it is not essential to the trial; and if it is done to save marks, it implies unpenalised trouble, and is therefore a defect.

Moreover, the fast riding of large clumps of riders may render motor cycles unpopular, and add to prejudice. I sincerely hope, therefore, that in the 1912 trial there will be two surprise checks per diem, and that the present 20 m.p.h. average, which is a wild farce, will be strictly enforced. But I repeat there is not the least danger in a sensible driver averaging 30 m.p.h. for short distances over suitable roads.

TIME TO
LIGHT LAMPSCURRENT
CHATSPECIAL
FEATURES

Sept. 7th	...	7.31 p.m.
" 9th	...	7.27 p.m.
" 11th	...	7.22 p.m.
" 13th	...	7.18 p.m.

**Scottish Motorists' Protest.**

Motorists in the North are grumbling very much about the state of the roads, sign-posting, etc., on the main Deeside Road, which passes Balmoral Castle and leads to the Devil's Elbow. The correspondence in *The Aberdeen Daily Journal* is both long and loud.

Provincial Motor Cycle Shows.

It is probable there will be no local or provincial show of motor cycles this year. Manufacturers and others who are members of the Manufacturers' Union are bound under heavy penalties not to show at any other than the society's exhibitions in Great Britain.

The A.C.U. Club Championship.

The team chosen to represent the Coventry and Warwickshire M.C. in the A.C.U. Club championship is made up as follows: Alan Hill (3½ h.p. Rudge N.S.U. gear), S. Wright (2½ h.p. twin Humber), Geoffrey Smith (3½ h.p. Triumph), E. A. Gorton (7 h.p. twin Rex), C. S. Burney (3½ h.p. Rudge), and A. Elson (3½ h.p. Triumph).

Hill-climb at Ballymacroe.

The Dublin and District M.C.C. held its concluding hill-climbing competition of the season on Saturday last, when a prize presented by one of the members, Mr. J. Healy, was competed for. The hill selected for the competition was at Ballymacroe, near Ashford, Co. Wicklow, a very steep hill leading from the coastline to the watershed of the Vartry, some parts of which have a gradient of 1 in 6. The afternoon was favourable for the competition, but the surface of the hill was in a very loose condition, and consequently the times were not so fast as was expected. The competition was decided on a rather unusual plan, the men being sent off in pairs, and the winners of each heat met in the second round, and so on until only two were left in. The heat winners of the first round were: P. J. Brady (3½ h.p. Rudge), 15 secs. start; T. Green (4 h.p. Waverley), 12 secs. start; G. Tyson (3½ h.p. Rudge), 15 secs. start; C. B. Franklin (7 h.p. Indian), scratch; F. J. Walker (8 h.p. J.A.P.), 5 secs. The second round resulted as follows: T. Green beat G. Tyson, F. J. Walker beat C. B. Franklin, and P. J. Brady beat J. Healy (a bye). The latter went into the semi-final round as fastest loser, but was beaten by Walker, and P. J. Brady beat T. Green. The final lay between Walker and Brady, and the first-named won. The distance was 1,144 yards.

Our Colonial Issue.

The above special issue, which will be published on October 12th, will contain among other interesting features the following articles: A list of colonial and foreign customs, tariffs and freight charges compiled from information obtained from shippers and the consulates. The Colonial Mount: Advantages of a Change-speed Gear for the Colonies, etc., by B. H. Davies. Our Export Trade: A chart showing the rapid rise of the British motor cycle exports. Experiences and opinions from Overseas Readers of *The Motor Cycle*. My Ideal Specification, by Expert Colonial Users. Numerous illustrations, etc. The price will be one penny as usual.

South African Hill-climb.

The Pretoria Motor Club held a very successful open hill-climb for motor cycles last month. Results: 2½ h.p. and under.—1, Metzger (H. and R. Precision), 39½s. 2, J. Hodgkinson (Hobart), 42s.; 3, W. Bosch (Wanderer), 47½s. 4 h.p. and under.—1, R. Cotter (T.T. Triumph), 32½s.; 2, E. Rose (F.E. Rudge), 34s.; 3, J. Hodgkinson (F.E. Triumph), 34½s. After this event a sweepstake open to all machines on the ground was held, which resulted as follows: 1, R. Cotter (T.T. Triumph); 2, Cutting (T.T. Bradbury); 3, Mozer (T.T. Bradbury).

A. Hill v a Hill.

Mr. Alan Hill called at our office a few days ago and informed us that he climbed Mucklows Hill, between Halesowen and Birmingham, on Monday afternoon with a 3½ h.p. Rudge and sidecar, carrying a combined weight of 47 stones. He also succeeded in restarting on the gradient half-way up with three passengers, whose combined weight amounted to 35 stones. The gear used was the N.S.U., giving ratios of 4½ to 1 and 6½ to 1. This speaks well for both the Rudge machine and the N.S.U. gear.

Scottish Hill-climb.

The Glasgow club autumn members' hill-climb was held last Saturday at Garslake Hill, a steep rise about half a mile long. W. Hunter (7 h.p. Indian) made fastest time (38½s.)

Class 1 (lightweights).—T. L. Rankine (2 h.p. Singer), figure of merit 212; W. Watt (2½ h.p. Enfield), 199.

Class 2 (single-cylinders).—R. M. McCulloch (3½ T.T. Triumph), 249; H. W. Ballardie (3½ T.T. Triumph), 243; J. S. Grant (3½ T.T. Triumph), 212.

Class 3 (twins).—W. Deans (5 h.p. Indian), 166; W. Hunter (7 h.p. Indian), 158.5.

Class 4 (passengers).—W. Hunter (7 h.p. Indian and sidecar), 132; Hans Stick (3½ h.p. Humber and sidecar), 114.



Miss N. Baxter (3½ h.p. Rex), whose skill at Newnham on Saturday last was much admired.

Motor Cyclist and Prospective Airman.

C. T. Newsome, who won a gold medal on a $3\frac{1}{2}$ h.p. Rover in the recent 1,000 miles trial, in addition to being a keen motor cyclist, is also interested in aviation. With a friend he is at present constructing an aeroplane in which he hopes to be flying at an early date.

Belgian Motor Cycle Race.

The silver cup presented by the "Express" (Belgium) in connection with the motor cycle race organised by the Motor Cycle Club of Liège was won by a Monsieur Fagard, riding a Sarolea motor cycle fitted with the new type $3\frac{1}{2}$ h.p. Sarolea ball bearing engine.

Coventry Hill-climb Notes.

Quite phenomenal results were obtained on Saturday last by G. Smith on the new $2\frac{1}{2}$ h.p. single-cylinder Singer. This machine has an engine with a bore of 69 mm. and a stroke of 79 mm. The machine was responsible for three firsts on formula, and had it been entered in the lightweight class, it would have won both on time and formula. The best figure of merit of the day was secured by the same rider with 434 points.

First, second, and third positions on time in Class 1 stand to the credit of the Precision engines—a fact of which their makers are justly proud.

It was freely reported on Saturday that a Rudge lightweight machine had been seen on the road during the last few days. It is quite true that a special light Rudge was on the road, but it had the ordinary $3\frac{1}{2}$ h.p. engine, and was only reduced in weight for the purpose of hill-climbs where there are no restrictions as to equipment. This model weighs about 140 lbs., and may be reckoned to give a good account of itself when it is thoroughly tuned up.

A. Mackenzie Cott's 8 h.p. J.A.P. was if anything a bit too powerful even for an easy hill like Newnham. The pace of a projectile of this description, even on a moderate bend, is so high that it is imperative to cut out to get round, and it was only three-fifths of a second faster than Newsome's $3\frac{1}{2}$ h.p. Triumph. Allowing for the difference in the weight of the riders, one may reasonably ask what advantage is there in riding a machine of this power? Cott's time equals a speed of $52\frac{1}{2}$ miles per hour, whilst Newsome's came out at 51.8 miles per hour.

The Rover win in the variable gear class was a popular one. C. T. Newsome is a trier, and the fact that he won first position on time, and was awarded the formula prize, owing to Alan Hill unfortunately failing to stop his wheels between the strips, was a creditable performance, and is another feather in the cap of the Armstrong three-speed gear. A similar gear was fitted to Roy Walker's New Hudson-Jap, which gained first place on formula in the lightweight class.

It was unfortunate there were not sufficient novice entries in several classes to allow the special club prize to be presented for the best performance on formula and on time by members who had never won a prize in a hill-climb. Incidentally, there were some very warm novices on the hill, who, although they may not have won prizes in hill-climbs, have performed creditably in other events.

Premier Profits.

A net profit of £27,478 7s. 11d. has been made by the Premier Cycle Co., Ltd., on the past year's working, dividends being recommended at the rate of $7\frac{1}{2}\%$ on the preference shares, and 10% on the ordinary.

The R.I.A. Midland Centre Scheme.

The Midland Centre of the Roads Improvement Association has been established to enable motor cyclists and other road users to take a greater interest in the condition of their roads. The membership subscription has been fixed at 5s. per annum, or £1 1s. for five years. The Association is well worthy of the support of all motor cyclists, its objects being as under. To secure that—

(a.) No metal is left unrolled or loose upon the road surfaces at night or over week-ends.

(b.) Road repairs are carried out, as far as possible, over half the width of the surface at a time.

(c.) Patching of surfaces and repair of pot-holes shall be properly done.

(d.) Gritting of street surfaces shall be done with more suitable material, having some regard for rubber tyres.

(e.) Roadside grass margins shall be properly sloped to enable wheels to mount them with a minimum risk of accident.

Subscriptions should be sent to The Secretary, the R.I.A. (Mr. Wallace E. Riches), Caxton House, Westminster, S.W.

Midland Road Information.

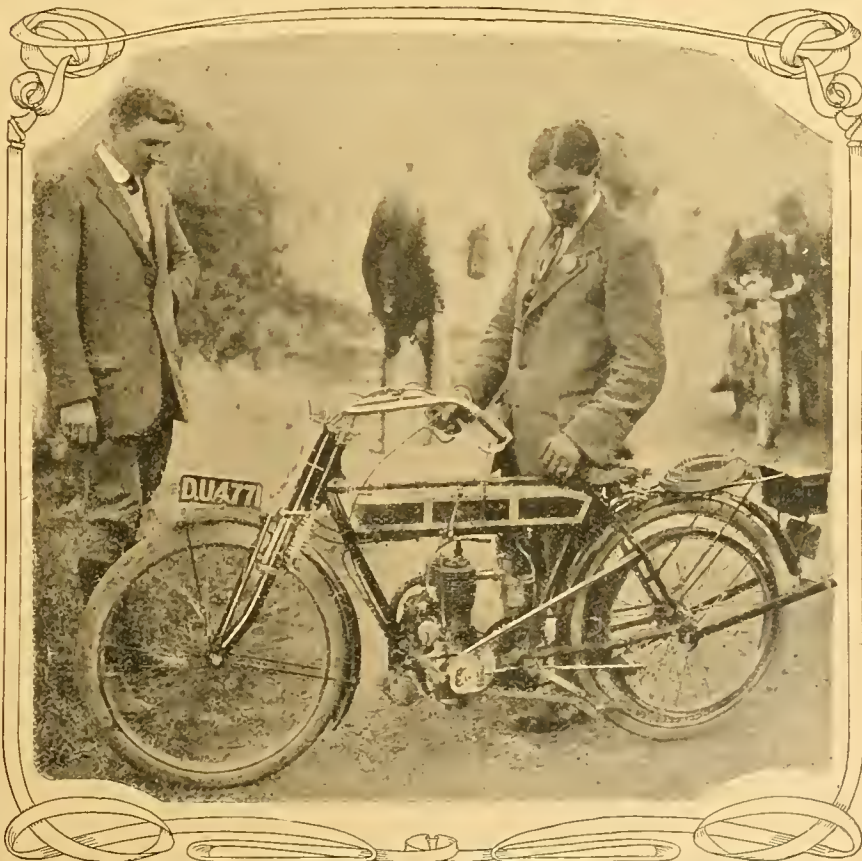
Three steam rollers are at work on the Birmingham-Hagley-Kidderminster Road—one on Mucklows Hill, one in Halesowen, and one on Hagley Hill.

Harry Long's Long Ride.

Harry Long completed 30,000 miles of his long distance ride last week. We publish a photograph on page 929 taken by *The Motor Cycle* photographer, which depicts Long on a boneshaker with his $3\frac{1}{2}$ h.p. "Mile Eating" Triumph alongside. Our photographer has been facetious enough to write on the print that Long thinks of changing his mount for one of the pedal-propelled wooden-spoked bicycles on which he is depicted, but we do not think there is any likelihood of any such alteration being made while his Triumph continues to carry him so well.

A.C.U. Club Championship.

The following clubs have entered for the A.C.U. inter-club championship on September 16th: Coventry and Warwickshire M.C. (holders), Wolverhampton and District M.C.C., Herts County A.C., N.W. London M.C.C., Birmingham M.C.C., Chesterfield and District M.C.C., Streatham and District M.C.C., and Oxford M.C.C. The course is a secret one, in the Midlands, measuring forty-two miles, and it will be covered four times. The starting and finishing point will be at Banbury, Oxon. Teams will consist of six riders, one of whom must drive a passenger motor cycle.



G. Smith ($2\frac{1}{2}$ h.p. Singer), who won three cups at the Coventry Club's hill climb on Saturday last. The rider on the left is A. Mackenzie Cott who rode his 8-10 h.p. J.A.P. to victory in the All Comers' class.

IRISH END-TO-END SIDECAR RECORD.

HUGH GIBSON and J. Eastwood, mounted on a $3\frac{1}{2}$ h.p. Bradbury and sidecar, left Mizen Head at 4.35 a.m. on the 31st ult. for Fairhead, Co. Antrim, with the intention of establishing an Irish End-to-end sidecar record. The riders were in Cork at 7.23 a.m. on the same day, C. E. Murphy, of Cootehill, acting as pilot. The record breakers were followed by P. Platt, another Bradbury rider, and were timed by M. Chambers.

Lessons of the Ride.

In a letter to us Mr. Gibson says that he has learned several important things in the End-to-end Irish ride which could never have occurred in ordinary touring tests. He therefore feels particularly pleased when he hears the argument trotted out that road records are useless. He reckons the Irish End-to-end record is worth quite £1,000 to the makers of the machine he rode, irrespective of its value as an advertisement. Incidentally, he mentions that Mr. J. Eastwood, who accompanied him, made quite a good haul in orders, as upwards of forty orders were handed to Mr. Eastwood, who, however, could only accept them subject to confirmation from the works.

The whole ride was accomplished with one puncture, and the only contretemps which occurred was when the chain jumped off the sprocket through the machine being turned on to the grass to avoid a restive horse. This lost the riders fifteen minutes, because the chain locked between the spokes and the sprocket. Another little incident was when a cart and horse backed across the road, and the riders just managed to swing on to the footpath and back again on to the road without stopping—a rather narrow escape, which somewhat controverts Mr. Gibson's argument that road records are quite harmless.

That thorough sportsman, C. E. Murphy, had a puncture, but the others stopped to help him, as he had lost all his tools. Near Cork the pacer's machine caught fire, but the conflagration was soon extinguished. Two other pacers, P. and G. Simpson, lost all their tools.

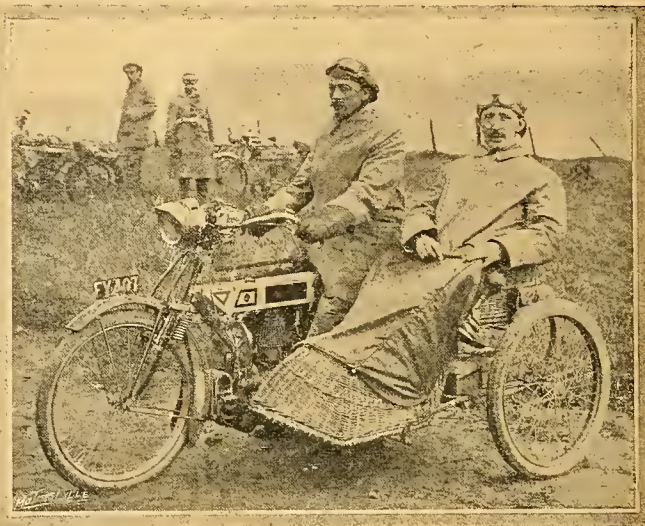
No Mechanical Troubles.

Gibson says the road was difficult to find, and the surface was bad to Cork. Good roads were experienced from Navan. Gibson concludes by saying that he stopped twenty-five minutes at Navan for food, had no mechanical trouble at all, rode in a following wind all the way, and had rain for the last hour. There were no police traps, no speed limits, and no accidents. His wrists and arms were sore, otherwise he was quite fresh at the finish.

He left Mizen Head, as we have already pointed out, at

4.35 a.m., Cork 7.23 a.m., Cashel 9.35 a.m., Navan 1.50 p.m., Banbridge 4.20 p.m., Fairhead finish 6.39 p.m. Total time, 14 hours 4 mins.

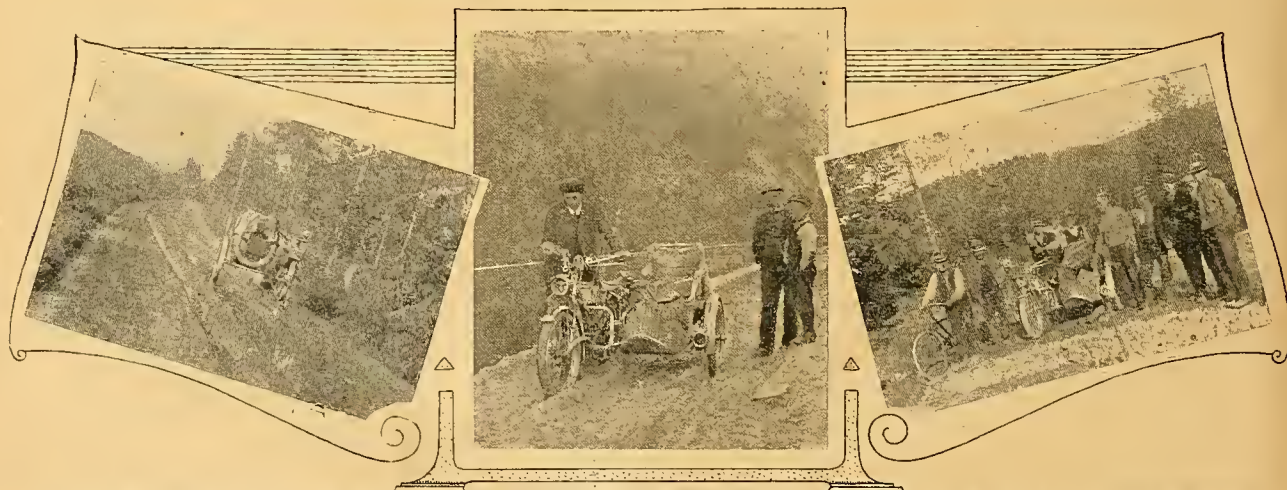
The riders were started by Coastguard Richard Tucker, of Mizen Head, and timed in by N. MacNaughton, of Ballyvoy, witnesses being C. E. Murphy, J. Stewart, and the passenger J. Eastwood. The machine was sealed and examined both at the start and finish. The total weight of the combination and passengers was nearly 600 lbs. C. E. Murphy's time on a Triumph was 13 hours 6 minutes.



Irish End-to-End record. Hugh Gibson and his passenger, J. Eastwood, with the $3\frac{1}{2}$ h.p. Bradbury and sidecar. The photograph was taken at Fair Head, Co. Antrim. The headland can be seen in the distance. Mr. Eastwood is said to have booked forty orders for these machines as a result of the ride.

The argument that a $3\frac{1}{2}$ h.p. engine is not powerful enough for a sidecar is, we think, sufficiently answered by Mr. Gibson's two excellent rides on the Bradbury machine and sidecar. The equipment of the machine was as follows: Bradbury $3\frac{1}{2}$ two-speed gear, chain drive, Hans Renold $\frac{5}{16}$ in. chains, Dunlop studded tyres 26 in. by 2 $\frac{1}{2}$ in. and Bradbury sidecar. The riders made use of Wakefield oil.

TOURING SCENES IN NORWAY.



The reproductions above are from photographs by Mr. H. Landstad, who has recently been touring in Norway with a 7-9 h.p. V.S. and Mills-Fulford sidecar. He was advised to ride solely on account of the bad state of the roads, of which the photographs give some idea. Observe the deep wheel ruts. It says much for the strong construction of motor cycles and sidecars that they can emerge successfully from such a strenuous test. It may be added that a Cairns tyre has been successfully used on the driving wheel for 1,300 miles.

CLUB NEWS.

Motor Cycling Club.

This club will have a run to Clacton-on-Sea on September 24th. An early start will be made and breakfast will be taken at Bishop's Stortford at 9 a.m. Lunch at the Royal Hotel, Clacton-on-Sea.

N.E.A.A. and Sunderland and District M.C.

The reliability trial to Patterdale and back on August 26th resulted as follows: 1. R. B. Smith, G. W. Raper, T. Smith and J. B. Reed; 5. J. Whittaker; 6. F. Turvey and C. F. Christon.

North Middlesex M.C.C.

Although in a recent match the N.W. London M.C.C. appeared at first to be the winners, yet it was discovered by checking the time sheets that the North Middlesex M.C.C. had the advantage by a margin of several points. They have therefore qualified for the medals.

North-west London M.C.C.

Entries have filled well for the gymkhana at the Stadium on the 9th, at 2.30 p.m.

The entrance for motor cycles is by gate "H" in Wood Lane; this will however be only open from 2 to 3.30 p.m. Competitors only proceed into the arena. Machines may be garaged at a cost of threepence in an enclosure near "H" gate inside the exhibition. Cover is not guaranteed.

The following have offered prizes for the various events:

Triumph Cycle Co. (gold medal), Bat Manufacturing Co., Bosch Manufacturing Co. (two cases spare parts), Hanover Rubber Co. (steel and rubber studded tyres), Stanley Belt Co. (belt), XI-all Specialities (pan seat), Rey and Company (exhaust whistle), Alfred Dunhill, Ltd. (overalls), J. Lucas, Ltd. (horn), also Messrs. Ernest Scott, Ashworth, Hal Hill, Sheard, Pooley, Stern, Rowden, and Thomas.

Streatham and District M.C.C.

On Saturday, September 30th, the last open hill-climb of the season will be held by this club, containing the following classes:

Class I.—Lightweights in touring trim, not exceeding 340 c.c.

Class II.—Single-cylinder touring motor cycles up to 500 c.c.

Class III.—Multi-cylinder touring motor cycles up to 1,000 c.c.

Class IV.—Variably geared touring motor cycles. Singles up to 500 c.c., multi-cylinders up to 1,000 c.c.

Class V.—Any type up to 500 c.c.

Class VI.—Any type up to 1,000 c.c.

Class VII.—Passenger machines.

The following formula will be used: $\frac{W}{C \times T^2}$. The hon. sec.

is Mr. J. H. Jeffery, 10, Daysbrook Road, Streatham Hill, London, S.W.

Ilkley and District M.C.C.

The 200 mile reliability trial for a silver trophy presented by Harry Hemingway was run off on August 27th, the route being from Ilkley to Keswick and back. The run was in the nature of a team trial, a team consisting of two riders, and there were five teams entered, but owing to the severe weather and the trying nature of the course only three teams succeeded in getting through. Owing to the heavy and incessant rain on the homeward journey, competitors suffered severely from water on their magnetos and slipping belts, besides the usual punctures. The winning couple proved to be J. Norman Longfield (3½ h.p. T.T. Triumph) and Denison Wilson, jun. (3½ h.p. Bradbury), who only lost three marks; the second was Roy Cowling (5 h.p. Matchless-Jap) and John Rudd (3½ h.p. Bradbury), who gained club silver medals; and the third Charles Thackray (3½ h.p. J.A.P.) and A. Drummund (5 h.p. Johnson), bronze medals.

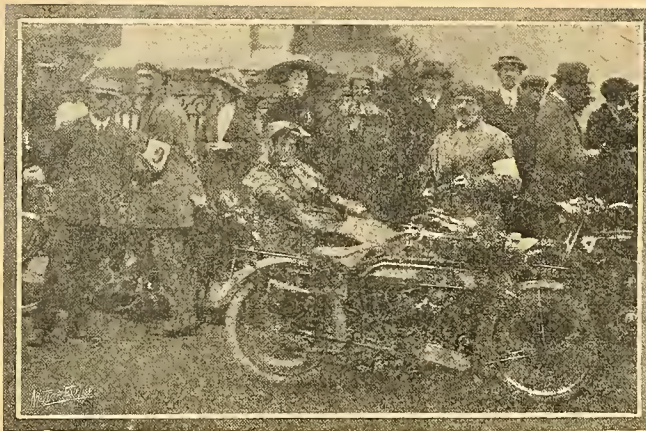


NEWNHAM HILL CLIMB. Scene at the summit. [No. 49, R. N. Corah, finishing. On the left are the judge, timekeeper, results calculators, and others.

Club News.—

Sheffield and Hallamshire M.C.C.

The annual competition for the club cup was held on Saturday from Largate, Sheffield, to Pickering and back via Rotherham, Doncaster, Ferrybridge, Tadcaster, York, Easingwold, and the terrible Sutton Bank, Helmsley, and Pickering, back via Malton, York, Tadcaster, Ferrybridge,



Sheffield and Hallamshire M.C.C. reliability run to Pickering and back for the club cup. Our picture shows Mr. and Mrs. MacBourne with their twin Zenith and sidecar ready to start from the Victoria Memorial.

Doncaster, Rotherham, and finishing at the Plumper's Hotel, Tinsley. The competition was for reliability, not speed, and the officials had fixed secret controls along the route, no competitor being allowed to travel faster than twenty miles per hour. All competitors were timed by their own watches, which were carried in sealed cases. The results are being worked out on formula, and cannot be verified till they have the confirmation of the committee.

Manchester M.C.

For the first time in its history the Manchester Motor Club carried out a very successful gymkhana and garden party on Saturday, September 2nd. It was held in the grounds adjoining the "Old Ship Hotel," Styal, Cheshire, and about 200 members and friends attended. The weather being everything that could be desired. The motor cycle and mouse trap race was won by Mr. Munroe. Motor cycle cigarette race, Mr. White and Miss Kilner. Tug of war, motor cyclists v. car owners, motor cyclists won. Motor cycle number race, Mr. Sykes 1st, Mr. Castagnoli 2nd. Motor cycle obstacle balloon race, Mr. Sykes 1st, Mr. Castagnoli 2nd. Tall hat motor cycle race, Mr. Coupes 1st, Mr. Castagnoli 2nd. Sidecar event, Mr. Bottome and Miss Crossley. A special vote of thanks was passed to Mr. Ward for arranging the various events, also to Mr. Glazebrook for acting as official timekeeper. As the afternoon was so successful it is to be hoped that it will be an annual fixture for the club.

Edinburgh and District M.C.

The Amulree open hill-climb will be held on Monday, September 18th. There will be the following classes: I., Novice class (handicap); II., Handicap (up to 400 c.c.); III., Handicap (400 c.c. to 600 c.c.); IV., Handicap (600 c.c. and upwards); V., Tyro class (handicap); VI., Scratch class (up to 600 c.c.); VII., Unlimited scratch class; VIII., Passenger class (handicap). Classes I. to V. are open to standard touring mounts.

The Trials Committee beg to thank the following firms for their assistance in offering prizes: North British Rubber Co., Ltd., pair of tyres and tubes; Messrs. Alexander and Co., Edinburgh, motor cycle valise; Messrs. Joseph Lucas, Ltd., lamp and generator; Messrs. Morrison Bros., Edinburgh, Cowey speedometer; Messrs. Rossleigh, Ltd., Edinburgh, Brooks belt and tube case; Messrs. Lycetts, Ltd., Lyso belt; Messrs. C. C. Wakefield, five gallons Castrol oil; Palmer Tyre Ltd., Palmer tyre and tube; also Mr. W. R. Green, F.R.S., lamp and generator.

This attractive prize list should certainly secure a large number of entries and help to make the event one of the

most interesting competitions held by the club this season. Entries close Monday, 11th inst., to the trials secretary, Percy E. Tolfree, 47, Falcon Avenue, Edinburgh, who will be pleased to give all further particulars, rules, etc.

Perth and District M.C.C.

Over a score of members met at luncheon in Scotland's Hotel, Pitlochry, on the 23rd ult., and, after being weighed at the railroad depot, proceeded via Tummel Bridge to the south-east apex of the well-known Trinafour Triangle.

The occasion was the club's hill-climb to determine the destinations of the two gold medals awarded for first up in Class A (formula) and first in Class B (maximum difference) respectively, and other prizes.

The hill is not quite up to the Amulree standard of stiffness; the loose surface combined with the corners lends a distinctly sporting quality to the ascent. The weather conditions were of the best.

W

The formula used in Class A was $\frac{W}{C \times T^{1.5}}$, and an

analysis of the recorded times and other data discloses the following results:

CLASS A.—1, J. W. Adamson (3½ h.p. T.T. Triumph), gold medal, 1,064; 2, D. Batchelor (3½ h.p. T.T. Triumph), 836; 3, Hon. A. J. M. Stuart (3½ h.p. T.T. Triumph), 755. Other scores are: 4, J. G. Beveridge (3½ h.p. Touring Triumph, 84 x 86), 642; 5, Bruce Syme (3½ h.p. Touring Rudge), 626; 6, Douglas Scott (3½ h.p. B.S.A.), 604; 7, A. H. Geddes (3½ h.p. Ivy-Precision), 502; 8, Hon. J. G. Stuart (2½ h.p. Douglas), 495; 9, D. Cairnie (2½ h.p. Douglas), 414.

In Class B (maximum difference) all but two competitors failed to keep going in the slow test, and were disqualified. The results in this class are:

CLASS B.—1, J. W. Adamson (3½ h.p. T.T. Triumph), gold medal, difference 3m. 23½s.; 2, Hon. A. J. M. Stuart (3½ h.p. T.T. Triumph), difference 3m. 14s.

The timekeepers were Messrs. A. F. Dalglish and J. W. Robertson.

Essex M.C.

On Saturday last a hill-climb for medals presented by Mr. Cummings was held at Chinnor. The hill, which had been kept a secret, proved a very sporting one. The results were as follows:

	SINGLE-CYLINDERS.	M. S.	Formula.
1.	F. W. Applebee (2 Centaur) ...	2 5½	988.6
2.	H. A. Evans (3½ Rudge) ...	1 18	1114.0

	TWIN-CYLINDERS.	
G. L. Fletcher (2½ Douglas) ...	1 24½	978.8

LIGHTWEIGHTS.

1.	F. W. Applebee (2 Centaur) ...	1 45½	829.9
2.	G. L. Fletcher (2½ Douglas) ...	1 25	983.3

After the climb tea was partaken of in a garden on the hill. The thanks of the club are due to Mr. Cummings for a most enjoyable afternoon.



Essex M.C. hill-climb. An impromptu tea in an orchard while the officials work out the results.

Club News.—

North Middlesex M.C.C.

On Saturday, September 9th, there will be a week-end run to Clacton-on-Sea, starting from Ye Olde Gatehouse, Highgate, at 3.30 p.m., and for the benefit of those unable to join this party a second division will leave the Gatehouse at 6 a.m. on Sunday. Headquarters "The Black Boy," Weeley, near Clacton.

Willesden Green C. and M.C.C.

A speed-judging contest over a secret course was held on August 27th, the winners being: 1, A. W. Loughlin (3½ h.p. Pengeot); 2, J. C. Ball (3½ h.p. N.S.U.); 3, W. Gregory (7.9 h.p. Pengeot and sidecar). The course was very rough and hilly, and the numerous lanes made it very hard to find the course. The next trial is to Towcester and back, non-stop, on September 17th.

Harrogate and District M.C.C.

On the 27th ult. this club held a team reliability trial over a twenty-five miles course, which included Leathley Bank, Pot Bank, and the well-known Norwood Edge, and which had to be completed four times in all, marks being deducted for any kind of stops and also for being late or early at the control. The first two laps were completed in fine weather. The third lap, however, was run in wet, and for the last lap the rain came down in torrents. The following is the result:

*J. E. Brooke (3½ h.p. T.R. Triumph).—Lost no marks.
*W. E. Grange (3½ h.p. Bradbury, two-speed).—Lost 1 mark.
†F. Mackay (3½ h.p. T.T. Singer).—Lost 2 marks.
H. W. Fortune (3½ h.p. Triumph).—Lost 10 marks. Failed Leathley last lap.
E. R. Davies (3½ h.p. Triumph).—Lost 30 marks. Started engine outside control and failed Leathley last lap.
*C. P. Finn (2½ h.p. Enfield, two-speed).—Lost 33 marks. Failed on hills last two laps.
†T. Dearlove (3½ h.p. P. and M., two-speed).—Lost 40 marks. Stopped once first lap for no apparent reason.
†C. Nettleton (3½ h.p. Humber, two-speed).—Lost 57 marks. Failed to start machine in given distance and failed on hill third lap and also fourth lap.
T. Atkinson (3½ h.p. T.T. Triumph).—Retired after third lap; tyre troubles.
W. B. Atkinson (3½ h.p. Calthorpe).—Retired after second lap.
G. Shepherd (3½ h.p. B.S.A.).—Retired after second lap.
W. Aldon (3½ h.p. Premier, three-speed).—Retired first lap; lost way.
W. Richmond (5 h.p. Rex, two-speed).—Retired first lap; failed Leathley and lost way.
*Winning team. †Second team. The only two teams to finish.

Edinburgh and District M.C.

The annual team competition for the Waverley Trophy takes place on Saturday, September 9th. The competition is a fifty miles reliability trial, with two timed hill-climbs, and is open to all Scottish clubs. The trophy is a most valuable one, and was presented by J. M. Dobson. Entries close to-day (Thursday, September 7th). The organising secretary is Mr. W. R. Green, 8, Argyle Crescent, Joppa, Edinburgh.

Shropshire M.C.C.

A hill-climb on the knock-out principle was held on August 27th on Wenlock Edge.

CLASS I., for lightweights, was abandoned, owing to the lack of the necessary five entries.

CLASS II., for standard touring singles up to 600 c.c.—Four started. 1, A. J. Poole (3½ h.p. Bradbury); 2, S. W. Moss (3½ h.p. Triumph); 3, C. Rice Oxley (3½ h.p. Triumph)

CLASS III., any size single or twin (racing class).—1, H. G. Potts (3½ h.p. T.T. Triumph); 2, A. L. Ommanney (3½ h.p. Rudge); 3, T. Shaw (3½ h.p. T.T. Triumph).

Herefordshire M.C.C.

A reliability trial in connection with the Challenge Bowl lent by the Herefordshire Automobile Club was held on August 27th, the route chosen being *via* Fromes Hill and Worcester to Stratford-on-Avon, returning *via* Worcester, Malvern, and Ledbury to Hereford—a total distance of 109 miles. Fromes Hill was chosen for an observed hill-climb, of which two clean ascents were made, the remainder "konking" out about sixty yards from the top. The trial resulted in a comparatively easy win for Mr. Vale, of Leominster, who made a non-stop run. Result:

Position.	Rider and machine.	Marks lost.
1.	T. B. Vale (3½ Triumph)	0
2.	G. F. W. Spencer (3½ Humber)	2
3.	A. Smith (3½ Arno)	3

Halifax and District M.C.C.

The club's second reliability run was held on August 27th, Scarborough being the objective. About fourteen members entered for the competition. The speed for the solo machines was fixed at 20 m.p.h.; and for sidecars 18 m.p.h., while York was the only intermediate official stop. One mark for each minute early or late at controls was deducted, as well as five for each stop and for any adjustment to machines. Heavy rain fell all the way back from Scarborough, and the competitors were wet through on their arrival at Halifax. The ultimate winners after a keen contest were: 1st, F. E. Jackson (twin Rex de Luxe), lost no points; 2nd, H. B. Holdsworth (3½ h.p. Rex) and E. Farrar (2½ h.p. New Hudson), who share second and third prizes, both losing 5 points.



OPEN SPEED TRIALS ON THE SANDS AT MAGILLIGAN, organised by the Motor Cycle Union of Ireland (Ulster centres).

A. Combe (3½ h.p. Premier), winner of the 20 and 50 miles open handicap, starting in the 50 miles race.

A. Kirk (3½ h.p. Triumph), winner of the ten miles scratch race, connecting a long exhaust pipe after the event.



A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Loss of Power.

Q I am troubled by my machine going well for about ten or twelve miles and then showing obvious signs of fatigue on hills, finally stopping dead on anything more than about 1 in 15. Sometimes, though rarely, the trouble starts in less than the distance mentioned above. If you can assist me I should be very much obliged.—H.C.R.

We should imagine that your cylinders and pistons are liberally coated with carbon deposit as the result of long running. This carbon deposit should be scraped off, for which purpose the cylinders must be removed. Also check the amount of opening of the valves. Maybe the engine is being throttled.

Edinburgh to Plymouth and Return.

Q I intend going from Edinburgh to Plymouth via Bristol, and wish to come home via London (if possible) by Weybridge for Brooklands, and should be much obliged if you could give me the best routes avoiding London, and, if you could, the name of a good garage near London where I could leave my machine, as I wish to spend a few days in London on the way home?—A.H.M.

It would be best to follow the Moffat, Carlisle, Kendal, Lancaster, Preston, Warrington, Shrewsbury, Leominster, Hereford, Gloucester, Bristol, Cross, Taunton, Exeter. Plymouth road on the way down, and from Plymouth through Exeter, Chard, Sherborne, Shaftesbury, Salisbury, Andover, Basingstoke, Bagshot, Horsell Common, and Weybridge for Brooklands. Any of the garages in the neighbourhood of London would be suitable for putting up your machine during your stay in the city. Of course, it would be better to bring the machine right into the city and put it up at one of the bigger garages which are open day and night, such as Friswell's, 1, Albany Street, N. In the event of your doing so we should advise you to ride in over Hammersmith Bridge, High Street, Kensington, through Hyde Park, Marble Arch, Baker Street, and Regent's Park, where anybody will be able to direct you to the garage in question. The return route might be taken conveniently from the same place to, Finchley, Barnet, Hatfield, Baldock, Biggleswade, St. Neots, Stamford, Grantham, Newark, East Retford, Doncaster, Selby, York, Thirsk, Darlington, Durham, Newcastle, Alnwick, Berwick-on-Tweed, and Edinburgh.

Cost of Second-hand Machines.

Q I am about to purchase a second-hand machine. I know nothing about motor cycles at all. I should be glad if you will give me a few particulars through *The Motor Cycle*. (1.) Are there any books on motor cycles? (2.) I thought of giving about £10 for one. Could I get a fairly good one for that, second-hand, of course? (3.) Are motor cycles very expensive in upkeep, and what would the cost be per year for a fair amount of riding?—BEGINNER.

(1.) Yes, there is "Motor Cycles and How to Manage Them," which will give you all the information you require. This can be obtained price 1s. 2d. post free from these offices. (2.) With luck you could get a reliable machine for the price mentioned. (3.) With regard to expense of upkeep. The older and cheaper a machine is the more the upkeep costs as a rule. If you pay a good price in the beginning the price of upkeep would be small. It usually amounts to between £10 and £12 per annum, but everything depends on the rider.

Failure to Answer to Throttle.

Q I have a 2½ h.p. machine, automatic inlet, accumulator and trembler ignition. It runs very well with spark almost fully retarded and the throttle about one-third open, the speed being about 15 m.p.h. If, however, I open the throttle more, and the extra air in proportion, it does not seem to make any difference to the speed. Also when the spark is advanced the tendency is to slow down rather than accelerate. The peculiar part is that it answers well to these controls on the stand. (1.) Can you give me the cause and remedy? (2.) The compression bears my weight on the pedal for about seven seconds. Is this sufficient? (3.) Occasionally the machine gives out after running a few miles, but on dismounting will start again immediately. Can you account for this?—J.W.H.

(1.) Your machine needs adjustment all round. Try the contact breaker. See that the points of the make and break, or wipe, make proper contact in whatever position you set it. Next try a larger choke tube or a smaller jet to the carburetter. The cause of the machine occasionally stopping may be due to a temporary obstruction in the jet or petrol pipe. (2.) The compression seems fairly satisfactory. (3.) Probably an obstruction in the petrol pipe.

Silencer Under Sidecar.

Q I have read with interest your articles on silence lately appearing in *The Motor Cycle*, especially the one concerning the transference of the exhaust silencer to the sidecar. I have an 8 h.p. Chater Lea and sidecar, J.A.P. engine. (1.) Do you think I could make it quieter by using a larger silencer under the sidecar? If so, what particular silencer would you recommend me to get? (2.) How much power should I lose by doing this? I am willing to sacrifice a little power if I can get a substantial decrease in noise. (3.) What would be the dimensions and form the proposed silencer should take?—R.L.D.W.

(1.) Yes. Any of the good silencers which are at present on the market would be suitable for the machine you mention. One which gives very good results in ordinary practice is the Clair, sold by Messrs. J. C. Lyell and Co., Ltd., 113, Great Portland Street, W. (2.) There should be but little or no loss of power with a good silencer of ample dimensions, but you could prove this to your own satisfaction by use of the cut-out. (3.) We recommend you to consult Messrs. Lyell, giving dimensions and speed of engine.

How to Run Slowly.

Q My machine is a standard 3½ h.p. Bradbury. (1.) If I run about fifty miles or if only thirty off the reel, I can only just bear my hand on the bottom of the crank case. Is this as it ought to be? (2.) I can only get eighty miles per gallon of Shell spirit. (3.) I cannot get it to run slowly. (4.) When I flood the carburetter the petrol runs out at the funnel of the fixed air intake until engine is running, and if I stop for a while the drip continues. I may say the timing, valves, and magneto are correct, makers' setting, also piston rings run quite freely. I give a pump-out of oil every ten miles.—T.H.

(1.) We do not think you need worry about the crank case being hot. This is frequently the case with motor cycle engines; it is due to conduction. (2.) Perhaps you will get more economy by using a smaller jet and smaller choke tube in the carburetter. This will also enable you to go more slowly. (3.) See last answer. Close extra air, nearly close throttle, and retard spark. (4.) Probably if you turn the needle valve round in its seating you will dislodge a piece of grit which causes the carburetter to flood slightly.

*Striking
Evidence
of the
many merits
of the
B.S.A.
Motor Bicycle*

"POWER, COMFORT, RELIABILITY."

"I have just returned from a Cycling Trip in North Wales, and wish to congratulate you on the excellence of the B.S.A. Motor Cycle used. This machine (which has completed 2,000 miles) took a sidecar (passenger and self exceeding 22 stone in weight) from Birmingham through Bettws, Capel Curig, Beddgelert, etc., singly geared, without failing on a single hill, and has proved most satisfactory as regards its power, comfort, reliability, and general excellence.

"I have had single, twin, and 4-cylinder machines of various makes, but none to equal your 1911 3½ h.p. Roadster Model."

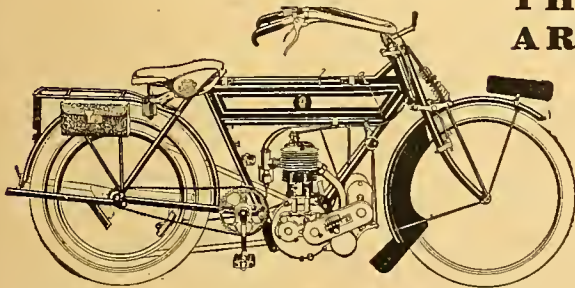
"B.D.," Edgbaston, August 29th, 1911.

THE B.S.A. MOTOR BICYCLE

is recognised as the most perfect machine on the road. Its distinctive finish, its silence, power, and smoothness of running are points that are fully appreciated by those who have ridden other makes.

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**THE BIRMINGHAM SMALL
ARMS COMPANY LIMITED,
102, Small Heath,
BIRMINGHAM.**



The B.S.A. 3½ h.p. Motor Bicycle
(Fixed Engine) **£50**

The B.S.A. 3½ h.p. Motor Bicycle
(Free Engine) **£56 10s.**

Are you using B.S.A.
Specially Prepared
Cylinder Oil
For Motor Cycles?

"The Royal Enfield Year."

Nineteen-eleven is acknowledged throughout the motor cycling world to be the "Royal Enfield Year." Every competition and trial in which "the most perfect lightweight ever produced" has taken part, shows re-

sults which cover the $2\frac{3}{4}$ h.p. two-speed and free engine Royal Enfield with glory—results which should be borne in mind and govern your choice when contemplating purchase.

The latest achievements include:—

A.C.U. Six Days' Trial, Aug. 14th to 19th

four entered and finished, gaining four medals.

Brooklands Meeting, Aug. 26th, Class B.

first prize, covering over 54 miles in the hour.

Let us send you a list of other notable performances, with the art book which fully describes and illustrates the many exclusive features of this "no trouble" machine—the motor cycle that will take you out and bring you back every time.

Write Dept. F.

Enfield Cycle Company, Ltd.

Redditch, & 48 Holborn Viaduct, E.C.



Gears. Plugs with Three Points.

?

(1.) How can I arrange to fix a two-speed to my 3½ h.p. Quadrant? The machine is one of the older type, but is very powerful and in excellent condition. The present pulley runs close up to the crank case, and any addition would have to come into the same line to drive fairly on rear wheel pulley. (2.) Would you also tell me if a plug of the Oleo type with three sparking point consumes more current than the one point type, or does it only spark from one point each time contact is made?—E.J.L.

(1.) What we should recommend you to do is to get into communication with the best known gear manufacturers, such as the N.S.U. (N.S.U. Motor Co., Ltd., 185, Great Portland Street, W.), Fit-All (Lake and Elliot, Albion Works, Braintree, Essex), and give them the dimensions of your engine shaft. Or you might fit a hub gear such as Millennium (Lake and Elliot) or Roc (A. W. Wall, Hay Mills, Birmingham). (2.) We do not think you will find any difference as regards the current consumption with the different plugs you use. Most certainly only one of the three points will work at a time with the plug you mention. The current always chooses the easiest path it can find.

Overheating and Bad Compression.

?

(1.) There is no sign of blowing behind the piston rings. The plugs, compression taps, and inlet valve caps show no sign of any leakage. And yet when the valves are just ground in, there is no more compression than in a low compression car, and I always start with the handle (Roc clutch), without lifting the exhaust valves. What can I do to give me a reasonable amount of compression? (2.) I have fitted a second release valve to my crank case. I use Vacuum "B" oil, and give it plenty (until it smokes sometimes). I have tried various sized nipples in the carburetter (B. and B.), and yet it always gets excessively hot, and will not take a slope sometimes, without a passenger in the sidecar that it will fly up when cool with a passenger. I am sure the magneto and valves are timed correctly as I have had expert advice. Can I do anything to get it to run cooler? (3.) Would a hole in each cylinder at the bottom of the stroke (connected by a pipe to the exhaust pipe) be any help? And would it help to keep my valves from burning? as I have to grind them in every 200 or 300 miles, and sometimes in less than 100 miles!—A.P.C.

in your second paragraph, and there must be some defect in one of the pressure tight surfaces which must be located before the trouble will cease. (3.) Auxiliary exhaust ports are not of much value in touring although they certainly make a difference in racing. The fact of the valve faces burning so quickly seems to suggest that they are not a good fit.

Magneto Troubles.

?

Can you tell me the reason for the following magneto trouble and how to remedy it? Magneto, 1911 Bosch, fitted to 5 h.p. twin Rex. I can get a beautiful spark at the front plug, but at the rear plug the spark seems never to be as strong as it should be; in fact, at slow speeds (below about 12 m.p.h.) only the front cylinder will work, unless I keep throttle and air levers nearly half open. Valves, compression, and other details of engine and carburetter seem all to be in order, and this weak spark seems to be the fault to remedy. I have cleaned the plug, and small carbon in magneto, and attended to the faces of the platinum points, but I cannot get a strong spark at this plug.—A.E.J.

Carefully examine the contact breaker of your magneto and notice if the break is practically the same in the case of both cylinders. Note also if the cam which gives the break is more worn in one case than in the other. Having verified this, examine the carbon brush conducting the current to the back cylinder and notice if this is making good contact, is clean and uncracked. In fact, it would be a good plan to take out both the distributor brushes and clean the distributors by inserting a rag wetted in petrol, and rotate the armature. Also be careful about the plug gap in the back cylinder. We note you have cleaned the small car-

bon under contact maker plate. The point is to look after those which conduct the high tension current. It may be that the carburetter is supplying a weaker mixture to the rear cylinder.

Machine on Trial.

?

Will you please give me advice re the following: A friend had a 2½ h.p. chain-driven motor cycle offered him for £6 10s., and, being a complete novice, thought it was dirt cheap, paid £2 deposit, and had it on trial. It is not satisfactory, and he could not get on with it, so took it back, but the owner refused to take it, and has put the case into court. My friend has to appear next Thursday. Will you please advise me whether it is necessary to instruct a solicitor? Thanking you in anticipation.—H.G.K.

Our legal adviser writes: It would certainly be advisable for "H.G.K.'s" friend to see a solicitor as suggested. If he is able to prove that the £2 paid was deposited as security while he had the motor cycle on trial, and that there was no definite agreement to purchase, he should defend the action, and he ought to put in a counter-claim for the return of the £2. I presume that he returned the motor cycle without delay, as if he kept it an unreasonable time he would be deemed to have purchased it. I presume, too, that he did not sign any agreement to purchase the machine. If he signed any document, and there was nothing in it about having the motor cycle on trial, then I am afraid he would not succeed in his defence, unless, at any rate, he had some witnesses to support his statement.

EXPERIENCES WANTED.

"Clutch" (Brixton Hill). The Calthorpe as a single, and for sidecar use.



Timekeepers and officials in the Sheffield and Hallamshire M.C.C. penalty run at the starting point. From left to right: Messrs. Bellamy (captain), Booth, Smith, and Vale. This photograph is interesting as showing an up-to-date though apparently old finger-post, in which the signs are placed at different levels, and actually point in the required direction.



New Home of the B. and B.

The new works and offices at Witton for Messrs. Brown and Barlow, Ltd., are now completed, and all correspondence should be addressed to Westward Road, Witton, Birmingham.

A Handsome Cup.

The Armstrong Triplex Gear Co., Ltd., have just presented Mr. P. J. Evans with a handsome silver cup bearing the following inscription: "Presented to P. J. Evans, Esq., by the Armstrong Triplex Three Speed Co., Ltd., as a memento of his winning the Junior Tourist Trophy Race, 1911." Our readers will remember that Mr. Evans rode a Humber twin-cylinder motor cycle with the Armstrong three-speed gear.



The Auto Cycle Union Handbook.

The Auto Cycle Union has produced a handbook, which, though somewhat tardy in appearance, is well worthy of the governing organisation of the kingdom. Firstly, the advantages of membership of the Union (to which all motor cyclists should belong, as touring membership only costs 5s.) are set forth with admirable clearness. Next follow the rules of the organisation, a list of the numerous clubs affiliated to it and their officials, and the advantages of affiliated membership. The next section of the book will appeal to all active motor cyclists, since it consists of a list of officially appointed hotels and repairers. Before appointing an hotel, every effort is made to ascertain that it is clean, comfortable, and the charges reasonable from a motor cyclist's point of view, while the same steps are taken to see that every repairer is qualified to undertake motor cycle repairs satisfactorily. Members will greatly assist the Union by reporting their experiences with either hotels or repairers. This list is a most extensive one. The rest of the book is devoted to a short history of the Tourist Trophy Race, a list of motor cycle records, a speed table, *The Motor Cycle* cubical capacity table, a gear and speed table compiled by Mr. Archibald Sharp, an interesting article on motor cycle formulae by Mr. J. W. G. Brooker, and a large amount of legal and touring information, and included in the latter is a useful list of ferries in England and Wales, and information on Continental touring.

A Useful Sidecar.

We are asked to state that the Wolbrown sidecar illustrated and described in our issue of the 10th ult. is of registered design, No. 314,837. Mr. H. Graeme Fenton, 219, Shaftesbury Avenue, W.C., is marketing this attachment.

Chain Transmission.

O. C. Godfrey used Coventry chains on his 7 h.p. Indian and sidecar in the Six Days' Trial. In a letter to the Coventry Chain Co., Godfrey says the chains gave every satisfaction, and they were not adjusted once during the trials.

New Premises.

The North London Garage, 1-5, Corsica Street, Highbury, N., inform us that to cope with the large increase in business, additional premises are in course of construction. The same firm has also opened an accessory showroom.

The 3½ h.p. Twin Premier.

Readers will remember the interest created by the introduction of the 3½ h.p. twin Premier with cylinders firing at even intervals, but which had to take a back seat owing to the strong demand for the 3½ h.p. single-cylinder. A batch of the new twins has now been completed, and samples may be inspected at the London depot of the Premier Cycle Co., Ltd., 20, Holborn Viaduct, E.C.

Toolbag Fixing.

Why is it that so many makers, in attaching toolbags to carriers, use long screws which project half an inch into the interior of the bag? At the present time we have two or three skinned knuckles through groping about in the interior of toolbags screwed to the carriers by screws which are at least ¾ in. to 1 in. too long. A far better plan would be to use shorter screws and rivet the ends over. The above may seem a trivial matter, but it is one calculated to cause considerable annoyance when the rider hastily dives for a tool and tears his hands against one of these annoying obstructions.

A Treatise on Carburettors.

Several readers have written to C. Binks, Ltd., Phoenix Works, Church Street, Eccles, Manchester, for copies of their treatise on carburation. Unfortunately some of them have omitted to give their addresses. Should this paragraph meet their eye they will understand why they have not received a copy.

A Balata and Leather Belt.

The Vennflex is a motor cycle belt which has been designed to transmit full power with the minimum of waste. The belt is built up with a strong layer of Balata material, to which is riveted V blocks of leather, to ensure the necessary gripping effect. The Vennflex Special is the same design, but it has an extra layer of selected rawhide, which makes a stronger belt and is suitable for sidecar machines. The maker of these belts is Mr. W. H. Venn, of 282, Lawley Street, Birmingham.

New Rubber Goods.

The Severn Rubber Co., of 94 and '96, Newhall Street, Birmingham, have now got out several new samples which they have sent for our inspection. The first is a tin of solution with screw stopper, which has been specially introduced for fixing Severn special patches. The fact of it being in a tin with screwed stopper makes it very handy for use. The patches we have referred to before. They are specially treated to enable them to adhere quickly to the tube.

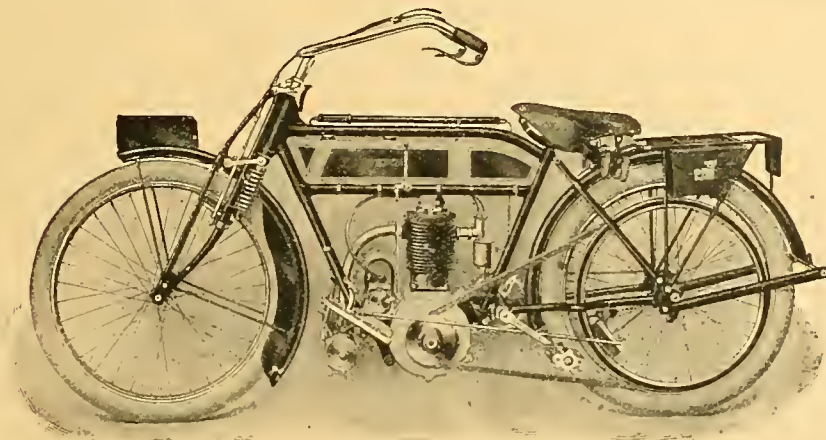
Their generator tubing is made of red rubber with specially moulded ends to prevent splitting. The same firm manufacture motor cycle belts, and make a speciality of retreading covers, which can be returned within two days of receipt. Single jointed air tubes may also be sent for conversion to butted. The firm issue a well got up catalogue containing illustrated descriptions of numerous india-rubber goods of special interest to motor cyclists. For the benefit of colonial and foreign customers, a private code has been specially arranged, which has the distinct advantage of being brief.



Competitors and officials in the Harrogate and District M.C.C. team reliability trial described in our Club News pages.

The 60=MILES=AN=HOUR SINGER

Having increased our production, we are now able to offer quick delivery of the $3\frac{1}{2}$ h.p. Singer Motor Bicycle. Fixed or Free Engine, or Tourist Trophy Models.



THE $3\frac{1}{2}$ H.P.

SINGER

Holds the FIFTY MILES RECORD for its Class.

Time: 48 mins. 37 secs.

In the Ayr Reliability Trials, TWO SINGERS were entered and TWO GOLD MEDALS won.

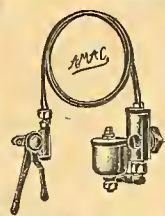
BUT APART FROM SPEED

the $3\frac{1}{2}$ Singer demands consideration on account of the many practical features in its construction, which make for the comfort and convenience of the rider.

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AMAC



11 World's Records in one month.

Brooklands	-	August 11th	-	C. R. Collier	-	Class D	-	One Mile Race.
Brooklands	-	August 11th	-	C. R. Collier	-	Class D	-	One Kilometre Race.
Brooklands	-	August 11th	-	C. R. Collier	-	Class D	-	Five Miles Race.
Celtic Track	-	August 12th	-	H. Martin	-	Class B	-	Five Miles Race.
Brooklands	-	August 27th	-	W. Chitty	-	Class A	-	One Hour.
Brooklands	-	August 27th	-	W. Chitty	-	Class A	-	Fifty Miles.
Brooklands	-	August 27th	-	H. Martin	-	Class A	-	One Kilometre.
Brooklands	-		-	H. Martin	-	Class A	-	One Mile.
Brooklands	-		-	H. Martin	-	Class C	-	One Kilometre.
Brooklands	-		-	H. Martin	-	Class C	-	One Mile.
Brooklands	-	August 27th	-	C. R. Collier	-	Class D	-	One Kilometre.

PASSENGER MACHINES.

Only gold medal ever awarded for passenger machines. Scottish six days' trial. AMAC—CLYNO.

Only gold medal ever awarded for passenger machines. A.C.U. six days' trial. AMAC—MATCHLESS.

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IMPORTANT TO S. AFRICAN CUSTOMERS.

Don't waste time on enquiries, which are referred back to me as the makers' recognised S. African Agent.

Home Price Lists on application.

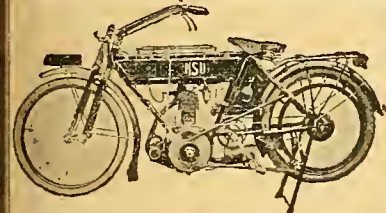
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NOW OR NEVER. **THE N.S.U. 4h.p. MODEL DE LUXE**



Brand new 1910 models fitted with 1911 spring forks. Frame extra low. Back stay ends allow back wheel to be easily detached. Engine M.O.V., double row of ball bearings. Magneto ignition, gear driven. Carburettor N.S.U. improved model, handle-bar control, with special air regulator. Foot brake and internal expansion brake. Toolcase, stand, Carrier, footrests and number-plates fitted.

£36 each. Two-speed Gear, £5 15s. extra.

Exchanges entertained. £3 allowed for push cycle. Special prices to cash buyers.

5 h.p. REX DE LUXE, 1910, two speeds	£42 10
5 h.p. REX Twin, 1910	£29 10
5 h.p. G.B. NALA, 2-speed, magneto	£25 10
5 h.p. BRADBURY, brand new, 1911	£44 10
5 h.p. REX, 1909, Tourist	£22 10
5 h.p. REX, 1909, two speeds	£32 10
6 h.p. Twin N.S.U., 2 speeds, spring forks	£29 10
5 h.p. N.S.U. Twin, two speeds	£27 10
5 h.p. N.S.U., two speeds, 1908	£20 0
5 h.p. N.S.U., 1908, magneto	£17 10
5 h.p. N.S.U., 1908, magneto	£16 10
5 h.p. HUMBER Two-speed, 1909	£29 10
5 h.p. HUMBER, two speeds, 1910	£33 10
7-9 h.p. Twin PEUGEOT, Chater-Lea, accumulator ignition	£16 10
5 h.p. HUMBER, 1911, two speeds, like new	£45 0
5 h.p. QUADRANT, magneto	£16 10
5 h.p. N.S.U., 1910, two-speed gear	£32 10
5 h.p. REX, Roc clutch, magneto	£21 0
5 h.p. AUTO-MOTO, spring seat	£7 10
5 h.p. CLEMENT-GARRARD Lightweight	£7 10
5 h.p. KERRY, 26in. wheels	£9 10
5 h.p. HOBART, low built	£8 10
5 h.p. MITCHELL, spray	£6 10
5 h.p. NOBLE, vertical engine	£7 10
5 h.p. F.N., 1910, two-speed model	£28 10
5 h.p. HUMBER, chain drive, low frame	£4 10
5 h.p. N.S.U., M.O.V.	£12 10
5 h.p. MINERVA, M.O.V., h.b. control	£5 10
5 h.p. Twin REX, with forcetor	£12 10
5 h.p. F.N., 1910, two-speed	£24 10
Four-cylinder HOLDEN, dirt cheap	£3 15

TRICARS AND CARS.

9 h.p. DARRACQ Car, three speeds	£19 10
16 h.p. EAGLE Four-cylinder, five-seater	£32 10
4 h.p. STEVENS' Tricar, Roc two-speed	£17 10
5 h.p. REX Twin, Fit-all two speeds	£17 10
5 h.p. REX, open frame, two speeds	£18 10

MISCELLANEOUS.

Carburettors—Longmear and F.N.	4/6
B. & B. or Amac	5/6
Long Handle-bars, drop ends	5/6 and 6/6
Coronet Silencers, up to 5 h.p.	3/3 and 4/8
XL'ALL Spring Forks	9/6
Gripskin Belting: 3in. 9d., 3in. 10d., 3in. 11d.	
Rex Wheel with Roc Free engine	25/-
Wide Mudguard, 3in., 2/3; 4in. 2/11 pair.	
Handle-bar Watches, with holders	4/3
Magneto Handle-bar Switches	2/1
Mabon Free Engine Clutch, suit 3 1/2 h.p. Brown	27/6
Handle-bar Mirrors	3/-
Belt Punches	1/-
16 Guinea Lowen Sidecar	£5 15
Nearly New Coronet Sidecar	£3 10

SPECIAL BARGAIN.

2 1/2 h.p. DE DION, vertical engine, spray, good tyres, front brand new, complete with belt, oil, and accumulator, £4 19 9.

Booth's Motories,
Keighley Mills, Bedford Street North, Halifax.
Tel. 1062.

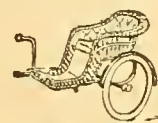
MOTOR BICYCLES FOR SALE.

- 2 1/2 h.p. Hobart Motor Cycle, good running order; £6.—Ryley, 2, Howcroft St., Bolton.
- BAT-J.A.P., 7-8 h.p., 1910, perfect; £45.—65, Mulberry St., Hulme, Manchester.
- 19 11 2h.p. Lightweight Premier, brand new; £29/10—Garlaod, ironmonger, Warrington.
- 5 h.p. N.S.U., in splendid condition, Bosch magneto, B. and B.; genuine bargain, £28.—Below.
- 3 1/2 h.p. 1907 Triumph, L.M.C. pulley, new Clipper 2 Ideal tyres, Dunlop belt; £23.—Below.
- 3 1/2 h.p. 1910 Speed King Rex, perfect machine, climb anything; a genuine bargain, £28.—Below.
- 6 h.p. Brown, Roc 2-speed, in fine order, for sidecar work, accumulator ignition; £20.—Below.
- 3 1/2 h.p. 1910 Norton, one of the fastest and best on the road, in beautiful condition throughout, ready for Brooklands; £35.—West Riding Motor Exchange, Boulevards, Halifax.
- 19 11 Moto-Rex, 2 1/2 h.p., twin, not run 500 miles; offers.—117, Duckworth St., Harwen.
- 3 1/2 h.p. Rex, B. and B., h.b.c.; quick sale, £11/10; perfect.—W. Tun-on, 72, Westcliff, Preston.
- 19 10 5h.p. Indian, very powerful, excellent condition; £38, or exchange.—65, Hilden St., Bolton.
- REX, 3 1/2 h.p., in good order, will take a sidecar, very powerful; £7.—2, Paradise Terrace, Blackburn.
- 3 1/2 h.p. Rudge Clutch Model, picked engine, perfect condition; £48.—Darling, Sunnyside, Keighley.
- INDIAN, 1910, 2-speed, free engine, and sidecar; lowest £50.—Brown, 79, Hyde Rd., West Gorton.
- TRIUMPH, 1909, perfect condition, spare valves; £28 Meacer, Town Hall, Hawkshead, near Ambleside.
- TRIUMPH, free engine, 1911, just delivered, scarcely soiled; what offers?—Newbold, 34, Trafalgar Rd., Wigan.
- DOUGLAS, late 1909, in good condition, new back tyre and tube; £21.—Thompson, Ash Lawn, Heaton, Bolton.
- 2 1/2 h.p. Lloyd Lightweight, new tyres, re-bushed, excellent condition; £12/10.—68, Wellington Rd., Stockport.
- MANCHESTER Motor Exchange, 32, Downing St., Ardwick—Good magneto motor cycle, as new, very low; £18.
- ROC Twin, 1910, 6 h.p., 2 speeds and free, Whittle belt, take sidecar anywhere, splendid tyres; £38.—Above.
- ENFIELD, 2 1/2 h.p., 1911 (500 miles); £45 model guaranteed; sacrifice £37.—62, Park Av., Barrow-in-Furness.
- 3 1/2 h.p. Motor Cycle, fast and powerful, spring forks, 2 perfect throughout; cheap.—32, Stonefall Av., Harrogate.
- TRIUMPH, 1910, splendid condition, little used, any test; £36, no offers.—57, Portia Lane, Manton, near Manchester.
- 2 1/2 h.p. F.N., 1910, 2-speed, shaft drive, free engine, splendid condition; £25.—6, East View, Bury Rd., Rochdale.
- 2 1/2 h.p. Minerva, B. and B. carburettor, perfect running order; bargain, £8/10.—Howdle, Market Place, Howden, Yorkshire.
- 3 1/2 h.p. Rex, enamelled green and gold, overhauled, new tyres, lamp, and bag, tools, etc.; £9.—269, Manchester St., Oldham.
- Genuine 6 h.p. De Dion, 2 speeds and reverse; £36, exchange 1910 or 1911 2 1/2 h.p. F.N.—Beaumont, Birds Road, Brighouse.
- N.S.U., 1911, 3 1/2 h.p., Model de Luxe, 2-speed and free engine, brand new; £40.—Graydon, 19, Kensington Rd., St. Anne-on-Sea.
- 3 1/2 h.p. Triumph, Bosch, Druids, B. and B., splendid condition, spares; £18.—48, Richmond Grove, Loagsight, Manchester.
- N.S.U., 1910, 2-speed and free, 1 1/2 h.p., absolutely as new, complete with accessories; £26.—Whittaker, 630, Bacup Rd., Waterfoot.
- REX, 5-6 h.p., 4-speed and free Osborne, Continental tyres as new, Whittle belt, will pull sidecar anywhere; £17.—Whittaker, 630, Bacup Rd., Waterfoot.
- MOTOSACOCHE, magneto, splendid condition, Whittle belt; £18.—Jefferson, 21, Park Grove Terrace, Frizinghall, Bradford.
- LIVERPOOL Agents for Motococche, B.S.A., Phelon L. and Moore, and F.N. motor cycles.—British Cycle Co., 1 and 3, Berry St.
- PREMIER, 1911 standard, 3 1/2 h.p., very little used, excellent condition; take £35, a bargain.—Wiltshire, 52, Barnsley St., Wigan.
- 19 11 Triumph T.T. Roadster, unscratched, very fast, new tyres and belt spares; £41.—Hesketh, 82, Campbell St., Farnworth, near Bolton.
- SCOTT, 1911, perfect condition, complete, Powel Hammer lamp, generator, horn, etc.; £50.—Bor 8, 342, The Motor Cycle Offices, Coventry.
- 7 h.p. Peugeot-Roc, 2 speeds and free, magneto, B. and B., h.b.c., 2 1/2 in. tyres; offers; exchange—Apply first, 1 Ash Grove, Tootal Rd., Weaste, Manchester.

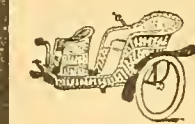
CORONET SIDE CARS



MODEL C.—£7 2s. 6d.



MODEL A.—£5 5s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest car pattern mudguards. Wicker, cane, or coach-built bodies. Child's reversible seat. Excellent upholstery.

NOTE front arm which grips main tube of sidecar, which is the only correct mechanical method—nothing lopsided about this attachment.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURY'S, etc.

Discounts to Agents.



TEE BEE SEAT-PILLAR,
5/- each.

TYRES. TYRES. TYRES.

Dunlops, 28x8 or 2 1/2, beaded, 14x9; wired 10/6	
Clpper Reflex, 24x2 or 2 1/2	8/8
26x2 1/2 Tubes 6/9; 28x2, 6/9; Butted	7/9
Covers, best make, 2 1/2 in., 17/6; 2 in.	15/6

GENUINE MICHELIN TYRES.

26x2 1/2	14/8	28x2	16/9	beaded
26x2 1/2	17/-	28x2 1/2	18/3	"
26x2 1/2	21/-	28x2 1/2	22/6	"
26x2 1/2	12/3	28x2 1/2	13/-	wired
26x2 1/2	14/-	28x2 1/2	16/-	"

R.O.M.'s, SHAMROCKS, PALMERS, etc.
Old covers taken in part payment.

ENGINES:

4 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
6 h.p. water-cooled, with clutch	£6 15
5 1/2 h.p. N.S.U., M.O.V., with gear-driven magneto, brand new from makers	£11 10
5 h.p. Twin SAROLEA, good order	£6 15
4 1/2 h.p. DE DION, genuine, water-cooled	£7 15
3 1/2 h.p. BROWN, M.O.V., with magneto	£7 10
3 h.p. CORONET M.O.V., air-cooled	£4 5
3 1/2 h.p. AUTOMOTO £2 0	2 CYCLONE, M.O.V. £1 15
1 1/2 h.p. MINERVA £1 8	3 1/2 h.p. BROWN .. £5 15
3 h.p. QUADRANT £1 0	3 h.p. ANTOINE £2 0
2 1/2 h.p. TRENT .. £1 18	2 h.p. ANTOINE £1 8
2 1/2 h.p. DE DION £2 5	3 1/2 h.p. REX M.O.V. £3 15

Exchanges entertained.

MAGNETOS. MAGNETOS. MAGNETOS.

We have a large stock of the best makes from 59/6. Your old coil and acc. taken in exchange.

NEW CARBURETTERS FOR OLD.

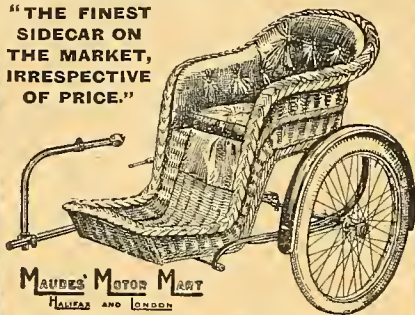
£1 and your carb. secures a new 1911 B. and B. with h.b. control.
20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control.
Delivery per return.

BOOTH'S MOTORIES,
KEIGHLEY MILLS, BEDFORD ST. NORTH
(off Pelton Lane), HALIFAX. Tel. 1062.

WHY HESITATE?

If you would have the best this will interest you. No need to pay £12 12s. and £14 14s. for a Sidecar. You get better for £5 5s. to £7 7s.

**"THE FINEST
SIDECAR ON
THE MARKET,
IRRESPECTIVE
OF PRICE."**



MAUDES MOTOR MART
HALIFAX AND LONDON

The Portland. MODEL "A." PRICE £5 5s.

Three-point suspension, enamelled two coats, double Cee springs, best quality upholstered body, wide mudguard, motor cycle beaded tyre, all telescopic tubes heavily plated. Guaranteed twelve months.

MODEL "B." PRICE £6 6s.

Similar to Model "A." but slightly better body, three coats of enamel, 26x24 Michelin, Dunlop, Warwick, or Avon beaded cover, plated rim, complete with apron and mudguard. Guaranteed twelve months.

MODEL "C." PRICE £7 7s.

Cane body upholstered, with apron, lamp bracket, double Cee springs, very fine finish to chassis. Guaranteed twelve months.

MODEL "DE LUXE." PRICE £8 8s.

As Model "C." but coach-built, and with car mudguard. Guaranteed twelve months.

Descriptive Catalogue post free on request.

MISCELLANEOUS.

MILLFORD 1911 Gloria coach-built sidecar, £18 18s. model, good as new, including tyre

CHATER-LEA sidecar, fit left side, very good condition, 1910 model, £24

***PORTLAND** sidecar, 6 guinea model, very good order, 1910 model, £24

MILLFORD Herald sidecar, left side, 1911 model, £25

TRICARS AND CARS.

***REXETTE**, 5 h.p., water-cooled, open frame, two speeds, handle starting, very good order

HUMBER, 4 h.p., two speeds, wheel steering, open frame, coach built, handle starting

STAR CAR, 9 h.p., two-seater, three speeds and reverse, handle starting, tyres like new, a bargain, £32

LITETTE, 5 h.p., twin, magneto, two speeds, water-cooled, handle starting, good tyres, good order, £32

LITETTE, 5 h.p., water-cooled, two speeds, handle starting, M.O.V., special model, made for us and guaranteed by the Rex Co., latest 1911 models, friction clutch in rear wheel, Continental tyres; list price 62 guineas; accept £48. Only a few left.

BROWN tricar, 3 h.p., two speeds, very good order, chain drive, £17

ENGINES.

***AUTO-MOTA**, 3 h.p., very powerful, £3

SAROLEA, 2 h.p., BRAND NEW, complete with Bosch magneto, plug, silencer, etc., £7

SAROLEA, 2 h.p., as above, but with contact breaker, new, and guaranteed, £5

MINERVA, 1 h.p., A.O.I.V., contact breaker, good running order, £27/6

NEW CARBURETTORS FOR OLD.

22/- and your carb. secures a new 1911 B. and B., latest type, with h.b. control.

GENUINE MICHELIN TYRES.

Tube. Beaded. Wired. Endless. Butted.

26x2 in. 14/8 12/3 10/3 11/9

26x2 1/2 in. 17/- 14/- 10/9 13/-

26x2 3/4 in. 21/- 16/- 11/9 13/9

28x2 in. 16/9 13/- 11/3 12/9

28x2 1/2 in. 18/3 — 12/- 14/-

28x2 3/4 in. 22/6 — 12/6 14/6

MAUDES MOTOR MART.

136 GREAT PORTLAND STREET.

LONDON, W.

Telephone 552, Mayfair

Telegrams Ab-dicate London

20 POWELL STREET HALIFAX

Telephone 433, National

Telegrams "Petrol" Halifax.

(LISTS POST FREE)

MOTOR BICYCLES FOR SALE.

1911 New Hudson, 2 1/2 h.p., 3 speeds, chain drive, speedometer, spares, perfect, 900 miles: £49: bought car—Dr. Muir, Waterloo House, Halifax.

6 h.p. Twin, all 1911 only engine, No. 6 Chater-Lea, 650x65 Dunlops, magneto, and sidecar; £25; in excellent condition—Wignall, Banks, near Southport.

F.N., 4-cyl., 5 h.p., 1909, with 1911 improvements, central intake, automatic carburettor, magneto, just like new; bargain, £24—Coggins, 17, Peel St., Accrington.

2 1/2 h.p. Harlow, Robinson and Price single-cyl. engine, 24 running order, Clincher tyres; must clear; no reasonable offer refused—Drabble, Walkley House, Stocksbridge, Sheffield.

HUMBER, 3 1/2 h.p., 2-speed, late 1910, 3 outer covers, 4 butt-ended tubes, cyclometer, condition of machine and tyres perfect, written guarantee; £35.—Burnbank, Didsbury.

1910 Air Springs, Ltd., Bosch magneto, 26 in. wheels, 3 1/2 h.p., £20; Quadrant, 5 h.p., new accumulator, new cylinder, good tyres, in good order, £9—Firth, 72, New Hey Rd., Huddersfield.

32 1 h.p. 1909-10 Triumph, condition as new, accessories, exhaust whistle and h.b. mirror, watch, belt, etc., or exchange for 1910 P. and M.; £37/10.—Johnson, 88, Leeds Rd., Bradford.

1911 3 1/2 h.p. Bradbury, as new, very powerful machine, £35; 1908 Triumph, in perfect condition, new Palmer rear tyre, £25; Mabon multiple plate clutch, with adjustable pulley, h.b.e., 30/-—295, Ecclesall Rd., Sheffield.

SILVER Dart Standard Triumph, Chater-Lea frame, automatic lubricator, special torpedo tanks, Matchless forks, Autoclipse lamp and generator, good tyres, splendid condition, French grey; £25; no offers.—14, Albert Rd., Eccles.

STANDARD Bradbury, £48; standard Triumph, £48/15; clutch Triumph, £55; 2 1/2 h.p. New Hudson, 3-speed, 47 guineas; 3 1/2 h.p. Rover, new 6 weeks ago, £42; 5 h.p. V.S., 2-speed, Kempshalls, and Riches tubes 6 weeks ago, perfect, £35; many others; all magneto machines.—Wray, Virginia St., Southport.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

THE North Wales Motor Exchange, Rhosddn, Wrexham. Telephone: 283.

TRIAL With Pleasure before buying.—1911 Humber lightweight, just like new, £30; 1909 3 1/2 h.p. ball bearing Rex, very low built, French grey, £28; 3 1/2 h.p. Peugeot, magneto, h.b.e., nothing better, £17/10; 3 1/2 h.p. Rex, magneto, 1910 Anac, spring forks, £15; 3 1/2 h.p. Minerva, 1910 B.B. carburettor, spring forks, accessories, splendid mount, £15; 2 h.p. Lurgin Condert, vertical engine, good little goer, £5; 5 h.p. twin Rex, Bosch magneto, Roe clutch, £25; beginners send for lists of cheap machines.

HUMBER, 2-speed, and Montgomery sidecar, 1911, run 1,000 miles only, as new; £45.—Below.

L.M.C., 1911, T.T. model, nearly new condition, £35; Triumph, free engine, 1909, perfect order, £35; 1907 Triumph, £24; 1906 Triumph, £20.—Below.

DOUGLAS, brand new, 1911, £34; Enfield twin, as new, £23; Quadrant, 4 h.p., Bosch magneto, £16.—Oswald Parker, Melbourne, Derby.

MOTO-REVE, 2 h.p., 1910, just overhauled, new tyres; £25.—Pritchard, chemist, Llangeinall, Anglesey.

7 h.p. T.A.C. wheel steering, splendid condition, good running order.—C.E.B., Glencot, Ashton-on-Mersey.

ENFIELD, 2 1/2 h.p., 2-speed gear, perfect condition; £40.—Smith, 17, Radgrove Sq., Egremont, Cheshire.

32 1 h.p. Rex, low, reliable, fast, £7; Bosch magneto, perfect, £2; bargains—Isen, file maker, Bloxwich.

COMPULSORY Sale.—Minerva, 3 1/2 h.p., first-class climber; £10, or offer.—Hobson, Fletcher St., Hleanor.

32 1 h.p. Rex, 1911, free engine model, 10 weeks old, all accessories; £38.—Smytheman, Wolverhampton St., Walsall.

5 h.p. Kerry, magneto, B. and B., Whittle, s. forks, P. and H. lamp, climb anything; £22.—Bingley, Pinxton, Alfreton.

TRIUMPH, 1910, free engine, splendid order, will climb anything; £39.—Rev. J. Fortnum, Middlewich, Cheshire.

HUMBER, 1910, 2-speed, free engine, just been overhauled, Cowey speedometer, lamp, accessories; £32.—Beech, Rutbin.

TRIUMPH, 1911 Roadster, perfect condition throughout, as new; £45.—Brookfield, 40, Trenham Rd., London, Staffs.

ZENITH-GRADUAS, 3 1/2 h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

BRADBURY'S—All models in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

MOTOSACOCHE, Whittle, free engine, spring forks, magneto, spares, perfect condition; £20.—Green, organist, Congleton.

Special Discounts to Cash Buyers.

In view of the number of so-called sales, we offer a discount of 10% off any undermentioned prices for spot cash buyers (except machines made net). **NOTE**.—We have not raised the prices to do this. They are our usual prices.

Remember all Machines properly tuned up.

Machines started (if thus) are in stock at Halifax Depot.

***QUADRANT**, 3 1/2 h.p., 1911 model, only done

25 miles, and as new, £34

***N.S.U.**, 2 1/2 h.p., twin, magneto, geared pulley,

free engine, perfect order, £22

***F.N.**, 4 1/2 h.p., four-cylinder, magneto, footboard

fitted, fine running order, £22

***REX**, 5 1/2 h.p., twin, free engine, handle starting,

very fine order, suitable for sidecar, £24

***MIDGET** Bicar, 3 1/2 h.p., Fafair engine, 2 speeds,

free engine, handle starting, cream finish, £11

***ARIEL**, 2 1/2 h.p., vertical engine, just been

thoroughly overhauled, £12

***SCOTT**, two speeds, water-cooled head, magneto,

just being thoroughly overhauled, £40

P. & M., 3 1/2 h.p., 1910 model, good condition

INDIAN, 7/8 h.p., 1911 model clutch, splendid

condition, £46

***MINERVA**, 8 h.p., P. & M. two-speed gear,

Chater-Lea frame, 1911 model, Bosch mag-

neto, complete with rigid sidecar. Good

condition throughout, £52 10

***REX**, 5 h.p., twin, 1909 model, Bosch magneto

N.S.U., 6 h.p., twin, two speeds, complete with

Chater-Lea sidecar, £35

REX, 5 h.p., free engine, low built, powerful

P. & M., 3 1/2 h.p., two speeds, 1909 model,

good order and condition, £17

***MOTO-REVE**, 2 1/2 h.p., 1910 model, not ridden

100 miles, £26

PREMIER, 3 1/2 h.p., 1910 model, spring forks,

suit sidecar, £32

***TRIUMPH**, 3 1/2 h.p., 1909 model, very good

order, footboards, £34

***BRADBURY**, 3 1/2 h.p., 1911 model, Dunlop

tyres, Bosch magneto, perfect order, £39

***BRADBURY**, 3 1/2 h.p., 1910 model, Druid forks,

***REX**, 7 h.p., 1911, two-speed, de luxe model,

absolutely like new, M.O.V., £48

ZENITH, 4 h.p., brand new, 1911 models, from

stock, Nett, £54 12

***REX**, 3 1/2 h.p., 1910 model, tourist type, £28

***N.S.U.**, 3 1/2 h.p., single, very fast, and good order

REX, 3 1/2 h.p., 1910 machine, very fast, good

hill climber, £28

REX, 5 h.p., 1910 tourist model, very good

condition, had careful usage, £32

REX, 5 h.p., 1910 de luxe, two speeds, excel-

lent order, £42

REX, 5 h.p., magneto, spring forks, free engine,

handle starting, £26

ALLDAYS, 3 1/2 h.p., mag. low built, vert. engine

J.A.P.-CHATER-LEA, 1911 model, 8 h.p., side

valves, very fine order, 650x65 Palmer

Cord tyres, £49

REX DE LUXE, 7 h.p., 1911 model, M.O.V.,

two speeds, excellent, £48

***REX**, 5 h.p., twin, 1909 Tourist Model, spring

forks, Bosch magneto, £31

***HUMBER**, 3 1/2 h.p., 1909 model, two speeds,

Bosch magneto, handle starting, with

£6 6s. sidecar, £35

***REX**, 5 h.p., 1909 Speed King, very fast, just

been thoroughly overhauled, £29

ARIEL, 3 1/2 h.p., 1910 model, footboards fitted

TRIUMPH, 3 1/2 h.p., 1909 model, very fast,

magneto, etc., £33

F.N., 4 1/2 h.p., 4-cyl. magneto, very good order

ROC, 4 h.p., two-speed, magneto, spring forks,

handle starting, £26

***TRIUMPH**, 3 1/2 h.p., spring forks, magneto,

1907 model, £19

RUDGE, 1911, latest free-engine models, brand

new, in stock, £25

***ANTOINE**, 5 h.p., footboards, twin, very low

built, take sidecar, £15

F.N., 1 1/2 h.p., very fine lightweight, geared

pulley, Bosch magneto, £15

TRIUMPH, 3 1/2 h.p., 1908 model, XL All, latest

saddle, very fast, £30

PEUGEOT, 3 1/2 h.p., Bosch magneto, Druid

forks, B. & B. carburettor, very fine order

KERRY, 5 h.p., coil and accumulator ignition,

green finish, very powerful, suit sidecar, £16

REX, 3 1/2 h.p., low built, vert. eng., M.O.V.

26 in. wheels, £9

TRUMP-J.A.P., 4 h.p., 1911 model, grey finish,

very fine order, £35

Many others. Send for full Lists, post free on application.

Fuller specification of any machines post free with pleasure.

MAUDES' MOTOR MART,

136, GREAT PORTLAND ST., LONDON, W.

'Phone: 552 Mayfair. Grams: "Abdicate, London."

20, POWELL STREET, HALIFAX.

'Phone: 433 National. Grams: "Petrol, Halifax."

LISTS POST FREE.

OW THAT THE STRIKE IS OVER

to Morecambe, and give us a hand to shift goods before our time EXPIRES and the Lord TURNS US OUT. The notice is up at end of this month, but as we have always paid regularly, we hope to be allowed to stay another month; therefore COME DOWN and give us a hand to SHIFT THE STUFF.

We still have a lot of new Motor Cycles coming each week, as below; while we have, in second-hand Magneto Machines, about 50, and in Accumulator Machines about 20; and as we are always APPING AND CHOPPING these, you can get go wrong by writing or coming to see them, of Morecambe, as we are always having something fresh in. DON'T FORGET that our cars are the FAIREST ON EARTH, and simply us bringing the shop to you if you can't come here. You send your money for anything you want, and if it is not satisfactory you return it have your money back, and this, too, without return—without deduction or charge of any kind. No one else does this for you; therefore JOHN, of MORECAMBE, is the man to call AT WITH.

Our Stock of Accessories is always the largest in the world, and during the ordinary season we have more Motor Cycles than all the shops in Lancashire put together, and more than five large advertising firms rolled into one. WE ARE out to do business, and are pleased to say we have had a remarkably successful year all throughout, and we are working overtime to execute orders from satisfied customers, many of whom are recommended, and is the cheapest form of advertisement, and most satisfactory from our point of view, and gives us a chance to SATISFY YOU, so that you be able to recommend us to your friends.

We send you a list each month is waiting your postcard, to what you want to buy; what you want to do for it; and how you can pay, as we are at all times prepared to fix you up on Cash, Deferred, or on change terms.

1911 MODELS IN STOCK.

NORTH-GRADUA, 5 h.p.	£69 6
NORTH-GRADUA, 3½ h.p.	£54 12
HUMBER, 2-speed	£50 0
and M., 1911	£60 0
ADBURY	£48 0
MOSACOCHE, free engine	£38 0
T.J.A.P., 5 h.p., as new	£55 0
T.T., 1911, almost ready for delivery	£65 0
NO, 5 h.p., 2-speed	£65 0
UGLAS, 2-speed, Model E	£48 0
T.J.A.P. 8 h.p.	£60 0
UGLAS, Model D	£39 18
ADBURY, 2-speed	£55 0

SIDECAR MACHINES.

DECE SPECIAL, 5 h.p., clutch	£22 10
NORTH, 6 h.p., late 1909 Gradua gear	£37 10
GEOT-CHATER-LEA, 5 h.p., 2-speed	£36 0
ad M., 1909, strong pulley	£34 0
P-CHATER-LEA, 8 h.p., free engine	£32 10
HUMBER, 1910, 2-speed 1911	£35 0
X, 5 h.p., fine order	£27 10
P-CHATER-LEA, 10 h.p., racer	£40 0
ad M., 1910, perfect order	£45 0
MAN, 5 h.p., 1910	£36 0
DE LUXE, 5 h.p. Twin, 1910	£38 0
X, twin, 5 h.p.	£25 0

LIGHTWEIGHTS.

FIELD, 1910	£28 0
UGLAS, 1910	£30 0
UGLAS, 1909, fine order	£22 10
UGLAS, 1910, fine order	£29 0
MS, 1½ h.p.	£10 10
MOSACOCHE, free engine	£20 0
1½ h.p.	£12 10
TO-REVE, 1910, single	£20 0
MOSACOCHE	£14 0
TO-REVE, 1910, twin	£22 10

GH-CLASS SOLO MACHINES.

GER, 3½ h.p.	£18 0
U., 3½ h.p., M.O.V.	£18 0
K, 3½ h.p., M.O.V.	£15 0
TZNER, 3½ h.p., free engine	£17 10
GER, 3 h.p., magneto	£12 10
UMPH, 1910, Mabon clutch	£35 0

MOTOR BICYCLES FOR SALE.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

1 1 h.p. Motosacoche, very good condition, spring forks; £10.—Below.

2 h.p. Minerva, good running order; bargain, £6/10.—Hodson, Stoke Ferry, Norfolk.

3 h.p. Kerry, accumulator, low, good climber; what offers?—W. H. Aldrich, Market Hill, Diss.

4 h.p. Quadrant, Roe gears, nearly new, too heavy for owner; £40.—Ching, 72, High St., Bedford.

2 1 h.p. Minerva, Palmer cord tyres, Amac carburetter, 2 good going order; £6/10.—Jacobs, 32, Glinon Rd., Cambridge.

3 1 h.p. Quadrant, 1911, Bosch, B. and B., spring forks, footboards, fast, good puller; £22.—Leavis, Downham.

3 1 h.p. Minerva, magneto, B. and B., torpedo, spring forks, new cylinder, plated and enamelled, as new, perfect; £23.—Leavis, Downham.

5 6 h.p. Twin Rex, Roe clutch, magneto, B. and B., new Dunlops, spring forks; £17.—Leavis, Downham.

2 3 h.p. Mitchell, h.b.c., Dunlops, low, 26 wheels, long bars, wants tuning; £8.—Leavis, Downham.

1910 Triumph, overhauled, new back cover; accept £15 and good lightweight—Adams, Gladstone Rd., Woodbridge.

3 1 h.p. Minerva, spring forks, B. and B., h.b.c., Albion 32 pulley, studded tyre, excellent condition; £14; or lightweight and cash.—Wyatt, Hunston.

3 h.p. Vincent Motor Cycle, in perfect order, h.b.c., Gladiator tyres, rare bargain, £10; approval, deposit.—Particulars, Cockerton, 72, Mill Rd., Cambridge.

CHATER-MINERVA, 3 h.p., 1907, Bates studded, Dunlop, new Goodrich belt, spring seat, lamp, accessories, perfect running order; £18.—G. Seaman, Hunston.

ZENITH-GRADUA, 3½ h.p. J.A.P., delivered May 29th, 1911, new inch Lyso, back tyre retreaded, machine equal new; £46.—Wetson, Haslingfield, Cambridge.

BRADBURY, late 1910, free engine, lamp, Cowey, spares, perfect condition, as new; cost over £60, price £38, or with new sidecar £42; giving up through doctor's orders.—9, Knowsley Rd., Norwich.

TWO Bargains.—3 h.p. Bradbury motor cycle, £12/10; 2 h.p. F.N. motor cycle, £11; push cycles taken as part payment, or exchange both for 1911 3 h.p. free engine mount, cash adjustment.—Thompson, 206, Queen's Rd., Norwich.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

3 1 h.p. Speed King Rex, 1909, with 1910 cylinder and 32 piston; £20, or near offer.—Harris, Bridge St., Haverfordwest.

1911 3 h.p. Matchless, perfect in every respect; lightweight part; sacrifice, £35.—Beckett Cottage, Ombersley Rd., Worcester.

1911 B.S.A. 3 h.p., new Whit-na, spare belt, tube, horn, h.b.c., magneto; £45.—Mumford, Wyndham St., Bridgend, Glam.

1910 1½ Triumph, plating, enamelling good condition, very fast, lamp, generator, all accessories; £40.—Grant, Kingsley House, Monmouth.

BRADBURY, 1911, free engine model, guaranteed not ridden 10 miles, tyres only soiled, as new, from works in August; purchaser nervous; sacrifice £48.—Glover, Pershore.

TRIUMPH, 1909, completely replated and re-enamelled throughout, rebushed, and as new, Kempshall, Dunlop, Whittle belt, F.R.S. lamp; lowest, £30.—J. B. Hill, Briton Ferry.

1909 N.S.U., 6-7 h.p. twin, Roe, Whittle, Kempshall back, excellent sidecar machine; any demonstration; £35, or exchange for 3 h.p. and cash.—Albert Ace, Dillwyn St., Swansea.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

ENFIELD, 41 guineas, 1911 2 h.p. chain drive, brand new; £36.—Gluser, Motors, Banbury.

TRIUMPH, 1911, free engine, ridden 200 miles, and practically unused; £48.—Layton, Bicester.

BRADBURY.—1911 Bradburies in stock; immediate delivery; trade supplied; exchanges entertained.—Gieger Motors, Banbury.

BAT-J.A.P. T.T. 3 h.p., splendid condition, almost new; £40.—Roberts, Park St., Windsor.

1911 Bradbury, new Easter, little ridden, quite new; £39.—Browne, 10, York St., Maidenhead.

N.S.U., 3 h.p., free engine, 2-speed, just overhauled, good order; £18, or offer.—14, St. George's Rd., Aldershot.

TRIUMPH, 1909, L.M.C. pulley	£32 10
N.S.U., 3 h.p.	£17 10
BROWN Engine, 3½ h.p., Chater-Lea frame	£22 10
SIMMS, 3 h.p., magneto	£12 10
BROWN, 1909, 3½ h.p.	£25 0
J.A.P.-CHATER-LEA, free engine, 4 h.p.	£28 0
SINGER, 3½ h.p., h.b. control	£18 10
SIMMS, 2½ h.p., magneto ignition	£14 10

ACCUMULATOR MACHINES.

WERNER, 2½ h.p.	
R. & P., 2½ h.p., h.b. control	Cash.
HUMBER, 2½ h.p.	
MINERVA, 1½ h.p., h.b. control	£4/19/6
KERRY, 2½ h.p., useful model	
MINERVA, 2½ h.p., good machine	
MINERVA, 1½ h.p.	No swaps.
WERNER, 2½ h.p.	

£3 down and 5/- per week for any of these models.

ARIEL, 3½ h.p.	£10 0
REX, 3 h.p., poor condition of enamel	£7 10
BRADBURY, 3 h.p., strong machine	£9 0
HUMBER, 3½ h.p.	£9 0
CLEMENT-GARRARD Twin, 3½ h.p.	£9 10
FAFNIR, 3½ h.p., M.O.V.	£10 0
HUMBER, belt drive, 3½ h.p.	£9 0
REX, 3½ h.p., M.O.V.	£10 0

Also several more equally as cheap.

SPECIAL LINES.

Mudguards, enamelled, 3½ and 4½, pair	3/11½
Puncture-proof Bands, S.H.	4/11½
Gannet Gloves	2/11½
Handle-bar Watch and Holder	3/11½
Butted Tubes, all sizes, brand new	12/8
Triumph Pattern Handle-bars	5/6
Long Handle-bars	4/11½
Large Triumph Pattern Horn	4/11½
Waterproof Leggings	4/11½
Ditto ditto with froats	10/11½
Ditto Suits	19/11½
Tau Gloves, with gauntlets	4/6
S.H. Whittle from 1½ ft., all sizes stocked	
Triumph Compression Domes	2/2
Dry Cells	6/8
S.H. P. and H. Generators, complete	7/8
S.H. Parker's Generators, complete	8/9
New Generators	4/11½
Holland Motor Cycle Suits	6/6
Long Holland Coats	4/11½
Lamp Brackets, all patterns	1/11½
Horn Grips	1/11½
Assorted S.H. Carburettors, h.b.c.	12/8
T.B. Handle Starter	12/-
S.H. F.R.S. Lamps, complete	25/- and 35/-
Garner's Whistles, post free	12/8
Trembler Coils	6/11½
Non-trembler Coils	6/9
Carbide Carriers	1/10½
Rubber Goggles	1/5½
Brass Exhaust Whistles	2/11½
Tubes, all sizes, brand new	8/11½
Leather and Steel-studded Bands	19/9
S.H. Lucas Lamps, complete	30/-
B. and B. Carburettors, h.b.c., 1911	23/-
Tube and Belt Cases	5/11½
Rubber Belts, 7½ in. x 3 in.	5/11½
Special H.B. Watch Holders	10½d. and 11½d.
New Self-contained Lamp, large size	13/11½
Special Twist Horn	3/11½
New F.R.S. Generators	7/-
Exhaust Cut-outs	2/11½
Handle-bar Mirrors	2/9 and 4/6
Magnets	£3, £3 8s., and £4
Parker Self-contained Lamp	15/11½
Special Bracket Separate Generator Lamp	23/6
F.I.E.N. Magnets	£3 4/11½
Sidecar Aprons, ready to fit	6/11½
Mabon 1911 Free Engine	£2 5
Large Side Bags	5/11½
Swan-neck Seat-pillar	2/9
Specialty Strong Carrier	4/5½
E.I.C. Plugs, 2½ size	1/1
Leather Leggings, new	4/11½
Ajax Heavy Tyre	35/-
MORECAMBE Studded, old pattern	14/11½
MORECAMBE Studded, new pattern	19/11½
Heavy MORECAMBE Studded, new pat.	23/11½
50 Odd Tyres from 13/6 to 17/6 to clear.	

BELT CLEARANCE LIST.

Off any rubber belt we will allow 3d. to 6d. per foot discount off the list prices. 100 belts must be cleared. All sizes. State wants. No throw-out. All new stuff, and guaranteed by makers.

Hitchen's Motor Exchange Co., Ltd.,
Euston Rd., MORECAMBE.

MOTOR BICYCLES FOR SALE.

3 1/2 h.p. 1909 Rex, B. and B. carburettor, Bosch ignition, new tyres, low footboards, engine new bushed throughout; £16/10.—Watson, Farnboro', Hants.

2 1/2 h.p. Kerry, B. and B. carburettor, coil and accumulator, engine equal to new, good tyres; £13.—Watson, Farnboro', Hants.

TWIN Rex, 5-6 h.p., new Amac, accumulator, trembler coil, perfect condition; £16/16.—35, High St., Portsmouth.

L.M.C., 1910, 3 1/2 h.p., 2 speeds, free engine, footboards, starts like a car, spare belt (new); cost £56, accept £32.—Bowyer, Risca.

TRIUMPH, 1909, excellent running order, good condition, horn, and tools; 30 guineas.—Neale, 9, Burgess Rd., Basingstoke.

2 1/2 h.p. Griffin-Zedel, good condition, rebored and new 4 piston, good climber; what offers? — Hunt, Quinington, Fairford, Glos.

1909 Triumph and nearly new sidecar, new Rom and tabs, overalls, etc.; 36 guineas.—Aldridge, 127, Wimborne Rd., Bournemouth.

TRIUMPH, 1909 1/2, good condition, £30; 1911 Forward lightweight, 2 1/2 h.p., twin, run 300, £30; appointment.—Eastleigh, Coocham Rise, Berks.

1911 3 1/2 h.p. 2-speed Humber, brand new; £44; appointment.—Eastleigh, Coocham Rise, Berks.

B.S.A. 1911 Motor Cycle, in first-class condition, everything as good as new; owner going abroad; accept £40.—Box 5,352, The Motor Cycle Offices, Coventry.

LAYTONS—Free engine Triumph, delivered from stock, £55; 1911 free engine Triumph, run 300 miles only, cash offers wanted.—Laytons, Bicester, Oxon.

REX de Luxe, 5 h.p. twin, Bosch magneto, free engine, 2 speeds, new tyres, just overhauled by makers, with sidecar; price £35.—Owner, 44, St. Giles, Oxford.

1911 4 h.p. Free Engine Indian (blue), only delivered in May, mileage 1,500, condition new, guaranteed perfect; nearest £50.—Golden, 70, Woodland Rd., Bristol.

EYLES and Eyles, 113, St. Aldates, Oxford, have in stock Bat, 4 h.p., 2-speed, free engine; B.S.A., 3 1/2 h.p., free engine; and Premier, 3 1/2 h.p., free engine; also sidecars.

1911 Triumph, clutch, Cowey speedometer, lamp, Brooks valve, belt and tube case, done 2,000 miles; £45.—Dilleuth, Chaddington, Kendrick Rd., Reading.

T.A.C. 1911, in perfect running order, with spares and accessories; 50 guineas; may be seen at Kimber's, 9, Albert Rd., Devonport.—Graham, H.M.S. Foxhound, Portsmouth.

TRIUMPH, 1910, standard, Palmer cords, with No. 7 Montgomery 11 1/2 sidecar, all in exceptional condition, plating, enamel good as new, taken great care of; £43.—Freeman, 151, Barton St., Gloucester.

2 1/2 h.p. Kerry, low, fast, smart, good order throughout, out, tyres as new, bargain, £10; 24 or 3 1/2 h.p. F.N. as above, £12/10; 3 1/2 h.p. Rex, m.o.v., as above, £13/10.—P. W. King, 137, Stewart Rd., Bournemouth.

1911 Triumph, standard model, everything in perfect condition, with all accessories and spares, including tube and new Shamrock belt, also Bradley passenger chair; £39/10.—Saunders, 42, Commercial Rd., Southampton.

MOTOR Cycle, 3 1/2 h.p. Aster, Chater-Lea spring forks, 20 in. frame, 21 Peter-Union tyres, new Siemens coil and battery, pull sidecar anywhere, complete with Lucas lamp, horn, and accessories; £10, no offers.—F. Davis, Tibberton, near Gloucester.

1911 Douglas, bargain, new June, practically unscratched, tyres perfect, horn, lamp, all tools and spares, insurance policy, also spare outer cover re-treaded Avon and new Michelin inner, as good as new; £35, no dealers; first cheque secured.—Kakewich, Devons, Tidworth.

3 1/2 h.p. Fafair, Chater-Lea throughout, low build, good 32 hill-climber and very fast, spring forks, Palmer tyres, footboards, enamelled French grey, in good running order, h.b.c.; any trial or examination of same here; £16, or exchange for cycle and cash, or anything useful.—Proprietor, Wheatheat, Privett, Alton, Hants.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

3 h.p. Ariel, in splendid going order; £7.—44, Stanmore Rd., Leytonstone.

SINGER, 1911, clutch model; £40.—Letters only, 87, Orford Rd., Walthamstow.

FOR Bargains in second-hand motor cycles, write, The Ketco Motories, Snaresden, Kent.

TRIUMPH, in very good condition; £32; spare belt.—68, Walsingham Rd., Hove.

3 1/2 h.p. Motor Cycle; £18; exchange higher power.—32 Osborne, 1st Avenue, Dovercourt.

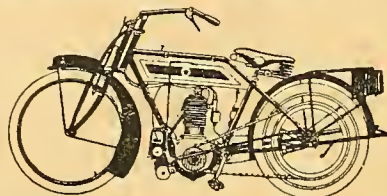
P. and M., 2-speed gear, for immediate delivery, and Scotts—Rey, 5, Heath St., Hampstead.

DOUGLAS, slightly soiled, as new, perfect; £32.—H Ward, 19, Bromfield Rd., Clapham, S.W.

3 1/2 h.p. Rex, new May, 1910, splendid condition, tools, etc.; £27.—185, Graham Rd., Hackney.

£31 BUYS**A BRAND NEW 3 1/2 h.p. REX,**

with 8 1/2 x 89 Rex balanced engine, 2 in. wheels, Continental tyres, low dropped frame, handle-bar control, carburettor, Bosch magneto, foot and hand brakes, ball bearings to engine-shaft, 3/4 in. rubber canvas V belt, Lycett's saddle, spring forks, extra wide improved mudguards, footrests, stand, carrier, toolbag, tools, and number-plate.



Don't buy unknown makes or foreign rubbish at prices far above their actual value.

NEW MACHINES ON HAND.

1911 3 1/2 h.p. PREMIER Tourist	£47 10
1911 3 1/2 h.p. Tourist TRIUMPH	£48 15
1911 3 1/2 h.p. Magneto RUDGE-WHITWORTH	£48 15
1910 3 1/2 h.p. Magneto REX, 1911 forks	38 Gns.
1910 3 1/2 h.p. Twin REX DE LUXE, 1911 forks and fittings	£54 10
1910 3 1/2 h.p. Magneto REX, 1911 forks, Continental non-skids	35 Gns.
1911 3 1/2 h.p. BRADBURY	£48 0
1911 3 1/2 h.p. Two-speed BRADBURY	£55 0
1910 5 h.p. Twin Tourist REX, Cantilever seat, non-skids	42 Gns.
1910 5 h.p. REX DE LUXE, 2 1/2 in. non-skids, 1911 fittings, cylinders, mechanical inlet valves	£54 10
1910 5 h.p. REX, grey finish	£36 10

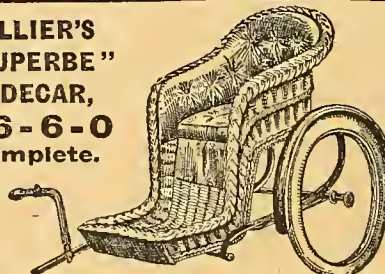
EASY PAYMENTS.

DEPOSITS from £3 3s. upwards. Write us!

2 1/2 h.p. J.A.P., accumulator ignition	£9 10
QUADRANT, 3 1/2 h.p., magneto, spring forks	£24 10
F.N. Lightweight, magneto, spring forks	£19 19
REX Twin, 5 1/2 h.p., spring forks, fast	£19 10
QUADRANT, Trike low, good	£6 6
1909 3 1/2 h.p. Tourist REX	£27 10
QUADRANT, 3 h.p., good condition	£12 15
3 1/2 h.p. REX, spring forks	£16 10
1910 7 h.p. Twin REX, M.O.V.	£37 10
5 1/2 h.p. N.S.U., free engine and sidecar	£33 10
3 h.p. FAFNIR, light and low	£10 0
HUMBER, 3 1/2 h.p., free engine	£12 10
REX, 1910, 3 1/2 h.p., "hot stuff"	£29 10
1910 TWIN REX, M.O.V.	£29 10
4 1/2 h.p. 4-cyl. F.N., magneto	£19 19
3 1/2 h.p. REX, vertical engine, trembler	£8 10
Two-speed 5 1/2 h.p. REXETTE, carries three	£24 10
Two-cylinder DAIMLER, running order	£16 0

A CALL WILL REPAY YOU.

**COLLIER'S
"SUPERBE"
SIDECAR,
£6-6-0
Complete.**



SPECIFICATION.—Frame best quality weldless steel tube, with our latest design of quick detachable fittings, splendid C springs, wheel with rustless spokes, 2 1/2 in. beaded tyre of best make, large mudguard securely fastened. Body finest wicker, well upholstered blue or green, large apron to match, with loops, studs, and storm flap.

Other Models from £3 15s. to £7 15s.

All quick detachable fittings.

Send for Illustrated List. FREE!

**Collier's Motories,
WESTGATE, HALIFAX,
ENGLAND.**

MOTOR BICYCLES FOR SALE

WILTON Cycle Co.

VICTORIA, S.W.—Sea bargains below; all best in stock.

WILTON—Bradburys in stock, free engine, £54, 2-speed, £55.

WILTON—Clyno—sole S.W. agents; trial by agreement; early delivery.

WILTON—Matchless; sole S.W. agency; early deliveries.

WILTON—1911 Kerry-Abindon, 3 1/2 h.p., shop-soiled; £40 to clear.

WILTON—1911 Moto-Reve, 2 1/2 h.p., shop-soiled; to clear.

WILTON—New Enfield, shop-soiled; £33 to clear.

WILTON—1911 Kerry-Abindon, with 2-speed Lucas lamp, horn, mirror, with sidecar, new condition; £50, cost £70.

WILTON—1910 Excelsior, 3 1/2 h.p., fine condition; £25.

WILTON—1911, latest model, No. 1 Clyno, 2-speed lamps, spares, spring pillar and sundries, 1 spring wheel sidecar, cost £90, new condition; £70.

WILTON—Exchanges and instalments, reasonable terms.

WILTON—1910 Moto-Reve, 2 h.p., with accessories; £25.

WILTON—7 h.p. Brown, two, Bosch magneto, and B. carburettor, just overhauled; £30.

WILTON—1909 5 h.p. Sarolea, Chater-Lea, 4 speed new Druid forks, B. and B. carburettor, Bosch magneto, new Rom on back; £30, bargain.

WILTON—3 1/2 h.p. Excelsior, B. and B. carburettor; £8/10; 2 h.p. Precision-Enfield, £6/10.

WILTON Cycle Co., 110, Wilton Rd., Victoria, London, S.W. Phone, 5115 Westminster.

EAGLES—Douglas 2 1/2 h.p. Twin, late 1910, had in use, nearly new; £28/10.

EAGLES—N.S.U., 3 1/2 h.p., 1908, magneto, spring forks, B. and B. carburettor, hna condition; £18/10.

EAGLES—Rex de Luxe, 5 h.p., twin, 1910, new condition, Bosch magneto, cantilever seat, 2 speed free engine, Millford sidecar; £42/10; any trial.

EAGLES—Motococche Lightweight, Helledon ignition, Whittle belt, fine condition; £11/10.

EAGLES—N.S.U. 2 h.p. twin, late 1909, Bosch magneto, m.o.v., 2-speed gear and free engine, Millford sidecar, equal to new; £42; any trial.

EAGLES—Minerva, B.S.A., 2 1/2 h.p., m.o.v., spring forks, adjustable pulley, h.b.c.; £11/10.

EAGLES—Minerva, 3 h.p., m.o.v., magneto, adjustable pulley, h.b.c., very low built; £16/10.

EAGLES—We have a brand new single-cyl. N.S. just delivered, magneto ignition, m.o.v., improved carburettor, h.b.c., Shamrock belts, 1911 spring fork and other improvements, complete tool case, full set tools, stand, etc.; 3 h.p. £27, 3 1/2 h.p. £31, net cash; deferred payments arranged.

EAGLES and Co., High St., Acton, N.S.U. West London district agency.—Immediate delivery of 1911 models; liberal allowances for machines in part payment. Tel.: 556 Chiswick.

SCOTT, 1911, brand new, for immediate delivery, P. and M.—Rey, 5, Heath St., Hampstead.

3 1/2 h.p. Rex, h.b.c., magneto, 2 speeds, free engine, £32.—Stewart, Market Sq., Horsham, Sussex.

REY, 5, Heath St., Hampstead, can give immediate delivery of the following 1911 machines:

P. and M., 1911, in stock, 6 h.p. Zenith, and 3 1/2 h.p. Zenith.

BRADBURY, standard, free engine or 2-speed; immediate delivery; no extra for extended payment.

DOUGLAS, 1911 models, in stock; 2-speed and standard; no waiting; 5% extra for E.P.

HUMBER, 1911, 3 1/2 h.p., 2-speed and free engine model; immediate delivery.

BAT, 7-8 h.p., 1911, new, for immediate delivery; £2

LINCOLN Elk, 3 1/2 h.p., 1911, £34; or 2 1/2 h.p., £28/10; no waiting.

HANDY Hobart, 3 1/2 h.p. twin, 1911, or 2 1/2 h.p.; waiting.

SCOTTS, 1911, 3 1/2 h.p., 2-speed gear, for immediate delivery, no waiting; £60.

RUDGE T.T. Standard and free engine now in stock; no waiting.

B.S.A., 1911, 3 1/2 h.p., for immediate delivery; no waiting; £50.

ALL the Above for immediate delivery, terms, or exchange, or extended payments.—Only address, Rey, 5, Heath St., Hampstead. Tel.: 2678 P.O.

1908 3 1/2 h.p. Triumph, magneto; £25, or near offer, 1911, 3 1/2 h.p., magneto, good tyres, thorough overhauled; £18/10.—29, East St., Barking.

MOTOR BICYCLES FOR SALE.

AMPSTEAD—Only house for great bargains and quick delivery of new 1911 machines you cannot elsewhere; agents for all makes, and makers of the new Ray's sidecar and exhaust whistle—Only address, 5, Heath St. Tel.: 2678 P.O., Hampstead.

AMPSTEAD—Douglas, 1911, model D., almost new, all accessories, run about 200 miles; £35.

AMPSTEAD—Douglas, 1911, 2-speed and free engine model, condition like new; bargain, £43.

AMPSTEAD—1911 Rex, 3½ h.p., brand new, clutch model, handle starting; £39, special bargain.

AMPSTEAD—1911 free engine Triumph, almost new, run about 300 miles; great bargain, £48.

AMPSTEAD—1911 2½ h.p. Royal Enfield, latest model, chain drive, new condition; £36, a bargain.

AMPSTEAD—3½ h.p. Centaur, B. and B., all accessories, good tyres; bargain, £8.

AMPSTEAD—3½ h.p. 1910 Premier, splendid condition, with all accessories; a bargain, only £26.

AMPSTEAD—1911 Triumphs, free engine, T.T. roadster, or standard for immediate delivery from

5, Heath St., Hampstead. Tel.: 2678 P.O. Bargains as below

AMPSTEAD—1911 3½ h.p. Lincoln Elk, shop-soiled condition only; special bargain, £26; all accessories

AMPSTEAD—6½ h.p. twin Roc, 2-speed gear, magneto, spring forks; £25, special bargain.

AMPSTEAD—5½ h.p. twin 1910 Indian, red, splendid condition, all accessories; bargain, price £27.

AMPSTEAD—1911 Rudee, almost new, with all accessories, a fine machine; only £42.

NITH, 8 h.p., 1911, brand new, for immediate delivery, no waiting; 68 gns.; and 3½ h.p.

AMPSTEAD—1909 Moto-Reve twin, with 1910 engine, all accessories; £14, special bargain.

AMPSTEAD—1911 standard Triumph, 3 weeks old, condition almost new; £39, special bargain.

AMPSTEAD—2½ h.p. V.S., magneto, and spring forks, nice order, all accessories; £12.

AMPSTEAD—3½ h.p. B.S.A., condition and tyres like new, requires cylinder only; bargain, £7.

AMPSTEAD—1911 3½ h.p. Premier, almost new condition, with all accessories; special bargain

AMPSTEAD—1911 Bradbury, like new condition with accessories; a sidecar machine; £35, bargain

AMPSTEAD—3½ h.p. 1911 two-speed Humber almost new, with accessories; £45.

09 Triumph, free engine, had very careful use, just had new piston fitted, and thoroughly overhauled, in absolutely perfect condition; will take sidecar anywhere; a bargain, £39/10.—Braintree Motor Co.

UMPH, in splendid condition, magneto, h.b.c., recently had new cylinder, tyre, and belt fitted, and fully overhauled; first class, for £23 secures this bargain; any trial allowed; will send on up to 80 miles.—Braintree Motor Co.

11 Singer Moto-Velo, magneto, little used, in perfect condition; will ride machine up to 60 miles—pending purchaser's approval and trial; £25 only.—Braintree Motor Co.

OLF Lightweight, 1910 model, recently overhauled by makers, in perfect running order, a marvellous machine, takes any with 12 stone rider up, tyres, oil, and plating in splendid condition; £13/10.—Braintree Motor Co.

RGAIN—Powerful 6½ h.p. C.G. Twin, 1911, B. and B., 26x2; tyres, unpunctured, long handles, low, horn, spares, etc., excellent sidecar machine; £25, offer; buying lightweight. — 69, Greenside Rd., do.

X de Luxe, late 1909, 3½ h.p., Roc 2-speed, F.E., cantilever seat, Palmer cord and Dunlop, month's in thorough going order, with accessories; £24; at A.C.: evenings.—Alpe, 82, Lavenham Rd., South, S.W.

APHAM Junction—3½ h.p. Brown, magneto, Chater-Lea, in excellent order, spring forks, tyres nearly numerous spares; £25, or near.—Chandler, 6, The Gle, St. John's Hill, Clapham Junction. Tel.: 432, Ersea.

h.p. Fainir, 1911 Bosch, B. and B., Chater No. 6, stand, carrier, footrests, Whittle, adjustable, new tyres, perfect and reliable; £28; with the Chater sidecar, £33.—37, De Bennoir Sq., London N.

h.p. Premier, 1909, 2-speed gear, beautifully fitted up throughout, tyres splendid, Palmer back, comes with all accessories, lamp, generator, etc., ideal machine; £28.—Sydenham Autocar Co., 153, Lham Rd., Sydenham.

h.p. M.M.C., Chater No. 7, Palmers, new belt, adjustable h.b., spring forks, and nearly new engine, excellent condition, reason for selling, £15; also motor s, 20 in., £1; and Tee-bee seat-pillar, 2/6.—P. Wright, High St., West Norwood

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in Speed. We know how to get the utmost out of a motor cycle. We won the T.T. We will tune your machine up like this.

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in Reliability. Winners of innumerable trials. The machine we supply you with will be tuned up to this efficiency.

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MOTOR BICYCLES FOR SALE.

5 h.p. Sarolea Twin, Bosch magneto, and sidecar, £24; 8 h.p. twin Minerva, Bosch magneto, and sidecar, £40; 2 h.p. Minerva, Dunlops, m.o.v., spray, perfect, £9; 6 h.p. tourist twin, and sidecar, free clutch, £35.—Nicholas, 36, Stroud Green Rd., Finsbury Park.

HUMBER and sidecar, 3½ h.p., bought new June, 1911, free engine, 2-speed gear, perfect order and condition, Smith speedometer, Lucas lamps, spare Dunlop and inner, lot used, belt, accessories, guaranteed; owner going abroad.—Write, 53, Clarence Gate Gardens, Baker St., W.

BROOKER'S Trusty Triumph, one stop since September, 1909, Palmer cords, new R.S. searchlight, Bowden magneto control, special piston, extra back mudguards, toolbags, and Michelin butted tubes, magnificent condition; £35—15, Park Rd., Wandsworth, S.W.

LIGHTWEIGHT, low, good tyres, B.B., h.b.c., Kelecom engine, 2½ h.p., starts with pedals like push bike, runs on a petrol whiff, 2 accumulators, new parts, £7; heavy waterproof suit, 50/-, for 25/-; inner tube, 26x2, new, heavy, 10/-—5, Palmerton Grove, Wembleton.

£10 Secures Delivery, carriage paid, of any motor cycle on the market; 2 per cent. only is charged for 12 months' credit; Humber, New Hudsons, Quadrants, Moto-Reves, James, Grandex-Japs, Calthorpes, in stock.—William Whiteley, Ltd., Queen's Rd., London.

WIN-PRECISION Motor Cycles.—Immediate delivery of 1911 model, Druid forks, Bosch magneto, B. and B. carburetter, Dunlop tyres, £45/10; cash or gradual payments, £2 monthly; trial by appointment, any reasonable distance.—Jeoings, 268, Hornsey Rd. (near Public Baths), Holloway, London.

TRIUMPH, free engine, November, 1910; officer ordered to China, will sell above, with accessories and all spares, including lamp, horn, Jones speedometer, belt, tube and belt carrier, carbide carrier, oil gun, in perfect order; highest offer over £37 accepted.—Apply, Capt. Blackburn, R.N., 17, Ashley Gardens, London.

HAZEL Lightweight Motors.—We are now in a position to give early delivery of our 2½ h.p. model, the lowest, shortest, and lightest machine of its power on the market, fitted with Jap engine; price 35 guineas; second-hand machines in vast quantity; many good second-hand machines in stock at reasonable prices.—The Cripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

1911 Rudge-Whitworth, 3½ h.p., fixed engine, in stock; £48/15.—Mollat, Yeovil.

TRIUMPH, 1911, free engine, guaranteed not to have done 450 miles.—Williams, motor engineer, Exeter.

N.S.U., 3½ h.p., magneto ignition, perfect condition, new belt; £24, good bargain.—Humber, Torbay Rd., Paignton.

TRIUMPH, 1910, absolutely new condition; exchange Enfield or Douglas, 2-speed, or sell.—Evans, jeweller, St. Austell.

1908 F.N. Lightweight, magneto, spring forks, excellent order; any trial; £15/10.—Bradfield, Hendford House, Yeovil.

BRADBURY, 3½ h.p., with 2-speed and free engine, 1911, immediate delivery.—Devonshire, motor agent, Torpoint, Cornwall.

1911 Bradbury and 2½ h.p. 2-speed Enfield; immediate delivery; also 1907 and 1908 Triumphs, in good order.—Varcoe, Motors, St. Austell.

REX, 5½ h.p. twin, free engine, Roc clutch, Bosch magneto, splendid tyres, lamp, 3 tubes, quantity spares; £22.—White, milliner, Barnstaple.

REX DE LUXE, 5½ h.p., 2-speed, new May, 1910, with Millford castor sidecar, new condition, tools, spares; £43, or would separate.—Procter, 25, High St., Exeter.

NAVAL Officer going abroad wishes to dispose of model D 1911 Douglas, in new condition, all accessories; £32.—Box L4,220, The Motor Cycle Office, 20, Tudor St., E.C.

REX, 5-6 h.p., Bosch magneto, B.B. carburetter, h.b.c., new Whittle, L.M.C. free engine, Auto pulley, lamp, all spares, tyres good; trial allowed; £26; also sidecar.—Coplestone, High St., Taunton.

1909 Triumph (June), Roc 2-speed gear, A.S.L. pillar, Cowey, F.R.S. lamp, many accessories; cost over £75, take £38; particulars; trial on deposit.—Lient, J. D. Murray, Leicester Regt., Devonport. Ordered abroad.

3½ h.p. Quadrant, spring forks, Amac carburetter, h.b.c., 2 new Bosch magneto, Palmer tyres, in good condition; accept £15/10 for quick sale, genuine bargain; cash urgently required.—Harding, Halberton, Tiverton, Devon.

1911 2½ h.p. Moto-scooter, new July last, adjustable Palmer, Eddie hub, new Dunlop road-tyres, 26 back, many improvements, special fittings, and spares; sacrifice £32; cash wanted.—Seen, tried, Mid Devon Motor Works, Winkleigh, Devon.

In answering these advertisements it is desirable to mention "The Motor Cycle."

TRICARS FOR SALE.

THE MOTOR CYCLE

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Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

ADDRESS: 20, TUDOR STREET, LONDON, E.C.

Will Hill-climbs Survive?

AT the Newham Hill-climb we heard one or two prominent riders and officials venture the query as to whether hill-climbs will survive. At first we were rather concerned to hear such remarks, but we have had in view for some time the fact that hill-climbing competitions were becoming very stereotyped, and unlikely to be so popular in the future as they have been in the past. There are many reasons for this. One, no doubt, is the vexed question of a perfect, or rather an ideal, formula. Another is the difficulty experienced by the majority of private owner-riders in obtaining an efficiently tuned up machine, and still another is the comparative regularity with which some prominent riders win important events week after week.

Of course, our remarks do not apply to purely club events, where it is seldom that trade riders compete, but to the better known open events which have been popular up to now, and possibly will continue to be so while trade competition is keen, but which cannot fail to receive a certain amount of cold *douche* when things settle down. Although we have pointed out that the genuine private owner has some difficulty in obtaining a well tuned-up mount direct from the works on which to compete against trade riders, we know of several quite genuine amateurs who very much prefer to do their own tuning up, and in many instances this is quite equal, if not superior, to anything that can be turned out of the average motor cycle factory.

If readers would only take the trouble to analyse the lists of competitors in all the events which have been held during the last few months, they would find that, in the majority of cases, the same men compete in each event, and in many instances the same men

win. All credit to them for their performances, but the query that arose in the minds of the persons who referred to the survival or otherwise of hill-climbing competitions was how long would these competitions last without the particular support referred to.

As we have pointed out on many occasions, to stop racing and competitions generally means stagnation, but we think a good deal might be done to improve the ordinary hill-climbing competition. For instance, the same plan might be adopted as was pointed out last week in connection with the T.T. suggestions, viz., trade competitors might be called upon to compete on a machine selected by the committee of the organising club, such machines to be selected from the makers' stock and to be standard in every particular. The formula results might be improved upon, and it might be a somewhat sporting and at the same time instructive class if competitors were sent up the hill, with a certain fixed amount of petrol on each machine, according to its cubical capacity, and if the one who went the farthest were the winner. The petrol need not be poured into the ordinary tank, but could be filled into a special reservoir which would hold the exact amount required according to the cubical capacity of the engine. Clumsy riders who spilled their supply of spirit would, of course, finish low down the list, and big jets would be at a discount because they would prove too extravagant. After all, the use of a very large jet and an extraordinary amount of spirit in a hill-climb proves nothing, because the same machine if run for a considerable distance on the level and then taken up the same hill would probably fail through overheating, or if it did not fail from this cause it would be impossible to run the engine for long distances without constant valve grinding.

Our suggestion with regard to hill-climbing competitions is to make them more attractive another year by instituting something of the kind we suggest above. Of course, there may be other suggestions made which will be better than those we have formulated, and we shall be very pleased indeed to

publish our readers' views on the subject. Precedence will, of course, be given to novel suggestions for improving hill-climbing competitions, and in cases where it is possible for readers to do so we should like communications to be signed with their own names and not a *nom de plume*.

FORMULÆ FOR HILL-CLIMBS.

The large number of suggestions we have received with reference to hill-climbing formulæ shows that there is a very general desire for reform in this particular, and a dissatisfaction with the commonly used

formula $\frac{W}{C \times t}$. This formula certainly has its simplicity to recommend it, but its great fault is its assumption that the time is inversely proportional to the cubic capacity, and consequently to the horse-power, which every engineer, and most other people interested in the matter, know is not the case. The Eiffel Tower formula for air resistance is $P = .003 Av^2$ where P = pressure in lbs. per square foot, A = area in square feet, v = velocity in miles per hour, and .003 is a constant found by many experiments. This shows that air resistance alone varies as the square of the speed; and if this alone had to be con-

sidered Mr. Churchward's formula $\frac{W}{C \times t^2}$ would meet the case; it also has the merit of simplicity. There are, however, other points to consider. For instance, a rough road causes more vibration at a high speed, and everyone who has ridden any kind of bicycle knows how great an effect vibration has in reducing speed. Therefore it is obvious that is another factor favouring the small engine.

It is stated in *The Autocar* of August 26th that the power varies as the cube of the speed, in which case the formula suggested by Mr. R. Rüde, whose interesting letter we publish in this issue, will give the best results. His formula is $\frac{W}{H.P. \times t^3}$ (to give it in a slightly different form, but one which corresponds to

the other formulæ we have mentioned), or it may be

written $\frac{W}{C \times t^3}$, substituting cubic capacity for horse-power without altering its effect so long as it is allowed that horse-power varies as cubic capacity, in which case horse-power formulæ should contain the term D^2 or r^2 and S , but some horse-power formulæ do not, notably the Coventry and Warwickshire M.C. formula, published last week, which is combined with

$\frac{W}{H.P. \times t}$ for hill-climbing results.

The formula $\frac{W}{D^2 \times \sqrt{S \times N \times t^{1.5}}}$ combines the

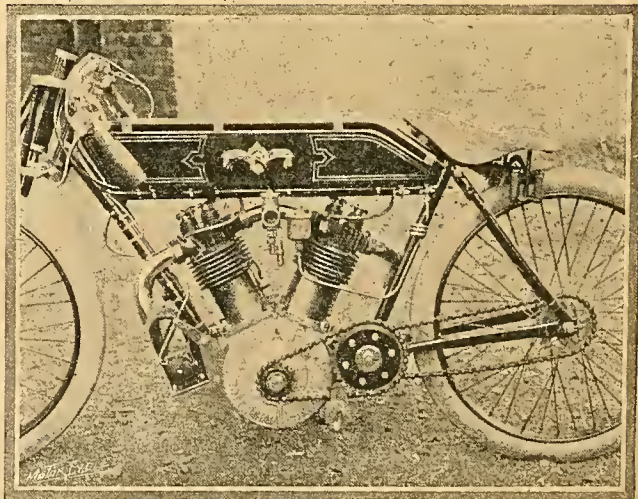
essentials of the Coventry h.p. formula with $\frac{W}{C \times t^{1.5}}$; $t^{1.5}$ is inconvenient to calculate except with the slide rule or by logarithms, but, for the convenience of clubs, a table is published by the *Scottish Cyclist and Motor Cyclist* which gives the value of $t^{1.5}$ for all values of t from 30 to 200 (t is in all cases the time in seconds). This formula is used by the Edinburgh and District M.C. The Glasgow M.C. uses practically the same formula, but includes the gear in such a way that the higher the gear the better is the figure of merit.

If the A.C.U. is right in allowing a slightly larger capacity to multi-cylinder engines in the T.T. races on account of the increased friction, and it seems that the framers of classes for hill-climbs admit this by allowing twins of larger capacity to compete, then these same twins are at a disadvantage when it comes to calculating the results by formula.

THE CHAIN-DRIVEN MATCHLESS.

COLLIER & SONS, LTD., the makers of the Matchless motor bicycle, have introduced a new model which is chain driven instead of belt driven. The machine, which we have photographed, is the identical one used by C. R. Collier in the matches with Jake de Rosier, and on which he made his recent record rides of 90 miles an hour and over when belt driven.

The engine is a J.A.P., 90 mm. bore by 78.2 mm. stroke, Amac carburetter, Bosch magneto, handle-bar control. The chain drive is through the counter-shaft by means of two chains, the ratio from engine sprocket to counter-shaft being 2 to 1, and from counter-shaft to road wheel 20 to 26 teeth, giving a final gear ratio of $2\frac{3}{5}$ to 1. The counter-shaft is mounted on an eccentric strap, which allows the chains to be adjusted, and runs in two Hoffmann ball bearings. A frictional form of slipping clutch is fitted on the counter-shaft to soften the transmission of the chains, which would be otherwise too harsh. The machine is fitted with Hutchinson 26 by $2\frac{1}{4}$ in. tyres and enamelled red and gold lined.



Occasional Comments

By "Ilexion"



The Inestimable Value of the Speedometer.

I notice many riders still pursue the hobby without the aid of a speedometer, and of course three or four guineas is a considerable item in the season's bill. Nevertheless, motor cycling is twice as easy and twice as enjoyable with the aid of a speed recorder.

It is indispensable to the competition rider, for its readings tell him how he stands for both time and distance—the vital factors in the modern trial. It is equally indispensable to the private tourist, for it affords valuable information about engine tune, petrol consumption, state of one's tanks, and so on, besides guarding him against slowing down too little for a bad corner after a burst at high speed.

Nothing is more deceptive than dropping the pace after a sprint; the machine is invariably travelling much faster than one fancies, and most of the accidents at corners are due to this deception.

Moreover, the modern speedometer is all but perfect. If it is periodically returned to the makers for re-calibration, its reports may be trusted, and its worst fault is to exaggerate the pace a trifle at high speeds when it gets worn—a fault that tickles a rider's self-esteem.

No trouble need be apprehended other than a broken driving-shaft or sheath, and these are almost invariably due to neglect of the makers' instructions about fitting.

Leaning Out Round Corners.

Probably a host of riders have experimented with the "new" method of taking corners, which received such a lot of press notice after the 1910 T.T. Race—I refer to the practice of leaning the machine in and the body out when negotiating a corner at speed. At the time I personally had no great belief in it, but a year's practice has rather modified my views, and to-day I am inclined to believe that any given corner is negotiable at a higher speed by this method than by the old method of leaning both machine and body in the same direction. Anyhow if I ever come upon a bad corner unawares, and feel a trifle dubious about getting round, I always tilt the machine inwards and lean my body in the reverse direction.

Incidentally I have discovered one merit in the leaning out which none of its advocates have referred to in print, and that is, it enables the rider to see farther round a blind corner. Imagine that a motor cyclist in a hurry is suddenly confronted with a blind corner. If he leans his body in, his head gets well under the lee of the hedge or wall, and he only enjoys a very restricted outlook round the bend; but if he leans his body out, he almost destroys the "blindness" of the corner, and can see right round it before his machine has taken the bend.

The difference in vision may not be great, but it is sufficient to improve the chances of avoiding a smash when a partial error in judgment has been made; and if for this reason alone, the "leaning out" method

is worth cultivation. Of course, your really sensible rider never takes a blind corner at speed; but most of us suffer from temporary mental aberrations—in such moments, my advice is lean out!

Handle-bar Fitment Clips.

There is still much room for improvement in the clips sold for attaching accessories to the handle-bars. Lamps remain about the only "extra" provided with really rigid clips, and even these are seldom interchangeable on every make of machine. Why do some makers continue to pierce lamp irons? There is nothing in it, and the majority of lamps have a set-screw fastening which will not hold on pierced iron. I have a lamp which cost me about three guineas, and, to do it justice, no part of it ever comes adrift. But if I want to remove the lamp, I have also to remove the entire clip, which consists of nearly twenty pieces. Why is it not designed so that the lamp and generator can be removed by undoing a couple of nuts, leaving the clip *in situ* on the bar?

Hooters are still abominable in this respect, in spite of all our grumbling. Going round the Clarendon Yard at Harrogate, I noticed that few hooters were rigid except those which were lashed with straps or wire; and we all know how, if you screw up some hooter clips really tight, the head twists off the bolt. One or two British-made horns are very much superior to the foreign clips in this respect. I find a good plan is to drill and tap both clip and bar and put a screw through the two. This, in addition to the usual screws, will prevent loss of the horn.

Speedometers shed their bolts exhaust whistles drop their screws, which is not surprising when two or three fine threads have to withstand the pressure of a strong return spring, and there is no lock whatever on the miniature bolt. The carburettor control is almost the only handle-bar detail you can expect to find rigid after a gruelling ride.



P. Brewster (4 h.p. Norton) about to make an ascent of Newnham Hill in Class 3 of the Coventry and Warwickshire M.C. hill-climb.

A New Method of Mending Punctures.

THE Parsons Rapid Repair Kit, sold by the Parsons Non-skid Co., 23, Store Street, Tottenham Court Road, London, W.C., although primarily intended for use with car tyres, is, nevertheless, equally applicable for the relief of smaller tube troubles, and as these are the greatest bugbear from which motor cyclists suffer—a greater bugbear even than they are to car drivers—the description of a new method of repairing punctures cannot fail to be of interest. The great point about the Parsons process, to my mind, is that there is no messy solution, and hence no waiting whatever. The repair made is in almost every respect as lasting a one as vulcanisation, and made, moreover, without the slightest risk of damage to a valuable tube. Unlike most solutioned patches, no amount of heat can ever loosen the Parsons patch, and this fact has caused me to give it my most unqualified blessings during the recent very hot weather. It is a great thing to be able to mend a puncture and be off again in five minutes with clean hands and the secure assurance that that repair at all events will give no further trouble.

The outfit consists of four tools, put up in a neat leather case. The first, which is shown in fig. 1, consists of a cutter.

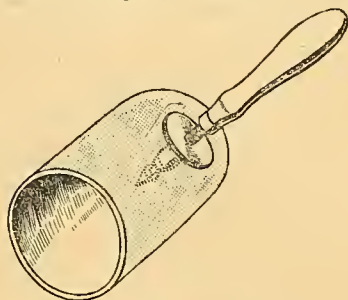


Fig. 1.—The Parsons cutter.

The puncture having been located, the point of this tool is thrust through the tube until the latter drops into the circular groove, as indicated in the dotted lines. The handle of the tool is held with one hand, whilst with the other the milled nut is screwed towards the spear point. This milled nut carries a tubular knife, which, with the aid of the square back edge of the spear point, cuts an absolutely clean, round hole, about $\frac{3}{8}$ in. in diameter, in the tube. Thus the punctured part of the rubber is completely removed. The cutter having been removed—its operation having been the matter of a very few seconds—the tool shown in fig. 2 is introduced. This is a spreader, the jaws of which, when closed, are pushed into the hole made by the cutter, and are then forced apart by hand pressure. The function of this tool is to stretch what was first a round hole into a slit about $\frac{1}{2}$ in. in length. Owing to the original hole being perfectly circular and with smooth edges, there is no risk whatever of the tube splitting, if it be made of good rubber. The next tool to come into use is the patch itself, which takes the form of a button, shown both in perspective and section in fig. 3. This stud

is thrust through the spread hole, and, when in position, the spreading tool is withdrawn, this operation—like the cutting process—only taking a very few

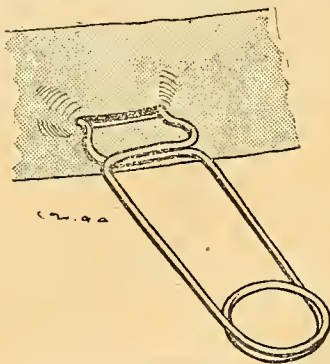


Fig. 2.—The spreader in action.

seconds to perform. The button itself consists of a spun brass skeleton, surrounded, as shown, by a thick coating of vulcanised rubber. It measures some $\frac{1}{2}$ in. in diameter, and, before squashing, about $\frac{1}{4}$ in. in thickness. It will be noticed from the section of the button that the top and bottom parts are furnished with corrugations which correspond with one another, and hence when the head and base of the button—which is really a form of rivet—are closed together under pressure, the joint between the button and the tube is a very intimate one. When it is squeezed up the central tubular column between the head and the base collapses, and spreads outwards, thus forcing the tube tighter and tighter into the corrugations of the button.

The tool with which the squashing of the rivet is accomplished consists of a pair of pliers with a parallel motion, as shown in fig. 4. The jaws are provided with hollowed-out discs, which exactly fit the ends of the button, and ensure its being crushed down evenly all round. The button being loosely inserted into the tube, it is twisted around once or twice to make certain that it has been inserted fairly and squarely, and the tube is then flattened and placed between the jaws of the pliers, care being taken that the base of the rivet, which is inside the tube, lies squarely—the opposite wall of the tube, of course, intervening—on its hollowed disc. The pliers are then grasped firmly



Fig. 3.—Sketch and section of button.

and squeezed until the rivet can be felt to collapse. No Herculean strength is required for this operation, a firm, slow pressure being all that is necessary. After this has been done, the tube is turned round, and the rivet again squeezed tightly, but from the opposite side. This second squeezing is done in order to ensure the heads being squeezed together uniformly. The cutting, the spreading, the inserting of the button, and the final

squeezing of the same, complete the whole operation; and with a little practice it occurs from start to finish less than a minute. Once the button is squeezed up it is there for "keeps," although it can, as a matter of fact, be got off if required. The buttons, when securely squeezed home, do not permit a leakage. The only precaution which is necessary for keeping them in the best condition is to avoid severely stretching the tube in their immediate vicinity.

During the past three weeks I have had the pleasure—and, indeed, it is a pleasure—of mending something like a dozen punctures with the Parsons kit; and an old tube, in which five previously applied solutioned patches have been replaced with buttons, has stood up for close upon 1,000 miles, in spite of the heat occasioned by a steel-studded cover on a sidecar machine. I recently took the tube out, after more than 700 miles, and found it to be as airtight as if it were new; and, as far as I am able to see, there is not the slightest sign of the heads of the buttons having wrought any effect whatsoever on the fabric lining of the cover.

A few days ago I was able to give the new process of repair an extremely arduous test, in which my expectations were that

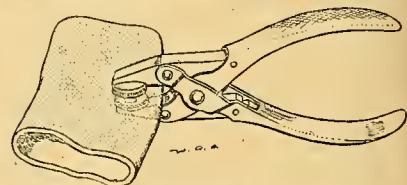


Fig. 4.—Compressing the button.

it could scarcely be hoped to succeed. A badly worn front cover allowed the tube to burst, the burst being a slit nearly half an inch in length. I well knew that in such circumstances the Parsons kit was scarcely intended to be applied, but I determined to see what it would do. Accordingly the cutting tool was used to make a single round hole in the middle of the split, and another one on each end, running into the middle one, of course, to prevent the split enlarging under the spreading tool. This meant that the head of the button only overlapped the hole by about $\frac{1}{4}$ in. each side. It was accordingly inserted, squeezed up as tightly as possible, and the tube replaced and the cover strengthened by an unsolutioned plaster. Contrary to my expectations, the tube has held up perfectly for over four hundred miles, and I have no doubt it will continue to do so indefinitely. The complete repair occupied scarcely ten minutes between stopping and getting under way again, and it is this saving of time which makes the Parsons repair kit such a very valuable accessory.

The only difficulty that occurs to me would be the mending of a puncture that unfortunately happened to be close to a previously affixed button, for in this case the two buttons would overlap and it would be difficult, if not impossible, to fix the second one satisfactorily so as to make an airtight joint, and it would be needful to remove the button and cover both holes with a patch. W.G.A.

500 MILES ON A SIX-SPEED.

By B. H. DAVIES.

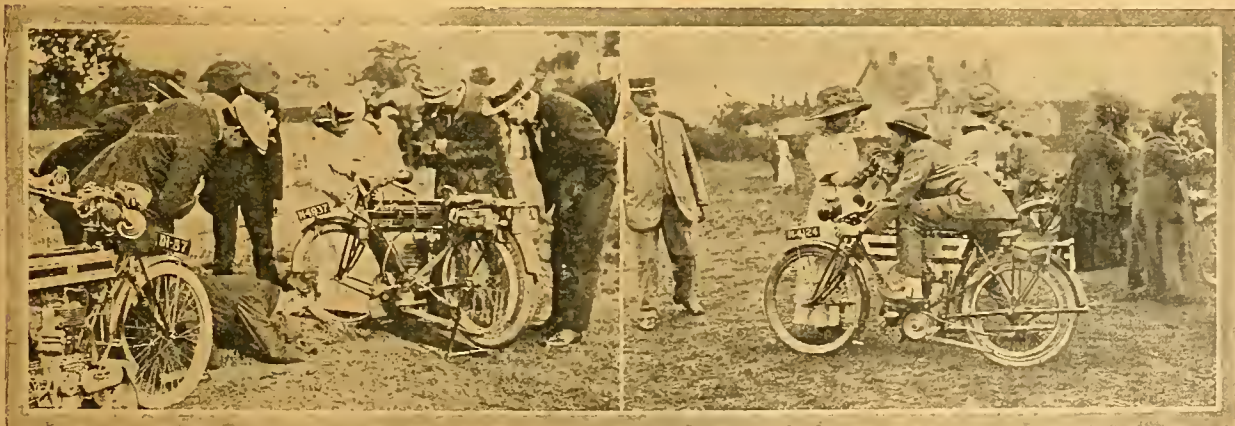
AFTER ten years of playing the pelican in the wilderness by raising an almost solitary voice in clamour for variable gears, it is almost embarrassing to have a six-speed machine put at one's disposal; and the six-speed Rudge is more than a six-speed; it is really an infinitely variable, for the number of ratios is limited only by the quantity of notches the makers choose to cut in the quadrant. There are six and no more, because the makers see no useful purpose in providing more. The machine which Victor Holroyd placed at my disposal was one of the original T.T. set, and was more of a projectile than a vehicle. Seldom have I felt such a "yank" under my saddle when giving a single-cylinder engine the liberal throttle; its acceleration was remarkable, and I soon learnt to start up with the throttle lever close back against the bar, for otherwise the machine was likely to be many yards off before I sought the saddle. It is already out of date, for giant strides are being made with the perfection of the gear for next year. The wide projecting quadrant is being scrapped, together with the huge pitchfork lever, the back wheel is being lightened, a free engine has been incorporated, and the dummy braking belt rim will disappear. As I was riding a primitive pattern, rushed through from the designer's brain to the Glen Helen depot within ten days, I was without these refinements, and the first tip I picked up on the road was to lower the gear before I stopped; for you cannot alter the gear of the early type when the machine is stationary, and starting on a 3 to 1 top ratio is sometimes exhausting. As it happened, I had to get down to Torquay and back from the Midlands within forty-eight hours, and with sundry detours the distance panned out at about 500 miles. Until some of the outlaws have ceased to rampage, I dare not publish my speed. I will only say that, judging from my experiences, this machine should have a good chance of smashing the End-to-end record, should it ever start on that lonely and illegal jaunt. I took the route *via* Oxford, Newbury, Salisbury, and Exeter, returning by the coast road; and such hills as Chard, Yarcombe, Haldon, Trow, Lyme Regis, and the short fierce pimples around

Newbury soon brought the merits of the gear into high relief. I confess that before my ride I saw little use in six ratios separated by such small divergences, but I soon learnt on the road that the drop from, say, a 4½ to a 5 gear is of infinite pleasantness. On the 4½ your engine feels "on the collar," and is apt to labour a trifle on a hill which is fractionally steep for its compass. Drop the gear only ten per cent., and the engine hums smoothly and easily, with vast suggestions of mastery. No! I now consider a two-speed gear, such as I have on my own Rudge, hopelessly out of date. Why run slowly with a racing engine on a fifty per cent. drop, when a multiple gear enables both back wheel and engine to skim smoothly?

Punctures in spite of Precautions.

The journey to and from Torquay was absolutely devoid of incident, except for tyre troubles; and if I had not been concentrated upon appreciations of the gear, the ride would actually have been dull. That tyre trouble deserves some mention, for it was unexpected. Figure to yourself, gentle reader, the six-speed was shod for the T.T. Its wheels boasted brand new "special" T.T. covers, of the heavy, non-skid type. Within each reposed a long, red, snaky, "puncture-proof" band, and below that again lay a self-sealing tube. It seemed otiose to carry a pump or an outfit. Yet several punctures befell me, in particular a large nail, which tore a huge scraggly hole in the cover, and made five several rips in the tube. Picture me, seated by the roadside with Patch-quick in one hand and a cup of tea from a hospitable Somersetshire hob in the other, thoroughly enjoying myself; then blinding on again to Torquay through the darkening lanes, and back again northwards, with rosy dreams of a perfected Rudge six-speed for my ordinary riding in 1912. Two notes about the Rudge, and I have done: Its engine never needs injections—you can always start it straight away from cold; and the comparatively small Vandervell magneto has a wonderful trick of starting with the ignition lever well back, if you time its retard a shade below the dead centre, instead of on the dead centre, as its makers recommend.

MANCHESTER M.C. GYMKHANA.



The motor cycle and mouse-trap race, in which riders had to ride along the track, set a mouse-trap and return to the finishing point.

The cigarette race. Each competitor had to ride to the end of the field where ladies were ready to light their cigarettes.

Variable Gears and Motor Cycles.

I.—POSITION.

WHICH is the best position for a change-speed gear? is a question one frequently hears, and there is great diversity of opinion on the subject.

There are three positions in which variable gears can be placed on motor cycles, each having certain advantages and disadvantages of its own, and it is the purpose of this article shortly to consider these positions, and decide, if possible, which is best.

They are as follows:

- A. On crankshaft (as N.S.U., Fitall, etc.)
- B. In back hub (as Roc, Armstrong, etc.)
- C. On a counter-shaft: (1) Between the engine and back wheel (as P. and M., Indian, Enfield, Scott, etc.); (2) in front of engine (as Griffin-Simplex) or below it (as Douglas).

With a belt drive any of these positions is admissible. A scores in point of simplicity, the ease with which it can be fitted to existing machines, and lightness; for the speed, being high, the pinions and gear wheels can be made lighter than those of a gear intended to be fitted in another position. Against these advantages must be placed the following drawbacks: (1) The overhanging weight on the engine-shaft, and (2) the fact that on the low gear the belt speed is reduced, which is most undesirable. The first of these disadvantages may be negated by having an outside bearing, but this adds complication. All gears which are worked on the expanding pulley principle must of necessity be of type A, and the belts must suffer accordingly.

Hub Gears and their Advantages.

Hub gears (type B) are used with considerable success on many motor cycles, the Roc gear having done much to popularise this type. They have the advantage of keeping the belt speed more or less constant, but they must be heavier in build than type A, and they add a certain amount of unsprung weight to the rear wheel, which is not desirable. Both these types are made on the epicyclic or compound principle (about which more anon), and admit of a single belt drive, which is an undoubted advantage.

They can also be used on chain-driven machines with the addition of a counter-shaft between the engine and the back wheel; but when a counter-shaft is fitted, it seems more reasonable to place the gear in that position, and not to encumber the engine with extra

fittings and a possibility of end thrust on its bearings, which are not made to withstand it, or to add weight to the back wheel.

Types C (1 and 2) are suited to a combination of belt and chain drive—an excellent combination, too, and one which has done well in recent trials. Other things being equal the belt will have the best grip when the counter-shaft is in front of the engine, but if the pulley is made as large as possible and the size of the belt rim not reduced (which practice is not to be recommended), the grip will be quite as good when the counter-shaft is placed behind the engine as in the case of a direct belt drive, and the life of the belt will be much longer, as it will not have to bend over a small pulley, and a larger part of its surface will always be in contact with the pulley.

Counter-shaft Gears Increasing in Popularity.

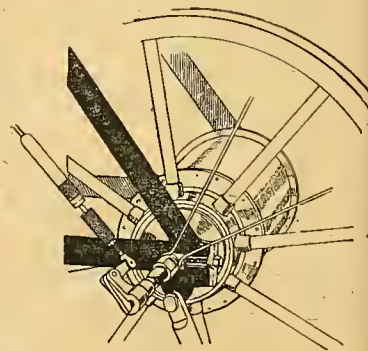
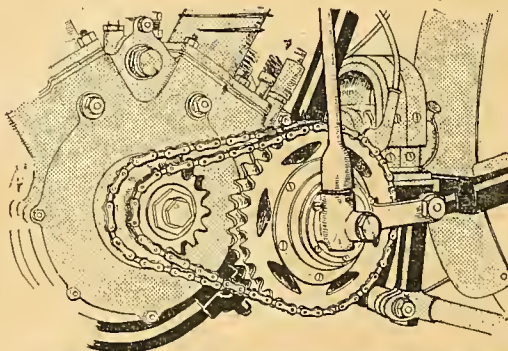
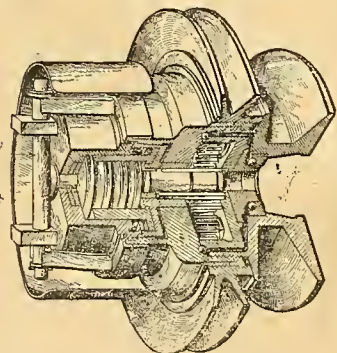
For chain-driven machines the type C (1) is preferable, whether the change of gear is made by a selective clutch as used on the Enfield and P. and M. machines, or a counter-shaft gear is fitted, as on the Indian and A.J.S. motor cycles.

There is no doubt about the present popularity of variable gears, and it is certain that, as time goes on, they will be fitted more and more to standard patterns, and type C is that which is likely to be most common. It is now an open secret that the Triumph, Singer, and Bradbury companies are experimenting with a gear on these lines for 1912. It does not reduce belt speed on the high gear, although the angular velocity of the pulley is reduced, or increase the weight of the back wheel, and it is well placed as far as the general distribution of weight is concerned, its only disadvantage being the slight added friction of the counter-shaft. It is suitable for a combination of gear and belt or gear and chain, as well as for the drives mentioned.

Shortly, then, A is most easily fitted to existing machines, B does not decrease the belt speed, and both allow of the simplicity of a simple belt drive, but C is the most desirable type to build into new machines, and is, I believe, the type of the future.

The popularity of variable gears is clearly shown by the fact that out of seventy-seven starters in the 1,000 miles trials, fifty-nine had variable gears, and of these fifty-nine, fifty-one finished and gained thirty gold medals out of the thirty-three awarded.

(To be continued.) AURIGA.



Variable gears suitable for crankshaft, counter-shaft, and hub.

THE TRADE AND THE TRIALS.

THE recent article in this journal concerning likely action of the Manufacturers' Union with regard to the T.T. races again brings forward the oft-bated problem of the trade *versus* trials and races. Coupled with the boycotting of the Quarterly Trials its latest development presages intention to withdraw support from all competitions which aid development of machine, design, or construction; at least, that is how the matter appeals to the average amateur, who knows nothing of the reasons guiding a policy that may meet with approval from the majority of manufacturing companies. The trade, through its Union, has every right to express opinion and act accordingly, but there is the equally important private owners' opinion, which the writer attempts to summarise.

Without wishing to shower too much praise on the Cycle Union, recognition cannot be refused of the splendid service that organisation has rendered to the industry. Before the A.C.U. came into being, makers could only arouse interest by track races—a form of contest that produced fine results for pedal cycles, but certainly did not, in the early days, bring access to mechanically-propelled cycles, judging from what happened to those firms who, in the past, based their claims for support solely upon a track-racing campaign.

The A.C.U. to the Rescue.

Right at the commencement of its career, the A.C.U. altered this unsatisfactory state of affairs by promoting the 1,000 Miles Trials in 1903. Those firms who gained the coveted certificates quickly discovered that prospective purchasers attached much more importance to an *officially* conducted road test than to track races put together. Machines were in the analysis stage of evolution, developments and improvements were published almost weekly, and new firms were endeavouring to secure a share of the business.

For four years the Six Days' Trial was the only means through which makers were able to prove the merits of new ideas, but the interval between each of these events had to be bridged by a less strenuous and less costly trial for bringing to public notice fresh designs from established firms or the productions of unknown makers. Thus the Quarterly Trials were organised, and although their value was not at first realised by the industry, the few firms supporting the early series were so well rewarded in the shape of instant orders that other firms entered, and all benefited from mutual competition. Entries increased until they culminated in October, 1910.

Will the Quarterlies Survive?

The standard argument against continuance of the Quarterly Trials suggests the modern motor cycle is so reliable that any novice can easily accomplish the test set for drivers in traversing some 125 to 150 miles of road at legal limit speed. This is a point upon which opinion differs, but if the claim for perfect reliability is investigated, it is not confirmed by facts. Of the sixteen events conducted from 1907 to the end of 1910 were all held over the same 125 miles route, along nearly level roads, and including only two very small hills. In the first event, twenty-five per cent.

made non-stop runs, and in the last 1910 event in October twenty-eight per cent. made non-stops. Can any reasonable man declare that these figures prove increased reliability? On the last mentioned occasion rainstorms were experienced, with consequent heavy roads, but as weather is not supposed to affect the modern machine, it ought theoretically to be neglected in considering results. Practice tells a different tale, and those folk who followed the October trials last year know how bad weather contributed towards the poor show made by some of the most expert motor cycle riders in England.

Whatever may be the policy for 1912, a number of manufacturers have consistently abstained from the 1911 Quarterlies, and, for all that is known to the contrary, may desire to keep aloof hereafter. But what about new firms and those who have not entered machines before in these trials? Are the smaller makers (who may not be able to afford the expense of the Six Days' Trial) in agreement with a policy that will prevent them obtaining the hallmark of a certificate? If such pronouncement is agreed upon, new machines and new devices would have to await the big event each year, and so lose all the best selling months before being able to claim an official award.

Many waverers, who held no settled convictions one way or the other, were possibly influenced against entering this year by the specious argument of expense. The writer confidently asserts that if each Quarterly Trial cost every trade entrant ten or twenty times the present outlay, it would be well worth the lever for publicity so secured. After every trial British manufacturers and foreign agents announce victories by boldly-worded advertisements. The average motor cyclist is keenly critical, and appeals of this character would be wasted money unless the A.C.U. certificates were universally recognised as carrying authority. This has never been questioned by the trade or the public, consequently sales are directly traceable to the gaining of awards.

The Cost of the Trials.

On the score of expense, the smallest firm employs at least one "road tester" whose services can be requisitioned for reliability trials, open hill-climbs, and other contests. The Quarterly Trial occupies one day, and another day will be spent in reaching the starting point and returning home. Reckoning entry fee, driver's time, two nights' hotel expenses, and sundries, the maximum cost cannot exceed £3 10s. per event, or £14 a year. Place this small figure alongside what is spent by some firms in sending one, two, or more riders to the open hill-climbs in distant parts of the kingdom that take place every week during the summer. Why, much more than £10 is often spent by one firm upon one open hill-climb, so if expense is brought forward as an argument for barring an event which brings grist to the manufacturer's mill it is easily refuted.

The points above outlined are, however, of minor importance when we come to consider the broad question of consistent trade policy. Whether any firm shall, or shall not, take part in competitions concerns only individual management, and can be whittled down to the simple problem of pounds,

The Trade and the Trials—

shillings, and pence. Members of the motor and pedal cycle industries have inaugurated an exhibition policy, in which conflicting interests are hardly likely to arise, and conducted along the sage lines hitherto followed, there appears sound reason for believing that the future of the annual Show promoted by the Manufacturers' Union is permanently assured.

Work for the Manufacturers' Union.

There are plenty of other vitally important matters, such as railway rates, customs, etc., upon which energy can be centred, but when attempts are made to fetter the freedom of individual firms, friction becomes inevitable, good feeling is destroyed, and the malcontents thus created will find ample excuse for breaking away.

Nor must the general effect be overlooked in relation to retail purchasers, who naturally connect the rumours about abstention from the T.T. races with the boycotting resolution agreed to by the manufacturers in respect to the Quarterly Trials on the 10th of January, 1911. Already wild statements are in the air about fear of competition, desire to stereo-type design, and similar remarks. Men acquainted with the leaders of the M.U. know there is not the slightest foundation for these rumours, yet they cannot be ignored, and unless straightaway negatived will create unnecessary prejudice against firms hitherto recognised as being beyond the reach of baseless chatter. Each firm or company only can work out its own salvation. Whenever a manufacturer discovers that competitions are not remunerative he will cease to enter, others will follow suit, and redundant contests will cease through natural evolution. UNBIASED.

The Margin of Safety in Sidecars.

RECENT record performances have brought to light one or two very interesting details in connection with sidecar manufacture, and these items should be carefully considered by those who are interested in these machines. In all probability it will be some time before the handy sidecar vehicle is superseded, and while it remains so popular it is the duty, and we think in the majority of instances the pleasure, of those who are interested in them to improve the manufacture both from the point of view of reliability and comfort.

From information we have before us we think that the axles in some cases are barely strong enough. That is to say, when subjected to very fast work on rough ground with a fairly heavy passenger they have been known to give way. It should, however, be impossible for such a thing to occur. The margin of safety should be enough to prevent it. The real trouble is that the axle is only supported at one end, and the reason the standard axles of motor bicycles are sufficiently strong is because they are supported at each end. Were they made like a stub axle on a sidecar they would have to be immensely stouter.

Spring Forks.

The spring fork on a motor bicycle is another item which requires attention when the machine is used with a sidecar. Anything in the nature of lateral instability is subjected to considerably more strain than it is easy for it to bear, and in consequence joints which stand quite well for solo work give way or wear rapidly under the extra strain of a sidecar and passenger.

For these reasons it looks as though the luxurious sidecar combination will eventually become more or less of a fixture. That is to say, it will not be a machine that is sold for a dual purpose, but the sidecar user will buy a machine which is specially constructed for sidecar work, and although he may occasionally use it for solo work it will not be so well fitted to the latter as the former.

For instance, every sidecar machine ought to have a variable gear of some sort and larger tyres than are used for solo work. The parts mentioned above should be stronger, and were it possible a sprung frame would

be advantageous, although not by any means essential. There is, however, a considerable amount of extra vibration or road shock transmitted to the rider of a bicycle when a sidecar is used. This is partly due to the two tracks and the peculiar construction of the machine, and is also due, we think, to the slower speed. Our experience shows that at thirty miles an hour on a solo machine there is considerably less shock to the system than when covering the ground at ten miles less speed on a sidecar. Some riders say that with a rigid type sidecar combination this is due to the fact that at high speed one bridges the obstructions and they are not felt, whereas at lower speeds the small diameter wheels have time to enter and leave the various pot-holes to be found on our main roads, subjecting the rider at the same time to a considerable amount of shock. This is, of course, quite a vague theory, but it appears to have some reasonable ground for belief.

Power Required.

From the point of view of comfort, as we have explained in various articles that have been published before, a considerable amount of improvement can be made, more particularly in the case of handy little attachments for carrying spares and tools and provision for the comfort of the passenger. We hope to see at the Show some very luxurious forms of sidecar combinations, and we do not think from what we know that we and our readers will be disappointed in those hopes. All tendency to produce projectiles on the lines of the old 10 and 12 h.p. tricars should be wisely but firmly suppressed, but we should not like to say that the $3\frac{1}{2}$ h.p. or 500 c.c. engine is a definite standard or likely to become so for sidecar work. There are so many 5 to 8 h.p. twins on the market doing good sidecar service that probably in the neighbourhood of 5 to 6 actual h.p. will be found sufficient, but whether it will be done with a multi- or single-cylinder type of engine is a matter for conjecture.

Our personal choice at present leans towards a single-cylinder as being the least trouble to keep in order, but for those who have a fair amount of spare time and desire the greatest luxury, of course a multi-cylinder engine will be the choice.

LISTEN—and you will hear!

In "The Motor Cycle" of Sept. 7th, 1911, "IXION" states, after careful collaboration with riders, pressmen, and others, that the severest trials ever held were the SCOTTISH Six Days of 1910.

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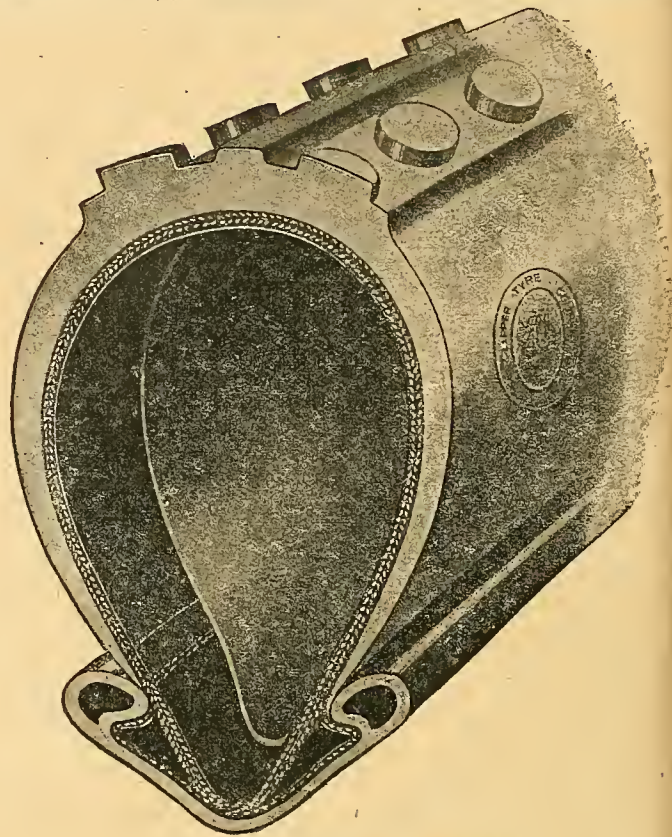
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LETTERS EDITOR

TO

THE

W

S



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

An Appreciation.

[5870.]—I shall be glad if you will allow me a little of your valuable space to thank publicly Messrs. Rudge-Whitworth, Ltd., for their thoughtful kindness since the fatal accident to my son, Mr. Victor J. Surridge. Every member of the firm from the managing director downwards has done all in his power to soften the blow. On the financial side the directors have acted handsomely; in fact, in excess of their legal liability.

JOHN SURRIDGE.

Variable Gears in Hill-climbs.

[5871.]—I am again obliged to you for publishing my letter on this subject, but I must again point out that your editorial note, though true in fact, conveys an erroneous impression.

If the variably geared machine was properly catered for, the number of entries would have been very different. The single and twin riders naturally resented being thrown together, and the fact that Zenith-Gradua machines were barred from the ordinary classes made the riders stand out altogether from the event.

If our machines had been treated properly in this event I know many private owners who would have entered, and there would have been all the entries from my firm.

I quite agree that the inference to be drawn is that barring Zeniths encouraged entries.

The reason for deleting the passenger class as given is that the club wanted to cut down the classes, but I would remind you that it afterwards added another class for "freaks," so that the desire to cut down the classes cannot have been very strong. Why seven classes should be deemed too many I cannot understand, as the arrangements in 1910 were so perfect that the events were all over very early, and I still retain my impression that other causes influenced the decision.

ZENITH MOTORS, LTD..

W. G. BOWER.

Silence.

[5872.]—There can be no doubt that a great deal of prejudice exists among the general public against motor bicycles owing to the excessive noise they make. I first had a machine early in 1902 with a 2½ h.p. De Dion engine (a powerful machine then), and I don't think it made as much noise as many machines do now. I made a silencer about 4in. by 6in. and suspended it from the back wheel chain stays on the right-hand side. It perhaps didn't improve the machine's looks, but it was a big silencer, and kept the engine very fairly silent. I live close to the London-Exeter Road, and lots of machines pass here daily, and they make infinitely more noise than the cars. The car manufacturers have improved their products wonderfully in this direction. Surely the motor cycle manufacturers can do the same.

The craze for very fast machines which the car people have now lived down seems very bad in the motor cycle world, and no doubt this leads to noisy machines. The valves of most motor cycles are very noisy—the car people have silenced these. Again cut-outs are abominably misused by motor cyclists who associate noise with power I suppose, caring not a "hang" for anybody whom they may annoy as they pass. Let one of these gentlemen have to lie ill in bed for a week or two and then he would realise the real agony these unnecessary noises cause to sick people.

If I had the power I would far rather fine a man £10 for driving near a town or village with a cut-out open than for going thirty miles an hour. I would give him hard labour without the option.

A QUIET PERSON.

Formulae for Hill-climbs.

[5873.]—Re formula for speed trials or hill-climbs, it is well-known that the often used formula $\frac{H.P. \times t}{w}$ (to put it this way) is a very poor one, for it asks no more than twice the horse-power for half the time. I, therefore, thought it might interest you to hear of a new formula which has been used with great success, i.e., $C = t \sqrt[3]{\frac{H.P.}{w}}$.

C really means constant, and so it should be for all given horse-powers and weights. The formula is nothing else but a handicap, and if the more powerful or lighter machines are well handicapped the figure of merit should be the same in each case.

That this very nearly is so I will show later, and only wish to point out that, instead of the horse-power, the cubic capacity may also be taken and the weight of machine and rider as *w* in lbs., although it is better to work with H.P. and weight in tons on account of $\sqrt[3]{\frac{H.P.}{w}}$. The horse-power should be determined by $H.P. = 6 \times D^2 \times S$.

D = diameter in decimetres.

S = stroke in decimetres.

t = time in seconds.

w = total weight of machine + rider in tons.

e.g., $6 \times .85^2 \times .88 = 3.7$ H.P.

In the following table *t* is time per mile, and it can be seen from the results that the figure of merit is quite different from the old formula, where more powerful machines are nowhere:

<i>t</i>	H.P.	10 lbs.	Tons.	$\sqrt[3]{\frac{H.P.}{w}}$	C.	<i>t</i> × $\frac{H.P.}{w}$	$t^2 \sqrt[3]{\frac{H.P.}{w}}$
6.0	2½	130 + 180 = 0.14	2.66	3.2	23.6	5.3	
6.0	2½	140 + 180 = 0.145	2.53	3.37	20.7	5.42	
6.0	3	150 + 180 = 0.15	2.72	3.26	24	5.36	
6.0	3.8	165 + 180 = 0.156	2.9	3.22	27.1	5.49	
6.0	5	165 + 180 = 0.156	3.18	3.42	34.3	6.06	
6.0	6	220 + 180 = 0.182	3.21	3.21	33	5.74	

The Motor Cycle just to hand shows that also on the other side of the world a better formula has been found and used than the obsolete one.

$C = t \sqrt[3]{\frac{H.P.}{w}}$ may also be used in a form $\frac{H.P.}{w} t^3$ as against

$\frac{H.P.}{w} t^2$ of Mr. Churchward. The latter figure of merit favours slightly the lightweight, as shown above in the last column.

Trusting that you, Mr. Editor, may find space to publish the above, which figures are easily worked out by slide rule,

Berlin.

R. RÜDE.

Scorching.

[5874.]—I trust that you will kindly allow me space to answer Mr. B. H. Davies, since he has made several assertions proving that he is not aware of the circumstances under which a modern End-to-end record is made. I am pleased to observe that he admits that he frequently drives in excess of legal limit; this, of course, was never in doubt, as anyone who has seen the reports of the Scottish and Six Days' trials will agree.

I would also state that a testimonial signed by himself in the Riley Cycle Co.'s motor car catalogue contains the following sentence: "I have had no difficulty in averaging 30 m.p.h. all day with t over ordinary runs, even when it is slowed down for all traffic, cross-roads, villages, etc." These notes I commend to the notice of the A.C.U.

Now with regard to his views of the End-to-end record. During my last ride, I rode 450 miles absolutely alone, and

at no time had I more than two men with me; the only occasion on which I was accompanied by two was forty miles south of Gloucester, otherwise I was only accompanied by one man who rode behind quite 200 yards in the rear. I would also point out that I averaged under 31 m.p.h., and so far from being exhausted, I walked over twelve miles after finishing the End-to-end between Land's End and Penzance. As to "blinding" through villages, this would be an extremely foolish policy, as I was ahead of record, and would naturally not wish to jeopardise my chance of success.

If Mr. Davies will carefully look up my figures, he will see that I made the record safe with ordinary luck before ten o'clock in the morning, at a time of day when Scotland is absolutely deserted. I have helped in several End-to-ends during the last three years, and to my mind an accident at high speed is just as likely to happen when high-speed is indulged in over a distance of 100, 200, or 900 miles. It was with the express intention of reducing risk that I discouraged followers both this year and in 1909. Whilst I do not wish in any way to defend my action in defying the A.C.U., whose sentence is perfectly just, I am still of the opinion that it was very unwise of Mr. Davies to state that he averaged a trifle in excess of End-to-end record pace from Northampton to Torquay—see page 885, August 24th. No doubt the public will be able to judge for themselves, and I am quite content to leave it at that.

Mr. B. H. Davies, to my certain knowledge, has never seen me riding on an End-to-end record, and therefore has no reason to state that I have taken undue risk with regard to the public.

IVAN B. HART-DAVIES.

Exhaust Pipes, Spring Forks, and Piston Rings.

[5875.]-I am a constant reader of your extremely interesting paper, and being an engineer by profession, may I offer my opinion on two matters which I have noted in your paper and a little additional experience regarding a third?

1. *Re increased power of engine with cut-out closed.* Mr. A. D. E. Craig is quite correct in his surmise regarding the suction effect of a long exhaust pipe: in fact, this point is always aimed at in gas engine plants with a view to obtaining a good scavenging action as well as reducing back pressure, due consideration being given to the length of exhaust, as if made too long it will simply create back pressure instead of a negative pressure, and this may explain the reason why with cut-out open a loss of power is noticed, the loss depending on the proximity of the cut-out to the silencer.

2. Is there not the risk and danger of the front wheel fouling the top of the forks in the new design of spring forks, described in your issue of the 31st ult., if a severe jar were received, as it appears the wheel moves relatively to the forks or *vice versa*?

3. As regards broken piston rings disappearing, I have known cases of studs $\frac{3}{16}$ in. diameter by 1 in. long which were in the ring of a large piston 72 in. diameter, having worked loose and fallen into the space between the piston and piston ring, being reduced to spheres of the size of marbles, and, in some cases, to disappear completely on account of the pounding action due to reciprocation, and this, I think, takes place in a petrol motor, and I have no doubt that if the crank case oil were carefully examined some traces of a steely nature would be found.

ENGINEER.

A Hyperborean Protest.

[5876.]-Lies have been divided into "lies, d—d lies, and statistics." The catalogues of practically every motor cycle firm smack and smell of all three. Is it fair, sir, apart from truth, to try to persuade men that a $3\frac{1}{2}$ h.p. motor will take a sidecar and passenger anywhere? I live on the borders of the counties of Aberdeen and Banff. The gradients of our second-class roads often rise for six, eight, and ten miles at a stretch. The surface is often bad, and the wind often enough a gale. There is not a $3\frac{1}{2}$ h.p. on the market—not even that princess among climbers, the Zenith-Gradua—that can take a sidecar and passenger, month in and month out, over our hills in the North. An odd run once in a way may be a sporting success. Men like Gibson and Wray may do the End-to-end journey, but pray, sir, what is their united weight? Not much more, I suspect, than that of one biggish girl or average man. [Mr. Gibson is a fair average weight. We do not know the exact combined weight, but should say it is about 22 stones.—Ed.] Such sporting feats by experts are entirely illusory as indicating the type of machine for a mountainous district. No, sir, the engine of any $3\frac{1}{2}$ h.p. on

the market will be knocked into the invalid stage in three months if forced with a double load up our mountainsides. We are not tourists; we live here, and we must have a machine for the locality. I know what it is to give l.p.a., and gasping to tail!

At last I have a beast after my own heart—a 6 h.p. Zenith and Milford radial castor sidecar. This gear ought to be seen by every motor cyclist in the North of Scotland. With Whittle belt and spark slightly retarded, and hand on gear handle, now this glorious monster roars with joy as it devours the mountainside! With J.A.P. engine this is the very lion among machines.

I do not assert that $2\frac{3}{4}$ h.p. and $3\frac{1}{2}$ h.p. are not ample for solo work even here, but for passenger work it is a monstrous farce to persuade any innocent man to buy a $3\frac{1}{2}$ h.p. and expect satisfaction. I have no interest direct or indirect in the Zenith firm, but I do wish, as an enthusiastic motor cyclist and sidecarist, to bring this glorious gear to the notice of my brother cyclists in the North. Speed to seconds is of no moment to us, but a climber we must have, not only with two gears, but with a hundred if we can get them, and we have them in the Zenith.

You will do the cause you have at heart a genuine service here in the North if with your usual courage you make known this protest from the boreal regions. Why should the truth be hidden, to the bitter disappointment of so many? *Fiat justitia, ruat cælum.* EXPERTO CREDE.

A Criticism of the Six Days' Trial Awards.

[5877.]-Your correspondent, Mr. Merrill [letter 5850], voices the opinion of many riders on the A.C.U. Trial.

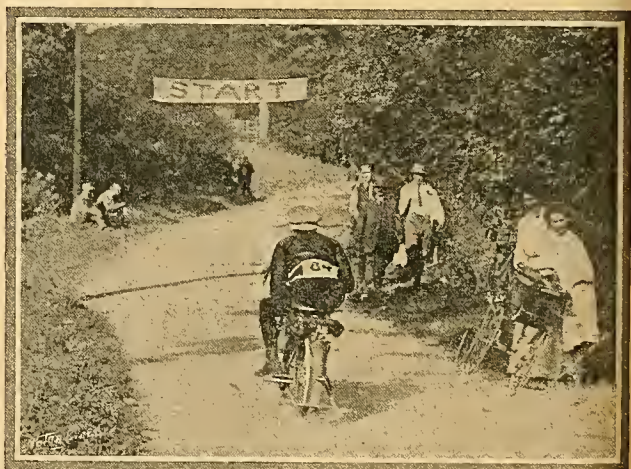
I venture to say that in nearly every case the way trials are carried out and awards made is utterly useless in affording the average prospective purchaser any guide as to what machine will suit his requirements. The mere fact that riders in the A.C.U. Trial scorched along until near the controls, and then did their necessary repairs, shows the amount of confidence they had in their machines.

The ordinary rider wants a machine which will take him along at an ordinary pace, and he does not want to scorch until a breakdown takes place, even if, including repairs, his average speed approaches the limit.

Then as to tyres. Don't we often see this sort of thing: "So-and-so would have received a gold medal had it not been for tyre troubles. As it is, he gets a silver medal." Then what happens? Do the tyre makers add a bit more rubber or canvas, or improve the quality of their tyres? Not a bit of it. We see an advertisement shortly afterwards, thus: "Mr. So-and-so, using ——— tyres, secured a silver medal." Belts and tyres are in the great majority of cases utterly inefficient, in spite of occasional runs of good luck.

Let the next trials be so managed that at the end a prospective purchaser can say, "That is the machine which will do what I want, and that is the one I will have."

At present he will learn more from casual conversations on the road in a month, on the merits of various machines, than he will from the results of all the trials. H. PHILLIPS.



B. Alan Hill ($3\frac{1}{2}$ h.p. Rudge) at the foot of Newnham Hill, on the occasion of the Coventry and Warwickshire M.C. hill-climb.

American Records.

[5878.]-The writer read with great surprise your sarcastic remarks in regard to the recent ride of "Shorty" Matthews. You must certainly realise that the American public is not one which can be fooled very easily, especially those interested in motor cycling. The time of 4m. 11½s. for five miles was made from a standing start, and so you can see that at times he must have made 75 m.p.h., or better, as his average was 71 m.p.h. We are not easily "buncoed," but like to give credit where credit is due.

ARTHUR J. ROCHONE.

[Our quotation was from a Chicago daily newspaper and the speed attained was said to be 80 m.p.h. If our correspondent would mention the c.c. of the engine used it would be of interest.—Ed.]

Road Hogging.

[5879.]-I have had a similar experience to that of Mr. C. H. Cook, described in your issue of September 7th. Returning from Coventry to Birmingham on a recent Saturday afternoon I was driven off the road by a reckless car driver overtaking another without the least consideration for on-coming traffic. Fortunately, I saw what was coming in time to escape a serious smash, but was too much concerned with getting out of the road to attempt to notice the number of the offending car. Could I have read this I should have reported it to you and the A.A., of which I am a member. Criminal recklessness ought to be suppressed.

The other evening I had a very novel experience in the shape of overtaking a youth on a bicycle that was showing a white light astern. Is not this asking for trouble? I mention it merely to show that it does not do to assume anything on the road especially at night. AB 668.

Rational Riding v. Scorching.

[5880.]-May I, as an old and enthusiastic motor cyclist, thoroughly endorse the remarks in last week's paper by B. H. Davies on "Scorching." I am no "wheel novice," having owned and ridden seventeen machines from the old bone-shaker and high bicycles to the modern rear-driven safeties, and on all of them have done my share of "scorching." Eleven years ago I took up motor cycling. I have had six (motor tricycles and bicycles), and although nearer fifty than forty-five years of age, I now enjoy a "blind" at the right time and in the right place, and therein lies the whole trouble. End-to-end record breakers must go "all out" to save possibly a few minutes and secure the road. It is the people who "blind" through villages, cut-outs, hooters going, and dust raising that get the general body of motorists the bad name they have, and much as I love the sport, I am bound to own, rightly so. EFF DEE.

[5881.]-An article entitled "Scorching" by B. H. Davies appeared in your last issue. This article comments unfavourably on the road conduct of the End-to-end record holders.

I was associated with Mr. Hart-Davies as a helper on his two successful rides, and I should like to tell your readers that his riding through towns and villages was of a character that, I think, most motor cyclists, even for the dullest touring, would consider almost unnecessarily quiet and considerate. This will perhaps be as great a surprise to others as I confess it was to myself; until one reflects that records are not held by "excited and emotional" people—at least, not records in sport. RUPERT MAY.

L.C.C. v. Humber, Ltd.

[5882.]-In this case, Messrs. Humber were summoned at the Guildhall for keeping "a carriage, to wit, a motor cycle," without a licence. It was agreed that the cycle had been in use the previous year (1910), and it was discussed whether "keeping" meant "using," for the purpose of the Act. It was submitted that it must mean keeping for the present actual use, and not merely having possession of a motor cycle. The representative of the London County Council agreed that he would have to prove user of the cycle. Under the circumstances, a member of the staff went into the box, and proved that the cycle had not been used during the three months since the old licence had expired and a new one taken out, and the case was accordingly dismissed. E. AND J. MOTE.

Triple Bowden Control.

[5883.]-I recently had the pleasure of inspecting the Crescent runabout, described in *The Motor Cycle* in March last. There is a device on this car which I think could be easily adapted for motor cycles, and this is—triple Bowden control of air, throttle, and ignition. If motor cyclists would fit Bowden triple control on the handle-bars of their machines I am sure that the control would soon become popular.

Most motor cyclists are not aware of the fact that the Bowden Co. supply a triple control. I do not know the price, but it is reasonable, and within nearly every motorist's means, I am given to understand.

Wishing your paper, from which I have gained a great deal of valuable knowledge, every success,

JOHN N. RILEY.

Why Not a Vapour-driven Machine?

[5884.]-Would the writer of the article on a vapour-driven machine inform us what advantage is gained by the use of petrol instead of water in a boiler and engine? Certainly petrol has the lower boiling point, so that a lower furnace temperature would be necessary. But a lower condenser temperature will also be needed, which will not be as easy to obtain on the road as in a boat, where a water-cooled condenser is used. On the other hand, apart from its combustible nature and greater cost of making up leakages, petrol has a specific heat about half that of water, and this, together with its lighter gravity, would necessitate the use of two and a half times the bulk of fluid in the boiler that would be required if water were used.

He mentions a "drum pump" to feed the boiler. Is this some form of rotary pump? If so, has he ever used such a pump against a pressure of 200 lbs. per square inch?

J. C. BENNETT MITCHELL.

The Quality of Modern Tyres.

[5885.]-Your correspondent, "Clarendon," in a recent issue of your paper, hits the nail on the head when he complains of the present poor quality of tyres, and his suggestion that riders should give their experiences publicly is, to my mind, an excellent idea, particularly the users of sidecars.

I personally use a 3½ h.p. Rudge and sidecar, and I find, no matter how carefully I drive, I cannot get more than 800 miles out of a cover, though I have used practically every type of tyre. I have had my wheels tested from time to time for alignment, but they have always been found perfectly correct.

If manufacturers would turn their attention to making a more perfect tyre that would stand up to its work, there would be far more sidecars on the road. As it is, using a sidecar brings the running costs very nearly on a level of those of a small car, therefore, if riders could communicate their experiences through the medium of your paper, much valuable information might be gained both by the manufacturers themselves and the users.

G. C. POHLMANN

[A standard pattern motor cycle is intended primarily for solo use; if used to haul a sidecar an extra strong cover should be specified for the rear wheel.—Ed.]

SUMMARY OF CORRESPONDENCE.

A rider of a Bradbury and sidecar wishes to apologise for not stopping to help another rider at Runnymede on the 29th ult., at 7.15 p.m. The reason he could not stop was due to a most important engagement.

"Constant Reader," Ripon Yorks., "W.J.C." London-derry, and others are referred to the introduction to "Questions and Replies" each week. On receipt of *stamped addressed envelopes*, not postcards, the information they ask for will be willingly forwarded.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.

TIME TO
LIGHT LAMPS

Sept. 14th	...	7.15 p.m.
" 16th	...	7.10 p.m.
" 18th	...	7.6 p.m.
" 20th	...	7.1 p.m.

CURRENT
CHATSPECIAL
FEATURES

WILL HILL-CLIMBS SURVIVE?
VARIABLE GEARS AND MOTOR CYCLES.
FORMULÆ FOR HILL-CLIMBS.
THE TRADE AND THE TRIALS.
500 MILES ON A SIX-SPEED.

American Records.

Some wonderful times are credited to J. Walters, who riding an Excelsior (America) lowered the times held by de Rosier for three and five miles. *Motor Cycle Illustrated* says the times are not recorded officially, and are 2m. 23s. for three miles and 3m. 28s. for five miles. It is expected that Walters and De Rosier will meet for the championship in the near future.

Naval Officers' Hill-climb.

The officers of the First Destroyer Flotilla held a most successful hill-climb at Avoch, near Inverness, on the 2nd inst. Several officers from the battle-ships at Cromarty also competed, the following makes of motor cycles being represented: Triumph, Bradbury, Scott, Premier, Douglas, and Enfield, about a dozen all told. The principal event was won by Commodore Sir R. K. Arbuthnot, Bart., R.N., on his 3½ h.p. Triumph.

Warwickshire Road Surfaces.

We do not think we ever remember the Warwickshire roads worse than they are just now. Why do not the Warwickshire road authorities adopt the tar and stone filling method for pot-holes more fully? They have apparently experimented with it in one or two places, but it is not at all general. A ride in the dark from, say, Stratford-on-Avon to Warwick, cannot be recommended just now, unless the vehicle used is a road roller. Watling Street too is a pebbly beach in many places.

Stolen Machines.

A Premier motor cycle was stolen from a lock-up shop in Leamington Spa between 10 p.m. on the 4th and 8 a.m. on the 5th, entrance being effected by means of a duplicate key. The following is the description of the machine: A new Premier, 3½ h.p., free-engine, No. of engine 5573, No. on machine 5906, Dunlop tyres, stand and carrier at rear, tool-bags each side of carrier, new Lucas lamp, old generator, identification No. A C-D 4, red ground with white letters. The number has probably been altered as paint, enamel, and brushes which had recently been used were left behind. A number of other articles were also taken away at the same time.

During the night of August 17th a new Premier was stolen by exactly similar means from a lock-up garage. Information respecting the machines should be sent to the Chief Constable, Mr. T. T. Farnshaw, Leamington.

Racing at Redcar.

Two interesting motor cycle races were held at a Unionist demonstration on Redcar Racecourse on the 2nd inst. with the following results:

One mile handicap for engines under 500 c.c.—1, C. Bone, Darlington (3½ h.p. Zenith Gradua); 2, J. R. Sorrell, Middlesbrough (3½ h.p. Triumph).

One mile handicap for engines over 500 c.c.—1, W. Danby, Middlesbrough (7 h.p. Indian); 2, C. Bone, Darlington (3½ h.p. Zenith Gradua).

The finest race of the day was witnessed between C. Bone and S. Gjertsen, of Middlesbrough, riding a 5-6 h.p. Indian in the first heat, when Bone, who was receiving start, won by a bare foot. Gjertsen gaining on him as he passed the post.

FUTURE EVENTS

Sept. 16.—Auto Cycle Union Inter-club Championship in the Midlands.

" 18.—Edinburgh and District M.C. Open Hill-climb at Amulree

" 23.—B.M.C.R.C. Race Meeting at Brooklands.

" 30.—Streatham and District M.C.C. Open Hill Climb.

Oct. 14.—A.C.U. Quarterly Trial (Midland Centre) fourth and last of 1911 series.

Advertisements of Future Club Events appear under a special heading in the Miscellaneous Advertisements columns.

A New Three-speed Gear.

For some months past we have known that the makers of the Sturmev-Archer three-speed gear for pedal bicycles have been experimenting with a three-speed hub and free engine for motor cycles. In conversation with the makers one day last week we were informed that the gear had been tested on several severe hills in Yorkshire and Derbyshire, and among other performances a 2 h.p. lightweight Humber had been driven up the cable tram route at Matlock Bath. Readers who know this hill will appreciate the excellence of the performance. It would be an extremely bad hill to climb with a 3½ h.p. engine, but with the aid of the Sturmev-Archer three-speed gear it is possible to do it with a 2 h.p. lightweight Humber. In addition to the testing this hub gear has secured, it has also been tried with a 3½ h.p. standard touring engine which gives off nearly 5 h.p.

Sidecar Axles.

Recent record rides have proved that sidecar axles and spring forks are not quite strong enough for high speed and rough roads, and before 1912 we shall probably see a good deal of alteration made in connection with the frames, forks, and axles of sidecar combinations. Of course, there is nothing like a record ride to find out weak points, weaknesses which the average tourist never discovers.

Our Legal Columns.

Mr. H. L. Buxton, a motor cyclist of Southminster, has just secured a verdict in an accident case which occurred as far back as February 22nd. In a letter to *The Motor Cycle* he says, "I believe I wrote you earlier in the year as to advice concerning this case of mine in your legal column. I may say I am very glad to have won the case both for your sake and the cause of motoring generally. That is one of the reasons why I fought."

Dealers and the Licensing Laws.

At the Greenwich Police Court last week, Charles Lurie, Blackheath Road, Greenwich, was summoned for keeping a motor cycle without a licence.

Mr. Kemp appeared for the London County Council, and Mr. Scard defended. Mr. Kemp said the cycle, with a sidecar, was used by the defendant on February 26th, he having no licence for this motor cycle. The defendant, who was a dealer in motor cycles, had a general identification mark, but that did not absolve him from the necessity for a licence for any machine he used. In reply to the magistrate, a London County Council inspector said that, according to strict law, the defendant should have a licence for each machine which he took out of his shop and used for the purpose of showing it to a customer, but he (witness) would only ask him to take one licence. Mr. Scard's defence was (1) that the defendant was never out on the machine on the day named, and (2) that if he were he used it only for testing purposes. Mr. Hutton, the magistrate, said that he must decide on the point of law that if a dealer used a machine merely for the purpose of testing it or showing it, a licence would not be required, but if he used three or four for his own use it would be necessary to have a licence. He would be pleased to state a case and have the point decided, because he did not think it had ever arisen. The summons would be dismissed.

Another Three-speed Hub Gear.

The B.S.A. Co., Birmingham, are experimenting with a three-speed hub gear of the company's own design for 1912.

3,000 Miles without an Adjustment.

D. R. O'Donovan, of White Lodge, Thornton Street, Kempston, Beds, a rider who makes long business journeys on a 3½ h.p. Singer, intends to attempt 3,000 miles during the next week or two without adjusting engine or using any tool on the engine. The clutch, wheels, and engine will be sealed.

Irish End-to-end Record.

A telegram announces that P. Stewart, of Belfast, at the end of last week covered the Irish End-to-End course in 12h. 8m., riding a 2½ h.p. Douglas. This beats C. E. Murphy's time of 13h. 6m., accomplished on a 3½ h.p. Triumph. As a comparison with the above times, Hugh Gibson's recent record ride on a 3½ h.p. Bradbury and sidecar was completed in 14h. 4m.

Motor Cycle Racing at Toronto.

The Canadian motor cycle championships for 1911 will be held at Toronto on the Exhibition two-lap track on Saturday, September 16th, under the auspices of the Toronto M.C. The races will be the regulation distances. It is expected that the honour of Old England will be upheld by Bain (Rudge-Whitworth), Orr (Bradbury), and Percy Barnes (Triumph).

The Strength of Sidecar Axles.

In view of the fatal accident, in which Mr. Joseph Polten was unfortunately killed between Mansfield and Sutton-in-Ashfield, on Wednesday, the 6th inst., readers are specially cautioned against the use of inferior sidecars, and are strongly advised to make sure of the strength of the axles. Mr. Hugh Gibson says that sidecar axles are not strong enough, and if anyone is an authority on the subject he is. Special attention is called to this and other matters on page 952. It may be recalled that this is the third serious accident in less than a month due to the breakage of sidecar axles. The cases cited should act as a warning to those who are in the habit of carrying two passengers, and thus imposing strains on the sidecar attachments which they were not designed to withstand.

Accident at New Brighton.

In the first heat of a match between some Birmingham riders and members of the Mersey M.C. last Saturday, a serious accident took place, T. Henshaw losing control of his machine when travelling at 45 m.p.h. It is reported that Henshaw looked round and that his saddle slipped. He sustained a compound fracture of the leg. Several of the spectators were severely hurt. Miss E. Tennant was taken to the hospital suffering from concussion of the brain, and Mr. E. S. Dudley with broken ribs. Mr. Peter Brown had his leg broken, and several others were hurt. The remaining motor cycling events were abandoned. This case certainly points to the desirability of restricting the size of engines used on any but properly banked tracks, not only in the interest of the riders themselves, but of the lookers-on.

Turner's Hill Climbed on a Lightweight.

H. V. Swift, of lightweight fame, on his 2½ h.p. Douglas, made the ascent of Turner's Hill, Sheffield—the roughest 1 in 3 hill in the country—six times out of six tries, the performances being watched by many sceptical riders, who had tried to mount the same hill on their 3½ h.p. machines. In fact, the number who have done so could be counted on the hands, and the failures by a note book. Mr. Dover's ascent referred to in these columns a month ago has started quite a large family of triers.

B.M.C.R.C. Seventh Members' Meeting.

Only members are eligible to compete at the B.M.C.R.C. meeting at Brooklands on the 23rd inst. The events are:

1.30 p.m.: The Junior Hour Race, for motor cycles of Classes A and B. Gold, silver, and bronze medals in each class. silver cup if record is broken. Entry fee, 5s.

3.0 p.m.: The 100 Miles Record Race, for motor cycles of Classes C, D, and E. Gold, silver, and bronze medals in each class; silver cup if record is broken. Entry fee, 5s.

Entries close on Saturday next.

First Aid by A.A. Patrols.

The A.A. patrols are doing good work in other spheres besides that of motoring. First-aid outfits were issued to the patrols of the A.A. and M.U. some time ago, and now nearly 100 cases have been reported of service rendered to all classes of road users.

Push Cycle v. Motor Cycle.

After the Sheffield Club's competition at Owlbar last Saturday, a very amusing race took place down the hill leading to the city. A rider of a Royal Enfield

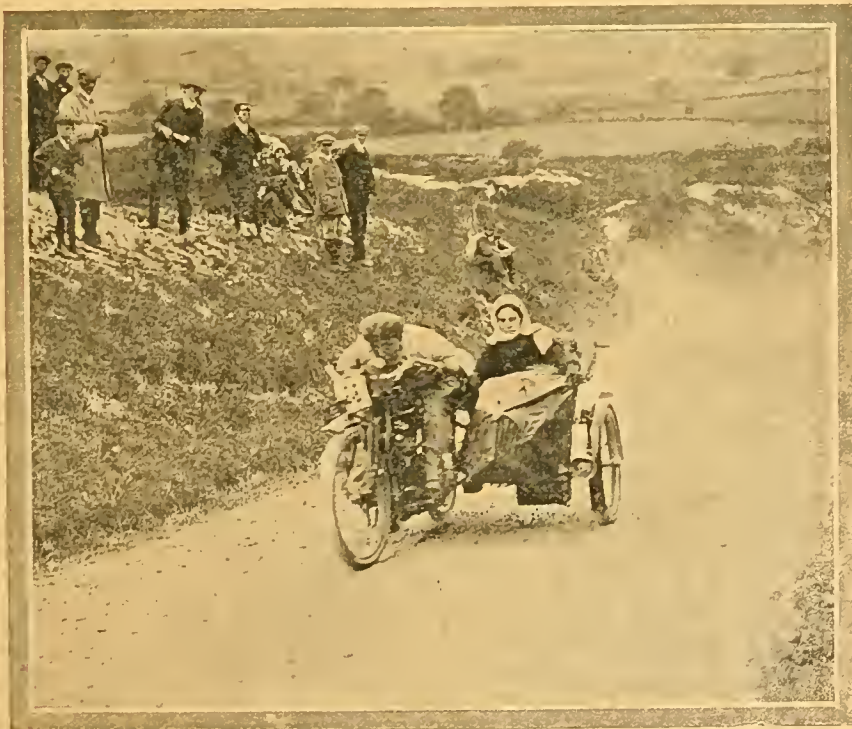
push cycle challenged some of the riders of 3½ h.p. machines to race back into the city, and with the intention no doubt of giving him a lesson in manners, several accepted the challenge, and it will surprise riders of motor cycles to know the push bicycle won by about 100 yards. In fact, he gained half a mile on the motors in the first two miles covered, greatly to the amusement of the spectators.

1912 Models.

A call on Hobart Bird and Co., Ltd., last week elicited the information that they are discarding the inclined engine on the single-cylinder model, and replacing it with a 2½ h.p. vertical engine and three-speed hub gear. The inclined engine will, however, be retained for the ladies' machine, which pattern lends itself more to a dropped frame. A V-type 4 h.p. twin with three-speed gear will also be made, but Mr. Bird has not yet decided whether chain or belt transmission will be finally adopted.

Exhibition of Patents.

London is to have a permanent exhibition of patents which it is anticipated by the promoters will fulfil a long-felt want. The exhibition will be situated in a central position and will be open to the public all the year round. There will be no charge for admission. The object of the exhibition is to establish a centre where inventors may display their patents for the purpose of attracting the attention of possible purchasers, not only in the British Isles, but abroad. Visitors will be received at the exhibition from all parts of the world, and conducted through the various sections by expert demonstrators.



M.C.C. HILL-CLIMB AT SUNDON.

A competitor in the passenger class travelling well on the steepest gradient. (See next page.)

MORE FACTS

DARK NIGHTS ARE UPON US, SO BE PREPARED.

READ THESE LITTLE EFFUSIONS.

WHY DO WE HOLD ALL THE RECORDS?

THINK OF 1,000 FEET BEAM.

"My brother has a ——— lamp, it was sold as being equal to yours, but he is going to have the F.R.S. like mine next time."

"I cannot but help writing you that I was absolutely astounded by the beam that your lamp gives. I HAVE NEVER SEEN ITS EQUAL BEFORE."

"I should say that you are thoroughly justified in your claim of a beam 1,000 feet long."

"It is a most delightful lamp to ride behind, I have NEVER SEEN ANYTHING SO POWERFUL BEFORE. It is simply MAGNIFICENT."

"Three riders have stopped me this week to know what sort of SEARCHLIGHT I was getting along with."

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AND MOST
BRILLIANT
STAR.

THE DARK
PATHS OF
THOUSANDS
ARE
LIGHTENED.

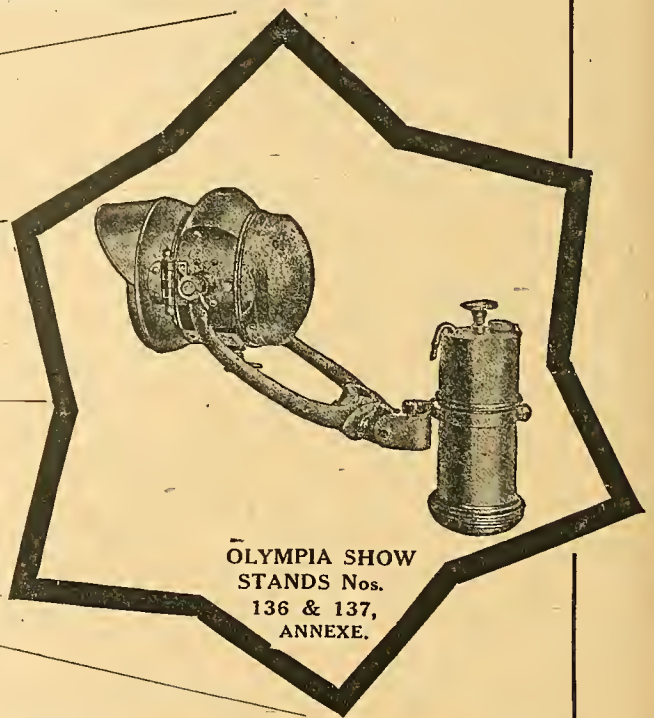
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POINTS that F.R.S. excels in—

HINGED "OPENING BACK DOOR.
RIDDLING "GRID" GENERATOR.
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POINTS that F.R.S. excels in—

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NEW MODELS—NO RIVETS VISIBLE.



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SWINTON ROW, EDINBURGH.

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24, QUEEN STREET, GLASGOW.

18, ELDON SQUARE, NEWCASTLE-ON-TYNE.

M.C.C. HILL-CLIMB AT SUNDON.



General view at the starting point of the M.C.C. hill-climb at Sundon last Saturday.

ON Saturday last, in ideal weather for the purpose, the Motor Cycling Club members' hill-climb was held at Sundon Hill, near Harlington, in Bedfordshire. Sundon Hill is a narrow acclivity that rises out of the valley up to the Chilterns, not far from its more famous sister Sharpenhoe. As a gradient, it is not particularly difficult, although certainly rather steeper than Sharpenhoe; its worst characteristics being a narrow twistiness, an abominably loose surface in the worst part, and a sharp turn about two-thirds of the way up.

The entry list was divided into five classes, the prizes being gold, silver, and bronze medals for first, second, and third respectively in each, whilst Commodore Sir R. K. Arbuthnot's prize was awarded for the best performance in Class II. for standard single-cylinder motor cycles exceeding 500 c.c. The last class in the programme was for any motor cycles, the fastest being the winner, whilst in the other classes the result was decided on the formula:

Weight of machine and rider

Time x cubic capacity

the highest figure of merit so found being the winner.

There was a strong wind behind the competitors which enabled some very fast times to be made, but in a great many cases, the corner already referred to was treated with more respect than it deserved.

Only three entrants participated in Class I., for light-weights not exceeding 300 c.c. for singles and 340 c.c. for twins, viz., Roy Walker (23 h.p. New Hudson), F. W. Barnes (23 h.p. Zenith), and B. Mariani (2½ h.p. P. and M.). The last went up slowly but surely, whilst Barnes and Walker were very fast indeed, though Walker's engine seemed to be considerably over oiled. The speed of these two machines was almost identical. Later in the afternoon, R. Mundy made an ascent in this class on a single-cylinder Alcyon, and did a very creditable ascent indeed. The results on formula were:

- 1, F. W. Barnes (23 Zenith).
- 2, R. W. Walker (23 New Hudson).
- 3, R. G. Mundy (2 Alcyon).

Class II, for standard touring motor cycles with single-cylinder engines exceeding 500 c.c., attracted a good many entries, including four Rudge representatives. W. F. Guiver (3½ Kerry-Abingdon), J. Slaughter (3½ L.M.C.), C. S.

Burney (3½ Rudge), and G. Griffith (3½ Zenith) made very fast ascents, although Slaughter swung all over the road in the loose part in quite an alarming manner. Griffith showed himself very nearly if not quite as expert with the Zenith gear lever as Barnes, and the way these two men nonchalantly changed gear and steered their bounding machines over the villainous surface with one hand was a very edifying sight. E. B. Ware (3½ Rudge) did a good deal of wobbling, whilst A. L. Ommanney (3½ Rudge) experienced a good deal of misfiring. W. A. Jacobs (3½ Rex) and F. White (3½ Rudge) were both suffering from too high a gear. L. A. Baddeley (3 Brown) was rather slow. Most of the machines were "cut out" at the corner, and some of them even on the twisty part of the hill. Result on formula:

- 1, J. Slaughter (3½ L.M.C.).
- 2, C. S. Burney (3½ Rudge).
- 3, G. Griffith (3½ Zenith).



J. H. Slaughter (3½ h.p. L.M.C.) on the starting line. He proved the winner of Commodore Sir R. K. Arbuthnot's cup.

M.C.C. Hill-climb at Surdon.—



F. W. Barnes (Twin Zenith), who this time had to be contented with second place, S. T. Tessier (Bat) proving victor.

The Speedy Twins.

There was even more "cutting out" in the next class, which was for standard touring motor cycles with twin-cylinder engines exceeding 340 c.c. The three ascents in this class were certainly thrilling. Barnes came up at a high speed and with a pretty bad "wobble," though this did not prevent him changing gear in the approved Barnes manner. S. T. Tessier (4 Bat) was very nearly as fast, although the engine was being "cut out" continually, even on the open part of the hill. Miss Muriel Hind (7 Rex) came up at a fast speed as far as the worst part of the hill, when her machine developed an alarming "wobble," swept from side to side of the road, and finally crashed over. The plucky Miss Hind was fortunately thrown clear of the machine, and beyond some nasty bruises on her left shoulder and right elbow, was, we

are glad to say, not much damaged. The machine also came off lightly, only suffering from a broken tyre inflator and bent footrests. Had Miss Hind been possessed of less pluck, she might easily have escaped altogether, for instead of slackening speed when she began to "wobble" on the rough part, she held on "all out," hoping to regain her balance on the smoother surface of the hill higher up. Results on formula :

1. S. T. Tessier (4 Bat-Jap).
2. F. W. Barnes (6 Zenith).

There were only three starters in the passenger machine class, viz., E. B. Ware (8 Chater-Lea), F. W. Barnes (6 Zenith), and H. E. Hull (7 Indian). The last named appeared to be the fastest of the trio, whilst Ware was rather slow. The formula, however, favoured the weight of the Chater-Lea combination and the smaller engine of the Zenith, and the result was :

1. F. W. Barnes.
2. E. B. Ware.
3. H. E. Hill.

The All Comers' Class.

Class V., open to any motor cycle, produced only one machine that had not competed in a previous class, viz., Arthur Moorhouse's 7 h.p. Indian. Of the Ridges, Ommaney made the fastest time, and had succeeded in curing his misfiring. Tessier, on his 4 h.p. Bat, did a really splendid performance in spite of a slight "wobble" over the rough, and came near to making the quickest ascent, but Moorhouse put in the fastest time in the typical Moorhouse manner. Compared to the other competitors he was at a slight disadvantage, for all the others had gone up the hill at least once in former classes. As a result he took the corner at the top a bit too fast, and got a skid, which slowed the machine considerably. The fastest performances in Class V. were as follows :

- A. J. Moorhouse (7 Indian), 47s.
- S. T. Tessier (4 Bat-Jap), 48s.
- F. W. Barnes (6 Zenith), 48½s.
- A. L. Ommaney (3½ Rudge), 49½s.
- C. S. Burney (3½ Rudge), 49½s.
- J. Slaughter (3½ L.M.C.), 49½s.
- E. B. Ware (3½ Rudge), 52s.

Following the climb, tea was taken at the George Hotel, Luton, Sharpenhoe being climbed on the way back.

AUGUST IMPORTS AND EXPORTS.

Imports of motor cycles for the month ended 31st August equalled a value of £7,472, compared with £10,411 during the corresponding month of 1910.

British exports in August increased from £16,083 in 1910 to £25,487 this year.

Essex M.C.
annual 24 hours'
run to York and
back. Group of
competitors in
the hotel yard at
the turning point.
(See page 959.)



TWENTY-FOUR HOURS' RIDE.

SNARESBROOK TO YORK AND BACK.

THIS run of 403 miles, organised by the Essex Motor Club, started from the Eagle Hotel, Snarebrook. The competition was for the Triumph Cycle Co.'s silver challenge cup, which was awarded to the competitor who adhered closest to schedule times. Gold and silver medals, besides other special prizes, were offered to survivors. The competitors for the generous prize list were: A. T. Stanton (3½ h.p. Bradbury and sidecar, N.S.U. gear), B. Alan Hill (3½ h.p. Rudge and sidecar, N.S.U. gear), E. T. Gray (3½ h.p. Rudge), F. W. Applebee (3½ h.p. N.S.U., N.S.U. gear), C. Byatt (6 h.p. Salway and sidecar, Millennium gear), A. V. Deacock (4 h.p. N.L.G.), W. Cooper (3½ b.p. Bradbury, N.S.U. gear), J. L. Love (3½ h.p. Triumph), C. E. Lovett (3½ h.p. Bat-Jap), H. Evans (3½ h.p. Rudge), J. A. Campbell (3½ b.p. Rudge), H. Beal (3 h.p. N.S.U. twin, N.S.U. gear), W. C. Hemy (3 h.p. Wanderer). — Kapadia (8 h.p. Minerva and sidecar), F. J. Sowter (3½ h.p. 2 sp. Humber and sidecar), N. C. Dear (2½ h.p. Douglas), S. B. White (3½ h.p. Service-Jap), and G. L. Fletcher (2½ h.p. Douglas).

Starting at seven o'clock on Friday evening, competitors were sent off at two minute intervals, and nearly all lit their lamps before starting. Cooper was forced to retire at Epping by lamp troubles. Near Pampisford, Kapadia suffered a puncture in the back tyre, and through making too hurried a repair the tube leaked continuously until he replaced it with a new tube at Doncaster.

An Exciting Incident.

Byatt also got a puncture, and in making up time got his carburettor on fire. Things were quite exciting for a few minutes, but he managed to put it out at the cost of a badly burned coat. We then had a quiet time until we reached Cambridge, where a compulsory stop of fifteen minutes at the George was arranged. On again along the Via Devina to Fenstanton and Huntingdon, where the check was in charge of Dr. Moss-Blundell, of Leicester. Near Stilton we passed Hemy in trouble with his generator. At the latter place we came to the first of the four secret checks. These checks are arranged to take place in a section of from twenty to thirty miles indicated on the route cards. Near Colsterworth Hemy again had bad luck and a whole series of troubles, among them being a broken petrol pipe, inlet dome plunger lost, and collision with a sheep. At Grantham there was a check and compulsory stop of one hour at the George Hotel, where supper was obtainable for those who required it. Just as we were leaving Hemy came in. However, after looking over things a bit he decided to have a try to complete the course. We found the Trials hon. sec., Mr. Siffken, in charge of the second secret check, with Mr. A. G. Reynolds (timekeeper) in the official car. Sowter was nearly twenty minutes behind time, as he found he could not average 20 m.p.h. Dear, White, and Kapadia did not check at this point, as they lost their way and struck the North Road again above Retford. We then encountered some drizzle, and the tag end of a terrific thunderstorm,

which had passed over earlier in the night, and with welcome down near Bawtry we arrived at Doncaster.

Another Retirement.

The check was arranged at the racecourse garage and hot coffee was enjoyed at the hotel next door. Here Sowter decided to retire, as he was still further behind time, with no prospect of making it up. The machine ran perfectly, but there was a lack of speed which made it impossible to keep to the schedule. Byatt had trouble with inlet valves and dome, and had lost his way, but was still cheery. In the next thirty-five miles to York he made up about half an hour, so the pace must have been rather exciting. Just outside York, Hill replaced a faulty inner tube, and found he had lost a silver watch and chain, a P and H. lamp, and his M.C.C. Winter Ride gold medal. The check was at the Windmill Hotel, with a compulsory stop of one hour to allow for breakfast. Fletcher had started from Epping over half an hour late, so did not arrive until we were thinking of getting off to London again. We learned that Campbell was nearly knocked off his machine by a policeman near Grantham, and that F. W. Applebee lost his pump about the same time. We noticed two rather interesting devices. Hill had rigged up a novel steering arrangement with a canvas belt and string from the handle-bars. By leaning back into it he could steer without holding the handles. Gray had a foot-operated throttle on the principle of the accelerator pedal.

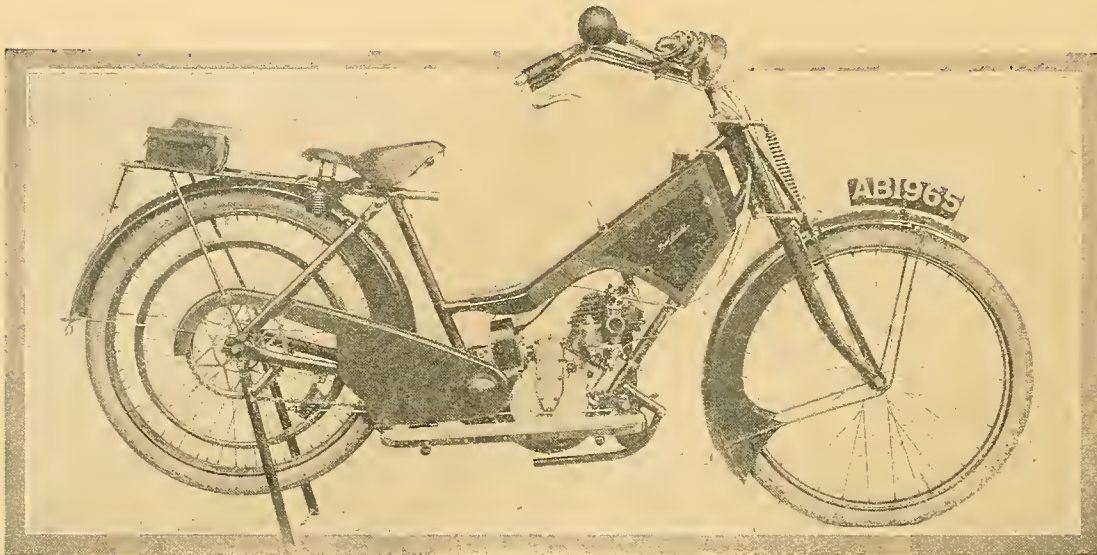
All went merrily now with daylight and a following wind, and the temper of some of the competitors was considerably improved. A few miles out of Grantham we stopped to see some of the competitor go by and early realised that the twenty miles per hour schedule had been forgotten. Beal broke his exhaust lifter while restarting but got it repaired in Grantham. Proceeding, we soon came up with Hemy, who had spent the night on the roadside in consequence of his Wanderer giving up work altogether. Evans and Campbell took him in tow to Grantham where he left his machine, to return to London on the carrier of White's Service-Jap. From Grantham to Cambridge, where a stop of fifteen minutes was allowed for, there was no incident excepting that we passed Sowter, with his passenger driving. As they were doing a good thirty miles per hour it was evident the trouble had been overcome, and we learned that the lack of speed previously was due to too high a gear. The last man in trouble was Lovett, who punctured near Hockerill. All the starters finished inside time to qualify for an award, with the exception of Cooper, Hemy, and Sowter, whose retirements are already recorded. Everything worked smoothly throughout the run, with the exception that the feeding arrangements might have been better at Grantham and York. A noticeable feature is that half of the machines were fitted with a change-speed gear. As the course has no hill in it worthy of the name, it shows these gears are used for general convenience in starting and traffic riding. Thanks are due to Mr. S. G. Cummings for the loan of the official car.



SNARESBROOK—YORK—SNARESBROOK 24 HOURS' RIDE.

Members of the Essex Motor Club outside the Windmill Hotel, York, the turning point of this annual competition, which took place last week-end.

TWO NEW MODEL ENFIELDS.



A new model open frame single-cylinder Enfield with two-speed gear and chain transmission. The engine is a 2½ h.p.

ALWAYS to the fore where improvement is concerned, the Enfield Cycle Co., Ltd., of Redditch, has introduced two new models for 1912, one of which we are enabled to illustrate. The completed new pattern is an open frame single-cylinder, which is intended for the use of both men and women.

This model follows the lines of the well-known chain-driven 2½ h.p. Enfield which has made a name for itself during 1911, the two-speed gear having proved itself both reliable and easy to handle. The 2½ h.p. "drop frame," as the new design is to be termed, has an engine 64 mm. bore by 75 mm. stroke, and is fitted in a slightly inclined position in the frame; the gear-driven magneto—a Bosch—is behind the engine, and is controlled from the handle-bar by Bowden wire; the carburettor control levers are as usually fitted to the Amac. In all dropped frame machines there is a difficulty in arranging an adequately sized tank, but the Enfield has a double tank fitted as shown in the illustrations, a bolt passing through both tanks and drawing them together, thus firmly supporting them. No gauge is fitted, because one tank running dry is sufficient indication that more fuel is needed, and the empty reservoir can be replenished at the next stopping place. Both should, of course, be full at the start. The oil compartment is in one of the petrol tanks, and holds a quart of lubricant, the petrol capacity being ten pints. In addition to the usual oil pump an Enots drip-feed lubricator is fitted. Owing to its position this enables the drips to be seen quite well, and it has a very neat method of controlling the needle valve.

The Gear Changing Mechanism.

The gear control is by means of two pedals carried side by side on the left footboard; depressing one pedal raises the other, so that no mistake is possible when changing speed. The same footboards will, of course, be supplied on the standard diamond pattern 2½ h.p. machine. A refinement consisting of a metal extension of the tanks is bolted in position over the engine and magneto, and enables the magneto to be readily got at for adjustment. The sparking plug is also easily accessible. The brakes are a Bowden Enfield front rim and the usual pedal-applied rear brake with shoe working on a special brake rim. The shoe has been lengthened and improved, thereby making the brake more effective.

This model will not only appeal to ladies who require a light, easily controllable machine, but will also attract an army of elderly men riders who want a machine that can be readily mounted without the necessity for lifting the leg over the carrier of a diamond frame, which is sometimes rather awkward when luggage is carried. It will also most certainly appeal to very short riders who find the usual pattern, low as it is, difficult to start by means of the clutch.

A New Bicycle for Sidecar Work.

The other new pattern is the Royal Enfield sidecar machine which is now under construction, and although not sufficiently complete for an illustration to be published to-day, is in an advanced state, and will be on the road shortly. The firm has decided to fit a 6 h.p. J.A.P. twin engine to this model, and it has been specially designed throughout for sidecar work; in fact, it will not be sold without the firm's own make sidecar attachment, which will be specially fitted with lugs to register with attachments on the frame, so that there can never be any doubt as to the proper alignment of the bicycle and sidecar. The Royal Enfield chain drive two-speed gear will be fitted, but of stronger construction. With footboards and a neatly designed coach-built body, we are looking forward to a trial of one of these interesting passenger combinations, which, with the Enfield name behind it, cannot fail to appeal to the rapidly growing army of passenger motor cycle enthusiasts.



M.C.C. HILL-CLIMB AT SUNDON.

S. T. Tessier (Bat-Jap) approaching the top bend of the hill. (See pages 957-8.)

GYMKHANA AT THE STADIUM.

THE North-west London M.C.C. held a very successful gymkhana at the Stadium last Saturday. There were sixteen events on the programme, but two had to be abandoned owing to lack of time. The arrangements were well carried out by Mr. H. J. Pooley, who, in addition to his ordinary duties, sat up nearly the whole of Friday night getting out an emergency programme; the printer having failed to get the official programme ready in



Alan E. Woodman, the New Zealander, who lost his right leg whilst practising for the T.T. Race of 1910. He was admittedly the most skilful competitor in the N.W. London M.C.C. gymkhana, winning several events.

time. The weather was dull, but pleasantly cool. There was some very interesting racing. A. E. Woodman rode very well, and got a great speed out of his little Humber. F. A. Rose (the hero of the race in France) also did well. The riders had to lean over very much on the banking, but the meeting was marred by no accident, though H. J. Pooley had rather a narrow escape his pedal scraping the barrier for a considerable distance at the top of the banking.

North-west London M.C.C. gymkhana at the Stadium. The start for the final of the lightweight race, which was won by A. E. Woodman on his three-speed twin Humber.

EVENT No 1.—THREE LAP HANDICAP (PASSENGER MACHINE).

Heat 1: 1, C. Williams (8 Chater Lea), 13s.; 2, W. O. Oldman (8 Bat), scr.

Heat 2: 1, O. Hill (8 Bat), 4s.; 2, F. Thomas (7 G.O.K.), 14s.

Final: 1, C. Williams; 2, W. O. Oldman; 3, O. Hill. Time 1m. 56½s.

EVENT No. 2.—TWO LAP SCRATCH RACE (LIGHTWEIGHTS).

Heat 1: 1, A. E. Woodman (2½ T.T. Humber); 2, F. Thomas (2½ Douglas).

Heat 2: 1, C. M. Down (2½ Enfield); 2, W. O. Oldman (2½ Douglas).

Final: 1, A. E. Woodman; 2, C. M. Down; 3, W. O. Oldman.

Time 1m. 3½s. The fastest time was made in Heat 1 by Woodman and was 1m. 2½s.

EVENT No. 3.—THREE LAPS SCRATCH RACE (SINGLE-CYLINDERS).

Heat 1: 1, F. A. Rose (3½ Triumph); 2, S. Hillhouse (3½ Triumph).

Heat 2: 1, W. O. Oldman (3½ Zenith); 2, E. E. Gwynne (3½ T.T. Triumph).

Heat 3: 1, C. B. Owen (3½ Zenith); 2, A. J. Dredel (3½ Premier).

Semi-final 1: 1, Rose; 2, Gwynne.

Semi-final 2: 1, Owen.

Final: 1, Rose; 2, Owen; 3, Gwynne.

Time 1m. 41½s.

The fastest time in this event (1m. 33½s.) was made by Oldman in Heat 2, but he started in the semi-final with his petrol tap closed, and was naturally left behind.

EVENT No. 4.—MUSICAL CHAIRS (WITH LADY PASSENGERS).

1, F. Thomas (7 G.O.K.); 2, A. S. Phillips (7 V.S.)

EVENT No. 5.—THREE LAP SCRATCH RACE (MULTI-CYLINDERS).

Heat 1: Hal Hill (5 Bat); 2, C. M. Down (5 Indian).

Heat 2: R. L. Printz (4 T.T. Bat); 2, H. C. Bean (6 Matchless).

Final: 1, Hal Hill; 2, R. L. Printz.

Time 1m. 24½s. Second man 2s. behind.

EVENT No. 6.—THREE LAP HANDICAP (LIGHTWEIGHTS).

Heat 1: A. E. Woodman (2½ T.T. Humber), scratch; 2, W. O. Oldman (2½ Douglas), 17s.

Heat 2: 1, C. M. Down (2½ Enfield), 12s.; 2, F. Thomas (2½ Douglas), 17s.

Final: 1, A. E. Woodman; 2, C. M. Down.

Time 1m. 27½s. This time beats that of the 3½ h.p.'s in Event 3.



Gymkhana at the Stadium.—

EVENT NO. 7.—AIR BALLOON COMPETITION (in which competitors had to ride over five toy balloons in a distance of 100 yards. In case of ties the fastest to win).

1, O. Hill (8 Bat and sidecar), 5; 2, A. E. Woodman (2½ T.T. Humber), 4; 3, F. Thomas (2½ Douglas), 4.

In this event a sidecar machine certainly had a great advantage.

EVENT NO. 8.—MUSICAL CHAIRS (FOR SOLO RIDERS).

1, R. G. Goslett (3½ P. and M.)

EVENT NO. 9.—FOUR LAPS HANDICAP (SINGLE-CYLINDERS).

Heat 1: 1, W. O. Oldman (3½ Zenith), scr.; 2, S. Hillhouse (3½ Triumph), 11s.

Heat 2: 1, F. A. Rose (3½ Triumph), 6s.; 2, G. B. Owen (3½ Zenith), 2s.

Heat 3: 1, E. E. Gwynne (3½ T.T. Triumph), 4s.; 2, H. Berlandina (3½ Triumph), 14s.

Final: 1, W. O. Oldman; 2, S. Hillhouse; 3, F. A. Rose. Time 1m. 56½s. This was a fine race. Oldman rode with great judgment and won by a clear length, half a length between second and third.

EVENT NO. 10.—FOUR LAPS HANDICAP (MULTI-CYLINDERS).

1, A. Brunton (5 Bat), 5s.; 2, R. L. Printz (4 T.T. Bat), 5s.; 3, Hal Hill (5 Bat), scr.

Time 1m. 48s. Fast for the track. Printz eased up when he found he could not win, and was an easy second.

EVENT NO. 11.—PUNTING RACE (FOR PASSENGER MACHINES).

1, G. Rowden; 2, J. D. Haylor.

Time 51s. Distance 100 yards.

EVENT NO. 12.—Abandoned.**EVENT NO. 13.—TURKS' HEADS (FIVE HEADS ON ALTERNATE SIDES OF THE TRACK).**

1, C. Williams (8 Chater-Lea and sidecar); 2, W. O. Oldman (2½ Douglas); 3, C. H. Hollis (2½ Douglas).

EVENT NO. 14.—FOUR LAP RELAY RACE (FOR TEAMS OF FOUR).

Heat 1: 1, Red team; 2, Blue team.

Heat 2: 1, Orange team; 2, Green team.

Final: 1, Green team—C. M. Down (2½ Enfield), S. Hillhouse (3½ Triumph), H. C. Bean (6 Matchless), F. Thomas (7 G.O.K. and sc.); 2, Orange team—A. E. Woodman (2½ T.T. Humber), E. E. Gwynne (3½ T.T. Triumph), H. Hill (5 Bat), W. O. Oldman (8 Bat and sc.)

EVENT NO. 16.—NINE LAP HANDICAP (ANY MACHINE).

Heat 1: 1, F. A. Rose (3½ Triumph), 28s.; 2, E. E. Gwynne (3½ T.T. Triumph), 22s.

Heat 2: 1, W. O. Oldman (3½ Zenith), 20s.; 2, A. Brunton (5 Bat), 12s.

Heat 3: 1, R. L. Printz (4 T.T. Bat), 12s.; 2, G. Rowden (3½ Triumph), 28s.

Heat 4: 1, S. Hillhouse (3½ Triumph), 28s.; 2, H. E. Taylor (3½ Zenith), 22s.

Final: 1, W. Oldman; 2, A. Woodman; 3, R. Printz.

Times not taken. This was a most interesting race. A. E. Woodman (2½ T.T. Humber) was allowed to compete in the final, although, owing to some mischance, he did not ride in his heat. He made a great race of it with W. O. Oldman, from whom he had a short start, and his skill on the banking served him in good stead. For several laps he was able to keep his lead, but with about half a lap to go, Oldman forged ahead and won by a few yards. R. L. Printz was a good third.

WEEK-END CLUB EVENTS.**Ilkley and District M.C.C.**

On Saturday last the above club held a series of speed trials for a trophy presented by the members of the motor trade in the district. The course chosen was on a stretch of road on Snowden Moor, situated between Otley and Blubberhouses.

Each competitor was given a certain speed, the one improving upon his speed the most to be the winner.

The length of the timed stretch was about half a mile. The competitors were somewhat handicapped by having a slight uphill gradient on which to get up speed.

The following shows the three best results:

Rider and Machine

		Speed given	Speed attained	Improvement
		m.p.h.	m.p.h.	m.p.h.
J. A. Hoffmann	(3½ T.T. Triumph)	60	62.6	+2.6
J. Norman Longfield	(3½ T.T. Triumph)	59	59.42	+ .42
C. Thackray	(3½ J.A.P.)	...	58.14	56.61 -1.53

Each competitor was allowed two attempts, the best time to count.

The awards were: Trade trophy and club gold medal, club silver medal, and club bronze medal.

Mersey M.C.

A speed-judging competition last week-end resulted in a win for F. C. Jones (Bradbury), G. Morley (Triumph) being second. There was only an error of .04 m.p.h. in the winner's speed.

HILL-CLIMBING IN PICTURES.

We have been asked to mention that the cinematograph film of the Coventry and Warwickshire M.C. hill-climb at Newnham will be exhibited at the Picturedrome, Lord Street, Southport, during the first half of next week, and for the remainder of the week at the Kensington Picturedrome, Liverpool.

TRUMP-JAPS IN 1912.

A company is being formed to manufacture and sell the well-known Trump-Jap machines, and an excellent factory has been secured in Birmingham equipped with up-to-date machinery, and under the management of a well-known cycle engineer, Mr. F. A. McNab, whose present address is 70, Lombard Street, Birmingham, will hold the position of sales manager, and will also be a director. We may perhaps remind our readers that the Trump-Jap machine holds more world's records than any single-cylinder motor cycle of the same power.



TORBAY M.C.C. OPEN HILL-CLIMB AT RAYDOWN HILL (near Ashburton).

R. Broadbear (3½ h.p. Premier) making a last ascent in the single-cylinder class, which he won.

OPEN HILL-CLIMB IN DEVON.

GLORIOUS weather and an entry of eighty-six combined to make this the first annual open climb of the nine months old Torbay and District Motor Cycle Club a great success. Raydown Hill, which is about a mile long, was the venue. It was in excellent condition, and had been swept for the climb. It is fairly steep, and a steady pull all the way up, with several corners, on which many of the machines had to cut out. Milner's



A competitor at the second bend. Note the extremely narrow road and its winding nature.

7 h.p. Indian, which ran well, was much too fast for the course, he having to cut out for many seconds on the corners. Two falls, neither serious, were the total casualties for the day. Maurice (3½ h.p. Premier) fell owing to a burst cover, but pluckily changed wheels and ran his other events off, and R. Holloway on a similar machine, in trying to negotiate the first bend without cutting out, struck the hedge with his footrest, and did a triple somersault. Though bruised and scratched he resumed later. P. Arden almost followed suit. J. Woodhouse went up at a great pace, but the last and worst bend almost proved too much for his speed. The ladies' event, for which there were two entries, attracted special notice, Miss MacPherson riding a T.T. Premier with dropped handle-bars to victory. She took the hill in splendid style, and managed the bad corner well.

Miss M. Arden, who has only been motor cycling for a week, is to be commended for her pluck; unfortunately her new 3½ h.p. Brough failed half-way up through insufficient pace at starting. The fastest time of the day was made by R. Broadbear on his 3½ h.p. Premier. Except Class 4 every event was open to any variable gear. In the passenger class, which attracted five competitors, none succeeded in getting up the hill. A. J. Luce's 8 h.p. Bat and sidecar went furthest. The principal thrill of the day was R. Broadbear's marvellous recovery from a dry skid just past the top bad corner. How the machine was kept up all through the gyrations it performed was astonishing. Time-keepers were Mr. R. Crouch and Mr. Gilley; starter, Mr. N. Cox; judges, Mr. Trinaman and Mr. Birdsall. Altogether the climb was voted a great success for a young club, which is to be congratulated on its success and the consistently good riding of its members. Devonshire is the land of hills, and the committee hope to make the next open climb a huge success. This is the largest motor cycling event that has been organised in the West, and when the large centres are sweltering under a late summer heat a change to the cool sea breezes (with your motor cycle at hand) is pleasant.

R. Broadbear's performance calls for special mention on his 3½ h.p. Tourist Premier; he annexed no less than four gold medals for best times, a field day for Premiers.

The formula results will be published next week.

CLASS 1.—Open Lightweight Event, for engines 345 c.c.

	m. s.
1. A. Powell (2½ Enfield)	1 47½
2. W. W. Douglas (2½ Douglas)	1 54½
3. E. Kickham (2½ Douglas)	1 54½

CLASS 2.—Touring 500 c.c. Single, 750 c.c. Multi.

1. R. Broadbear (3½ Premier)	1 23½
2. J. Woodhouse (3½ Comet Precision)	1 26½
3. F. T. Wilson (3½ Rudge)	1 34

CLASS 3.—Club Lightweight, 345 c.c.

1. A. Powell (2½ Enfield)	1 46½
2. H. Benny (2½ Enfield)	2 4
3. B. Edwards (2 Motusacothé)	3 22½

CLASS 4.—Touring 500 c.c. Singles, Fixed Gears.

1. R. Broadbear (3½ Premier)	1 27½
2. J. Woodhouse (3½ Comet Precision)	1 30½
3. F. T. Wilson (3½ Rudge)	1 37½
4. L. Broadbear (3½ Premier)	1 38
5. A. P. Maurice (3½ Premier)	1 43

CLASS 5.—Racing Machines up to 1,000 c.c.

1. J. Woodhouse (3½ Comet Precision)	1 30½
2. J. Milner (7 Indian)	1 31½
3. W. G. McMinnies (3½ Triumph)	1 34
4. Lister Cooper (3½ Triumph)	1 35
5. R. W. Williamson (3½ Norton)	1 40½
6. J. G. Birch (3½ Triumph)	1 42½
7. A. J. Luce (8 Bat)	1 43

CLASS 6.—Ladies' Event.

1. Miss M. MacPherson (3½ Premier)	2 23
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CLASS 7.—Club, Unlimited.

1. R. Broadbear (3½ Premier)	1 30½
2. R. Holloway (3½ Premier)	1 34
3. J. Milner (7 Indian)	1 36
4. R. Williamson (3½ Norton)	1 37½
5. W. C. Hardy (3½ Norton)	1 38
6. L. Broadbear (3½ Premier)	1 40

CLASS 8.—Racing 500 c.c. Singles.

1. J. Woodhouse (3½ Comet Precision)	1 32½
2. R. Broadbear (3½ Premier)	1 32½
3. W. G. McMinnies (3½ Triumph)	1 36
4. Lister Cooper (3½ Triumph)	1 37½
5. R. Holloway (3½ Premier)	1 38
6. J. G. Birch (3½ Triumph)	1 40



The secretary of the club, A. Powell (2½ h.p. Enfield), starting in Class 3 for lightweights, which he won, in addition to Class 1.

CLUB NEWS.

Walsall M.C.

On September 17th a hill-climb will be held at Style Cop, near Stafford, consisting of the following classes: 1, single touring machines up to 500 c.c. time; 2, ditto, knock-out; 3, T.T. machines (singles) up to 500 c.c. time; 4, light-weights up to 300 c.c. time; 5, twin up to 1,000 c.c., only to be run if more than two entries, time. Meet at the Stork Hotel at 11 a.m.



Edinburgh M.C. Dobson Trophy competition. The Leven team starting.

Birmingham M.C.C.

The above club is sending a strong team to take part in the A.C.U. international club championship trials on Saturday next. The following being the team: R. W. Duke, P. J. Evans, Dr. Fawcett, H. D. Jones, S. C. Perryman, and A. J. Stevens.

Last Saturday the third annual paperchase was held. The honorary secretary, who presented the first prize, was the hare. He laid a trail through many rambling lanes in the neighbourhood of Earlswood, including two water splashes. Unfortunately, however, the "hounds," by a curious coincidence, "short circuited" about six or seven miles of the trail, including the water splashes, and thus brought the chase to an end somewhat earlier than was expected. Mr. Duke was the winner, with Mr. A. Young second.

Burnley A.C.

The above club held a race meeting on Saturday, the 9th inst., at Grane, near Haslingden. The event was run on the knock-out principle, some very fast times being done. The first prize was won by W. Simpson on his T.T. Rudge; and the second by R. Winterbottom on his Ariel.

Chesterfield and District M.C.C.

The team of riders in the inter-team club championship at Banbury, on September 16th, will all be riding $3\frac{1}{2}$ h.p. 1911 Bradbury machines, and will be chosen from the following: A. C. Seals, with sidecar, J. S. Wilcockson, A. Watson, F. Kelly, D. Ferguson, F. Simpson, J. J. Kelly, and L. Smith, captain of team.

Essex M.C.

For the benefit of new members and those members who have not been able to go before, a special standard ride to King's Lynn has been arranged for Sunday, September 17th. Full particulars and route cards from T. M. Tyson, 29, Osborne Road, Forest Gate.

Sheffield and Hallamshire M.C.C.

The weekly competition of the above club took the form of a petrol consumption trial over a circular course of six miles, which had to be covered three times. The start was Beachief to Totley, Dore, Whorlow, and down the hill again to Beachief. The results are as follows:

	Fig of merit
1. T. Durant ($3\frac{1}{2}$ Jap)	129.0
2. D. Bradbury ($3\frac{1}{2}$ Norton)	121.2
3. C. Bellamy ($3\frac{1}{2}$ Zenith)	78.9

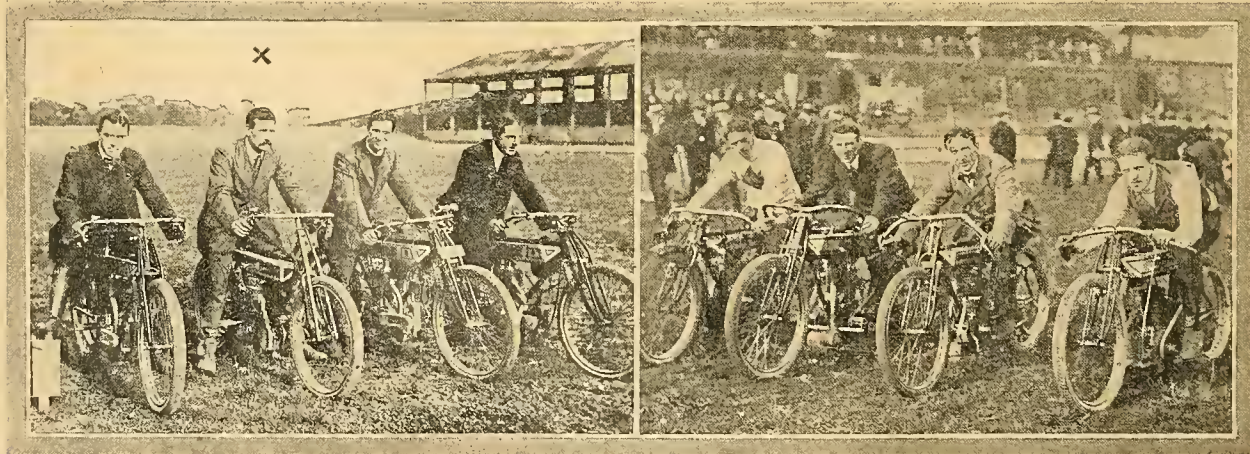
Edinburgh and District M.C.

An open competition for Scottish motor cycle clubs for the Waverley trophy was held on Saturday last, 9th inst. This trophy is a valuable and very neat piece of workmanship, presented by Mr. J. M. Dobson, a member of the above club. The competition consisted of a fifty miles reliability trial, and two timed hill-climbs on minor hills. Two teams of three competitors each were entered by the Leven M.C.C. and three teams by the Edinburgh and District M.C.C., Ltd. After a very enjoyable afternoon's sport, the winners were found to be the Edinburgh club.

Fastest time on hill.—1, A. H. Alexander (7 h.p. twin Indian), 36 $\frac{3}{4}$ s.; 2, J. R. Alexander (7 h.p. twin Indian), 38 $\frac{1}{2}$ s.; 3, R. H. Mouat ($3\frac{1}{2}$ h.p. single Rudge), 40 $\frac{3}{4}$ s.

Walthamstow M.C.

The results of the Clacton-on-Sea to Woodford non-stop run on the 10th inst. were as follows: J. H. Kerr ($3\frac{1}{2}$ Rudge), R. J. Lisle (5 Humber tricar), H. T. Browett (8 Minerva), A. Renault (5 Rex and sidecar), A. T. Peppercorn ($3\frac{1}{2}$ Bradbury), F. W. Applebee ($3\frac{1}{2}$ N.S.U. and sidecar), C. T. Talbert (4 Indian and sidecar), G. West (5 A.C. tricar), A. Uffman ($3\frac{1}{2}$ Humber), and W. G. Laver (5 Sarolea and sidecar) made non-stops. Wilson (4 $\frac{1}{2}$ Howard Precision and sidecar) punctured sidecar wheel, Duffield ($3\frac{1}{2}$ Triumph) stopped engine accidentally, Peppercorn ($3\frac{1}{2}$ Bradbury) sooted plug, W. S. Low ($3\frac{1}{2}$ Scott) ran out of petrol, W. Applebee (2 Centaur) punctured, and D. Fairhead (4 Peugeot) sooted plug.



THE MERSEY MOTOR CLUB AND BIRMINGHAM M.C.C. TEAMS.

The teams of four in the ill-fated inter-club team race at New Brighton track last Saturday. T. Henshaw, who is marked with a X, owing, it is said, to his saddle slipping, dashed into the spectators at 45 m.p.h., injuring several as well as himself.

THE COMBINATION THAT GIVES MAXIMUM EFFICIENCY.

The combination of the New Hudson $3\frac{1}{2}$ h.p. Motor Cycle, with the Armstrong 3-speed Gear and Clutch, gives a reserve of power and flexibility of control, not obtainable with single-gear machines of any power.

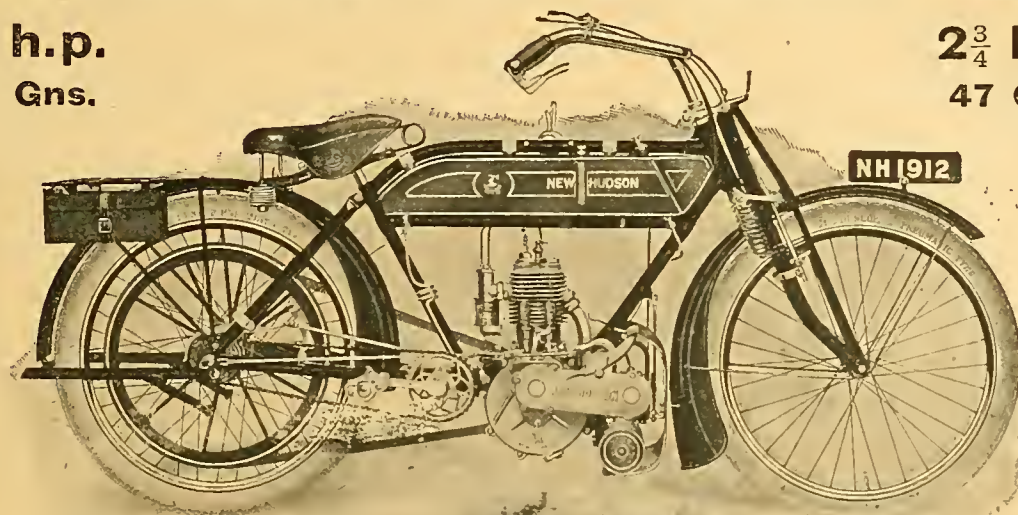
The New Hudson 3-speed Motor Cycle has been consistently successful in open competition, and won the approval of impartial experts everywhere.

A GRAND HILL CLIMBER—IDEAL FOR SIDECAR USE.

See "The Motor Cycle," August 31st, on the Reliability of Variable-Gear Machines.

$3\frac{1}{2}$ h.p.
57 Gns.

$2\frac{3}{4}$ h.p.
47 Gns.



THE ARMSTRONG 3-SPEED GEAR—"THE GEAR THAT NEVER FAILS,"

is perfectly reliable and without complications, its action is instantaneous and noiseless, its operation simplicity itself, the gears are changed while travelling without risk of damage even by rough or careless treatment.

ALL IN THE HUB—NO TROUBLE.

The following letter was sent to us by a well-known City Merchant, an old rider and owner of various makes of Motor Cycles:—

"It may interest you to know that I have not had to touch the engine on my 900 mile trip. I took Sutton Bank at first shot, Lythe Bank (a very bad hill well known in Yorkshire) six times without failing, and Blue Bank three times. I have never been stopped on a single hill, and we have had some terrible ones on the Moors, most of them with hair-pin bends.

"The Armstrong gear is marvellous, and the engine is certainly beyond all praise. There is not a weak spot in the machine, and I would not exchange it for any other in existence."

"THE VARIABLY GEARED MACHINE IS THE ONLY MOUNT FOR THE RIDER WHO WANTS TO GO EVERYWHERE WITHOUT A LOT OF FIDDLING BY THE ROADSIDE."—*The Motor Cycle.*

New Hudson

PARADE MILLS,
BIRMINGHAM.
LONDON—43, GRAY'S INN ROAD, W.C.

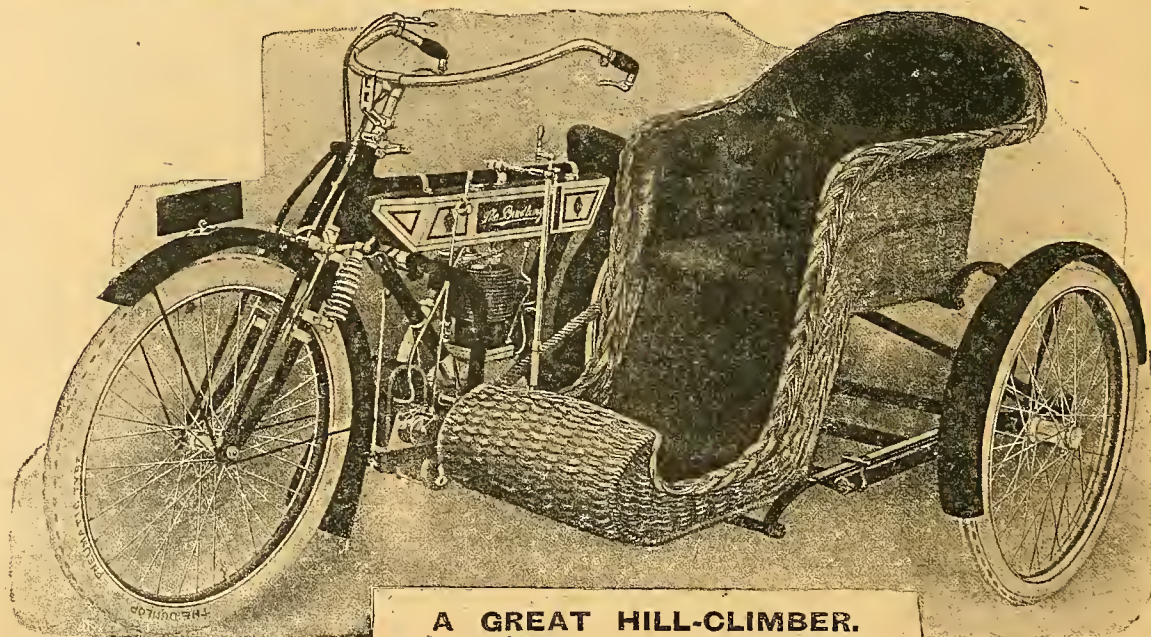
THE BRADBURY

CREATES ANOTHER RECORD.


**Mr. HUGH GIBSON (with Mr. Jas. Eastwood, Passenger),
on a 3½ h.p. Chain-driven**

BRADBURY, with SIDECAR



made the Irish End-to-end journey of **390 MILES** in **14 HOURS**
9½ MINUTES, an average speed of **27½ MILES PER HOUR.**



A GREAT HILL-CLIMBER.

 **27½ MILES PER HOUR** over some of the worst roads in the British Isles is a wonderful testimony of the merits of the Bradbury.

The Bradbury is **THE** Motor Cycle for Sidecar Work. Supplied either with Fixed Gear or Two-speed Gear.

 **Awarded Highest Honours—more than 300 first prizes in**
competition with all the leading makers. 

BRADBURY & CO. LTD., OLDHAM.

Any Agent advertising Bradbury Motor Cycles at LESS than RETAIL PRICE will have his supply stopped.

Club News.—

North Middlesex M.C.C.

This club is holding a paperchase on the 16th inst., meeting at the Abercorn Arms, Stanmore, at 3.30 p.m. sharp. A very interesting and novel route has been selected in the surrounding country, and a good afternoon's fun is assured.

North Staffordshire M.C.C.

The third and final reliability trial took place on the 3rd inst. The course, which was from Whitmore to Market Drayton, Audlem, Nantwich, Woore, Keele, Newcastle and Whitmore, had to be covered three times, the total distance being 130 miles. There were two controls and three secret checks. T. F. Rodgers on a Rudge obtained full marks (100), not stopping and arriving at all controls on time. Result: 1, T. F. Rodgers (3½ h.p. Rudge), 100; 2, C. E. Fowke (3½ h.p. T.T. Triumph), 93; 3, W. J. Beeston (3½ h.p. Bradbury), 89; 4, H. Madeley (3½ h.p. Lincoln Elk), 88. The Ashton Cup for the best performance in aggregate of the three trials was won by H. Madeley, with a score of 233, C. E. Fowke being second with 231, while the third position was secured by T. F. Rodgers 193½. The maximum number of marks was 300.

Liverpool A.C.C.

This club is holding an open reliability trial on October 7th and 8th, over a 200 miles course in North Wales. The riders will return to Liverpool on Saturday evening, where their machines will be placed in a lock-up garage for the night. The event will be held under a special permit from the A.C.U. A fifty guinea challenge vase, presented by the Reliance Engineering Co., of Liverpool, will be competed for; in addition, a number of valuable prizes will be offered. The trial will consist of two 100 mile runs over a specially selected course. The event will take the form of a non-stop run; controls will be established for replenishments, etc.; marks will be awarded for hill-climbing, reliability, and condition of machine at finish. Entry forms will be ready shortly, and may be obtained from the hon. secretary, Mr. L. V. Barton, Shirley, Queen's Drive, Mossley Hill, Liverpool. As this is the first open event that has ever been held in this district, it is to be hoped there will be a large entry.

Norfolk M.C.C.

By kind permission of Col. the Hon. C. Harbord, a race meeting was held at Gunton Park on Saturday, the 2nd inst. The course was a mile in length, and the timing was done electrically with the apparatus designed by Mr. R. H. Williams, the late hon. secretary of the club. This apparatus has been used by the club for the past two seasons, and has been most successful. The starter was Mr. H. Master, and the timekeepers in charge of the starting and stopping switches were Messrs. A. E. Lacey and A. Wyatt.

The results of the racing were as follows:

Private Match.—Dr. Blake (2½ h.p. Anglian), receiving 15 secs., beat Dr. May (3½ h.p. Phelon and Moore).

Multi-cylinder Touring Machines (Handicap).—1, Harold Collins (8 h.p. Bat); 2, F. C. North (6 h.p. Matchless); 3, G. Boswell (6 h.p. Matchless); 4, A. Adcock (5.6 h.p. F.N.). Winner's speed, 57.58 miles per hour.

Single-cylinder Touring Machines (Handicap).—1, Dr. V. H. Blake (2½ h.p. Anglian); 2, E. M. Wood (3½ h.p. Matchless); 3, A. R. Ider (3½ h.p. Bat); 4, B. Horner (3½ h.p. Ariel); 5, G. Boswell (3½ h.p. Ariel); 6, Dr. H. R. Mayo (3½ h.p. Phelon and Moore); 7, H. F. North (2½ h.p. Hobart). Winner's speed, 38.71 miles per hour.

Lightweight Machines (Handicap).—1, Dr. V. H. Blake (2½ h.p. Douglas); 2, Dr. H. R. Mayo (2½ h.p. Enfield); 3, D. Palmer (2½ h.p. Douglas); 4, H. F. North (2½ h.p. Hobart). Winner's speed, 40.82 miles per hour.

Tourist Trophy for Stripped Machines, 1,000 c.c. and under.—1, G. Boswell (7 h.p. Matchless), time 50 secs., speed 72 m.p.h.; 2, F. C. North (3½ h.p. Ariel), time 60 secs., speed 60 m.p.h.

Any Machine (Handicap based on Trial Run).—1, Dr. V. H. Blake (2½ h.p. Anglian); 2, Harold Collins (8 h.p. Bat).

Dr. V. H. Blake wins the cup presented by A. Adcock, and G. Boswell wins the cup presented by Hugh Boswell for breaking the club record, he having reduced it from 55½s. to 50 secs. on the flying mile.

Torbay and District M.C.C.

Over eighty entries were received for the open hill-climb held at Ashburton, on September 9th. There were nine classes including ladies and passengers classes.

Streatham and District M.C.C.

The annual open hill-climbing competition will be held within half an hour's riding distance from London on the 30th inst., at 2 p.m. sharp. This is the last open hill-climb of the season, and will include classes as follows: Light-weights in touring trim not exceeding 340 c.c., single-cylinder touring machines with engines up to 500 c.c., multi-cylinder touring machines up to 1,000 c.c., variably geared touring machines, singles up to 500 c.c., and multis up to 1,000 c.c. a separate class for any machines with engines up to 500 c.c., and another class for any machines with engines up to 1,000 c.c. There will also be a class for passenger motor cycles, triars, sociables, and motor bicycles with sidecars.

The entrance fees are: Non-members, 10s. each class first event, and 7s. 6d. each subsequent; members of the Streatham and District M.C.C. 5s. each class.

Gold medals will be awarded to the winner in each class, and silver and bronze to the second and third, provided there are not less than ten entries.

The Greig challenge cup will also be competed for again in the variably geared class, the cup to be awarded to the rider making the highest figure of merit. The holder is F. W. Barnes (3½ h.p. Zenith).

The Tilley challenge cup will be awarded to the member of the club (non-trade) making the highest figure of merit of the day, but this award is not open to passenger machines.

The formula used will be $\frac{W}{C \times \sqrt{T}}$.

Entry forms and full particulars can be obtained from the hon. sec., 10, Daysbrook Road, Streatham Hill, S.W.

Daimler M.C.C.

This club will hold its annual hill-climbing contest on the 23rd, when two prizes will be awarded on formula.

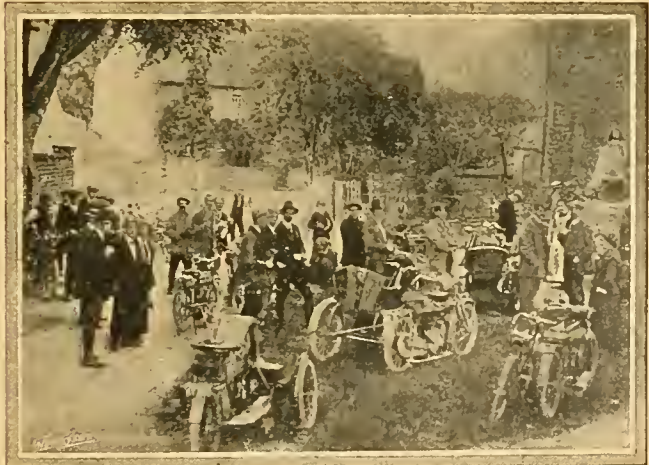
H.P. will be calculated thus $\frac{D^2 \times \sqrt{S}}{18,000}$ for singles, and $\frac{D^2 \times \sqrt{S \times 8 \times N}}{18,000}$ for twins. The formula will be $\frac{H.P. \times T}{W}$

T being time in seconds, W weight in lbs., D bore in mm., stroke in mm., and N number of cylinders.

The hon sec. is Mr. G. D. Robbins, 4, Trinity Terrace, Radford Road, Coventry.

Tunbridge Wells and District M.C.C.

The recent reliability trials resulted as follows: 1, A. E. Sutton (2½ h.p. Douglas), lost 1 mark; 2, F. M. Pickett (3½ h.p. P. and M.) lost four marks; 3, R. Carey (3½ h.p. B.S.A.), lost five marks. There were fifteen competitors. The first prize was a Rom combination cover (presented by the Rom Tyre and Rubber Co.), whilst the second and third prizes were Continental butt-ended tubes.



Hull and District M.C.C. climb at Spout Hill, Brantingham (Yorks). A general view of the starting point.



A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Touring in the Isle of Man.

Will you please let me know if there is any tax or duty to pay for taking a motor cycle into the Isle of Man for touring purposes?—F.R.R.

No; all you have to do on arrival is to register the machine at the offices of the Highway Board. Any policeman will tell you where these are. There is no fee for a visit.

Nottingham to Yarmouth.

I intend motor cycling to Great Yarmouth shortly and would be pleased if you could give me the best route to take from Nottingham. I also desire to know the distance between each town in order to make a timetable accordingly.—A.S.B.

We have pleasure in giving you the following route: Nottingham, Grantham, 24½ miles; Donnington, 20; Long Sutton, 21½; King's Lynn, 14; Swaffham, 15½; East Dereham, 11½; Norwich, 16½; Acle, 11½; Yarmouth, 8½; total, 142½ miles.

A Silent Machine Wanted.

I wish to get a second-hand mount to serve my novice on, and should be much obliged if you will reply to the following queries. (1.) Can a sound, if somewhat obsolete mount, be obtained for about £12? (2.) Can you recommend the Service Motor Co., of High Holborn, as a straight firm, and as one likely to take the trouble to give satisfaction in a comparatively small transaction like this? (3.) I wish to make my mount as silent as possible, i.e., more so than machines which are called "silent," but which I do not consider so, even when the cut-out is closed. I thought of fitting a Clair silencer with a long extension pipe to the back axle. (4.) Does an adjustable pulley have to be specially bored out to fit the shaft of one's machine, or are the shafts of most machines fitted with a standard taper?—V. G. P.-W.

(1.) Yes, a fairly sound machine could be bought for this price, but you must not expect anything very up-to-date for this money. (2.) We can thoroughly recommend the firm mentioned here. (3.) You would find this silencer to be quite efficient, but we are afraid you could not use a long extension pipe behind. What you would have to do would be to fit a long exhaust pipe and put the silencer at the end of it. (4.) Most adjustable pulleys are made to fit different makes of machines.

Magneto Timing.

Re Occasional Comments by "Ixiom" in *The Motor Cycle*, June 15th (a magneto timing notion). He states most engines admit of three good magneto timings, each intended for a special purpose. The biggest advance is for speed work, a medium advance for ordinary touring, and a special rather late advance for sidecar work or ascending abnormally steep hills. Can you kindly let me know the following: What position must piston and magneto lever be in for timing engine for the following—1, speed work; 2, ordinary touring; and 3, sidecar work or ascending abnormally steep hills. (4.) Have all high tension magnetos the same amount of movement from retard to full advance?—S.K.

The best settings will be as follows: (1.) For speed work, lever fully re-acted, points to break on the dead centre. (2.) For ordinary touring work, lever one-third from full retard, points to break on the dead centre. (3.) For sidecar work, lever slightly farther from retard. (4.) The advance and retard range is practically the same in all magnetos.

Private Specification.

I am thinking of having a motor cycle made to order for general all-round riding, and to take a sidecar occasionally. I lean towards a single-cylinder 3½ h.p. m.o.v. engine (about 500 c.c.), but my chief anxiety lies in the transmission and gearing. Chain-drive seems to be coming more prominent. No doubt both chain and belt-drive have their own advantages one over the other, but which would you advise for all-round use and reliability? I do not know very much about the many variable gears there are, but which would you recommend? What method of lubricating would you have?—H.B.

Certainly, if you prefer it, have chain-drive. This is now quite satisfactory as carried out on up-to-date machines. It is better for wet weather, but is not quite so smooth as the belt. A good countershaft type of chain-drive and two speed gear would suit your purpose best. As regards lubrication, one of the new Best and Lloyd lubricators, described in our issue of the 10th ult., or a J.A.P. would work quite satisfactorily.



Competitors waiting their turns to ascend Newnham Hill in the Coventry and Warwickshire M.C. open hill-climb.

Deals with an Agent.

?

I am enclosing herewith particulars of my transactions with a motor cycle agent. I hope I am not troubling you too much, but I should like to have your legal adviser's opinion. The firm is agent for the Zenith-Gradua machine, and I wanted a 6-7 h.p., and they told me they could get me a 7-8 h.p. for the price of a 6-7 h.p. machine. I agreed to have it. Next morning the son comes out to see me and offers me a B.S.A. machine, and explains that it would suit my purpose all right. I expressed my doubts, as I have some of the worst hills in South Wales to traverse. I told him that I should require a low gear put on. He promised to do so. He next writes to say that he has got a sidecar and clutch put on. I wanted a sidecar. I wrote back and said that I would not under any consideration take the clutch instead of the low gear. He comes out again and takes me for a ride, and although I expressed my doubts as to the arrangement being satisfactory, he refused to write anything about the matter. He has refused to let me have the machine until I pay for it, or sign a hire form. The latter I declined to do, and promised to take the machine when I could pay for it. Since I promised to do so I have found out that the machine has been run about 1,500 miles, and the agents for the B.S.A. firm assure me that the clutch put on will cause trouble, and be of little or no use. They have taken liberty with my ignorance, and have, I should think, offered me the machine under false pretences. What I want to know now is this: Must I take the machine? I have paid no instalment nor signed any agreement—only the promise I made in my letter. I did not like to trouble you by sending you all the correspondence that has passed on the subject.—INTRICATE.

Our legal adviser writes as follows: "Without seeing the correspondence it is impossible to say definitely whether your correspondent is bound to purchase the machine, but apparently he has under-

taken in writing to take the machine when he can pay for it, and as the dealer appears to have accepted these terms by insisting on the sale of the machine, both parties will be bound. If 'Intricate' showed the correspondence to his solicitor he would be able to advise him definitely. I do not see why a charge of false pretences should be made. I presume the machine was purchased as a second-hand one, and there is nothing to show that it was represented as not having been used for 1,500 miles. Moreover, your correspondent agreed to take the motor cycle with full knowledge as to the clutch. Of course, if the machine was purchased as a new one your correspondent would not be bound."

LOST AND FOUND.

We receive many letters regarding accessories, etc., both "Lost and Found," which we are unable to find space for. As these particular matters are of interest to two persons only, viz., the finder and the loser, we have decided to keep a list of such articles, and all that are notified to us will be inserted in this list. Should we receive a letter from the finder which corresponds to the article lost, the two persons will be put into communication, but it must clearly be understood that we cannot enter into correspondence on the matter beyond this.

London to Lynmouth.

?

I ride a $3\frac{1}{2}$ h.p. Zenith-Gradua with sidecar, total 18 stones, and I purpose going to Lynton and Lynmouth. Would you mind giving particulars as to the best route, avoiding steepest hills, if possible, but would prefer shortest route?—H.W.S.

Your best route would be as follows: London, Hounslow, Staines, Bagshot, Hartley Row, Basingstoke, Whitechurch, Andover, Amesbury, Hindon, Wincanton, Sparkford, Langport, Taunton, Milverton, Bampton, South Molton, Lynton. Or

Taunton, Williton, Dunster, Porlock, Lynmouth, Lynton. There is a private road from Porlock which avoids the bad hill. Steep and long descent (Countisbury) into Lynmouth. Lynmouth, as you know, lies in a hollow, and only reached by descending a steep hill, and only left by ascending this or another equally steep. However, with the variable gear you ought to manage without difficulty. You might make enquiries at Bampton for the road which runs direct through Dulverton to Lynton. This would shorten the journey.

What to Buy.

?

I am contemplating buying a motor cycle and sidecar, and should be glad of any advice you could give me. I want one that will always bring me home and take all hills, no pedalling on my part. Reliability the most essential thing, as I have not much time to spend on engine. Should ride solo at times, but mostly with sidecar. Should like one with seat built into frame, but there seems nothing on the market to fill my wants. (1.) Would $3\frac{1}{2}$ h.p. single-cylinder be enough, or should I have to have a twin. (2.) Two or three speed gear. (3.) Size of tyres. (4.) Sidecars, rigid or castor wheel; should want it coachbuilt.—D.J.

(1 and 2.) Any of the first-class twin-cylinder machines would be most satisfactory for sidecar work round Birmingham. If it is absolutely necessary to have a single-cylinder we should advise you to fit a two or three-speed gear, as otherwise the hills in the surrounding neighbourhood would be too steep for the machine. (3.) A light car type can be recommended for rear wheel of sidecar. For front wheel and sidecar wheel $2\frac{1}{2}$ in. is sufficient. (4.) It is probable that the rigid sidecar would give you the best all round results.

EXPERIENCES WANTED.

"S.L.A." (Sheffield.) Horse-power necessary for sidecar, combined weight of passengers $25\frac{1}{2}$ stones.

"C.P. 376." N.S.U. two-speed gear and free engine clutch, with a 1909 $3\frac{1}{2}$ h.p. Tourist Rex for sidecar work.



Competitors in the Coventry and Warwickshire M.C. hill-climb, held recently at Newnham, weighing in on the village green. Note the interested knot of lady competitors and spectators.

HINTS AND TIPS FOR MOTOR CYCLISTS.

By ROAD RIDER.

FILING OUT AIR HOLES.

373. If for any reason a rider desires to file out the top air hole of a B. and B. carburetter he will find it much better to shape the enlarged orifice like a far than like a square. He will then get the surplus air when he most wants it, i.e., when the throttle and air slides are widest open.

EXHAUST VALVES WHICH BIND.

374. When an exhaust valve is removed for grinding or other purposes, it is always worth while to make sure

that its stem does not bind anywhere. Not every firm makes all its valves exactly alike, and a valve fitted cold is sometimes rather tight in its guide when hot. Whenever the valve is out, it is well to look for polished patches on its stem, especially on the neck, and to ease them with a dead smooth file.

FLAT TYRE WILL TAKE NO AIR.

375. Sometimes when a tyre goes flat, and a sound pump is used on the valve, the tube refuses to take any air at all, and remains flat however ener-

getically the pump is employed, while no sound of the hiss of escaping air can be heard. This is a sure sign that the valve has torn out of the tube. This is not uncommon with wired-on tyres; their defect is that when the tube is deflated there is nothing to prevent the cover moving round. Consequently, whenever a wired-on tyre is felt to bump ever so little, the rider should stop the machine as promptly as possible, otherwise he is very likely to rip the valve clean out of his inner tube.

HOLDSWORTH HARDY'S AIR FILTER.

THE filtering of the air which enters a petrol engine is a subject which is of more than passing interest to motor cyclists; because their engines suffer from carbon deposit much more than water-cooled car engines. The carbon deposit is usually composed of about 60% of road

the front of the machine. It would thus draw in purer air and give a certain amount of forced induction owing to the inertia of the air along the pipe. Inside the tube B (fig. 1) is a smaller tube C made of wire gauze and covered for the greater part of its length with what may be called a stocking, by which the air is filtered before it reaches the carburetter through the openings D (main air supply) and E (extra air) and deprived of the dust which it may be carrying, and which is largely responsible for the deposit which has to be cleaned periodically from the cylinder head. Fig. 2 shows the apparatus roughly attached to a Rudge machine for trial.

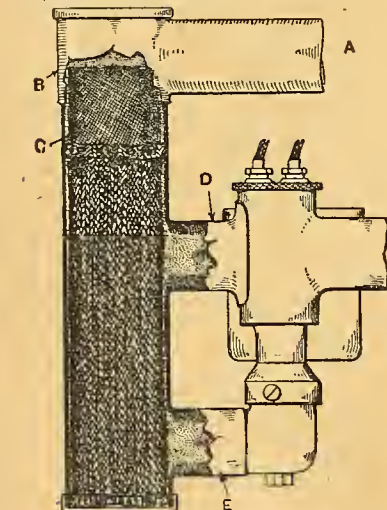
Our riding experience of the device has up to the present been somewhat limited,

which is notoriously dusty when the roads are dry they will, we feel sure, appreciate the use of a practical idea such as the one invented by Mr. Hardy.

We did not take note of the petrol consumption during the trial as compared with a similar distance without it, but Mr. Hardy points out that his device is just the thing to prevent excessive consumption due to blowing back. All petrol which falls to the base of the dust trap can be caught on an absorbent pad. It will readily be seen that any amount of flooding or blowing back cannot result in loss of spirit, because if there were any leakage of this nature the petrol would be turned into vapour and drawn into the engine through the sock on the lines of a wick carburetter. In fact we should not be surprised if considerable benefit might arise from the fitting of the device due to this fact alone. We intend to keep it fitted to the machine, and will report again when we have covered a further distance with it.

A HANDY EMERGENCY LAMP.

Messrs. H. Taylor and Co., 21a, Store Street, Tottenham Court Road, W., have lately placed on the market a useful little accessory consisting of a box, the lid of which holds a mirror, four feet of tubing, and an acetylene burner. As may be

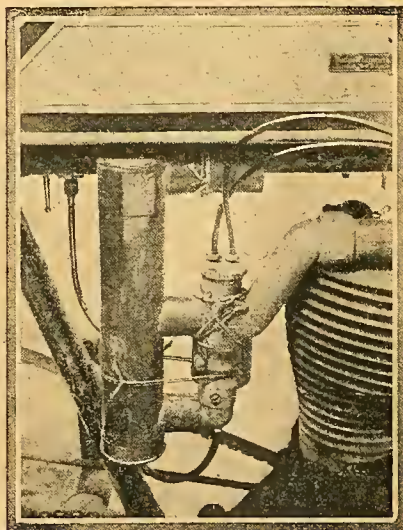


Part section of H. Hardy's air filter.

matter, that is to say, there is only roughly 40% of burnt oil. Naturally, if the 60% odd of road dust could be caught on its way through the carburetter to the cylinder, it would prevent excessive deposits adhering to the cylinder head and top of piston. To attain this end several ideas have been suggested, and a good many carburetters are provided with a gauze filter for the extra air, the main air entrance being left to look after itself. This, of course, is totally inadequate, and nothing short of a proper dust trap can possibly prevent the very small particles from entering the cylinder. It is also absolutely vital that the area of the orifice or orifices should not be reduced in any way by the intervention of fine mesh gauze.

A practical engineer, Mr. Holdsworth Hardy, of 4, Highfield Terrace, Worthinghead, Wyke, Bradford, has patented an air-filter of which he has sent us a sample which we describe and illustrate herewith.

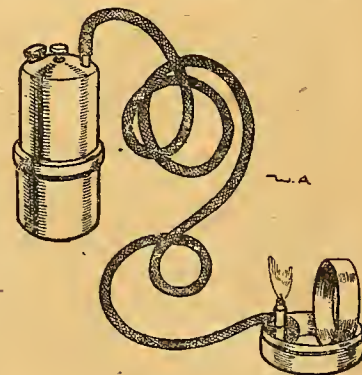
The air enters at the tube A, which may with advantage be made much longer than that shown and carried to



The air filter temporarily attached to a Rudge.

but 300 odd miles have convinced us that a considerable amount of fine dust has been arrested by the meshes of the wool sock which fits over the gauze. We were recommended by the inventor to remove this sock if we found it interfered with the running of the engine in any way, but we certainly did not find the power or speed reduced, and have therefore left it *in situ*.

Although it is not a very difficult matter to remove the cylinder of a motor bicycle engine and scrape the piston, it is a job that a good many riders have not the time for, and if they ride in a district



Taylor's repair lamp.

gathered from the accompanying illustration, the device may be used to effect repairs by night, the lid of the box acting as an adequate reflector. When packed away, the box takes up very little room, and our readers will be interested to know that it is sold at a moderate price.

North-west London Eliminating Trials.

A VERY interesting form of competition was promoted by the N.W.L. Club on September 2nd in order to find the winner for the medal presented by the R.A.C.

A start was made from Barnet punctually at 3.15, and the twenty competitors were soon on their way *via* St. Albans, Hatfield, and Potters Bar to Northaw for the first hill-climb. The

non-stop was continued from the top of the hill. The same hill was used for the slow test using the same gears.

The total results are given below, and the comparisons are interesting. The petrol consumption figures were worked out on Mr. Brooker's formula as set out in the A.C.U. handbook. It seems to work admirably. The hill-climb was calculated on the formula suggested by

an Australian correspondent in these pages

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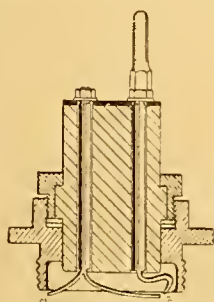
Cherry (Rudge) rode the 56 miles on three-tenths of a gallon, which represents 187 miles per gallon. The medal is won by Hal Hill (Bat), with Owen and Colliver (both Zeniths) equal second. Results:

Rider, H.P. and Machine.	Reliability. 2 Marks Lost for each Stop.	Hill-climb.		Flexibility.		Speed Judging.		Petrol Consumption.		Marks. Lowest Wins.	Final Placing.
		Formula.	Place.	Slow Divided by Fast.	Place.	Error.	Place.	Figure of Merit.	Place.		
Hal Hill, 6 Bat	2	627	1	3244	1	0m. 10s.	2	890	13	19	1
G. B. Owen, 3½ Zenith	2	813	2	Stopped	11	0m. 5s.	1	1300	5	21	2
A. E. Colliver, 3½ Zenith	0	839	3	2712	3	1m. 0s.	5	1056	10	21	
W. Cooper, 3½ Bradbury	0	1017	6	Stopped	11	0m. 15s.	3	1183	7	27	3
W. O. Oldman, 8 Bat and sidecar	0	1140	8	Slipped clutch	11	2m. 10s.	8	1601	2	29	4
H. J. Pooley, 3½ Premier	2	932	5	2349	5	3m. 10s.	12	1060	9	33	5
H. C. Bean, 6 Matchless	0	1115	7	2607	4	2m. 25s.	11	988	11	33	
E. Cherry, 3½ Rudge	0	1512	13	1539	7	4m. 50s.	14	1700	1	35	6
R. G. Goslett, 3½ P. and M.	0	1229	10	3182	2	8m. 3s.	17	1130	8	37	7
R. Scott, 3½ Triumph	0	1153	9	1436	9	6m. 5s.	16	1547	3	37	
L. Joiner, 3½ Brown	0	919	4	1751	6	3m. 25s.	13	807	15	38	8
G. Rowden, 3½ Triumph	0	1390	11	Stopped	11	0m. 50s.	4	864	14	40	9
D. H. Morgan, 3½ Triumph	0	1476	12	1327	10	2m. 0s.	7	917	12	41	10
Mrs. Newbury, 2½ Douglas	0	3317	15	1486	8	5m. 0s.	15	1273	6	44	11
H. E. Taylor, 3½ Zenith	8	2155	14	Stopped	11	3m. 25s.	13	1516	4	50	12

A New Multi-spark and Anti-fouling Plug.

OF late years many attempts have been made to obtain a quicker combustion of the charge in the cylinders of petrol motors by igniting the gases from a plurality of

points, and also many attempts have been made quite independently from the multi-spark principle to produce a plug which is practically immune from sooting, fouling, or in any other way shorting across the spark gap, such as by the electrodes gradually drawing out and touching each other owing to the great heat.



Vertical section through centre of the Howard Smith sparking plug.

In the system of building up a plug in the way about to be described, even these chances of fouling up are reduced exactly 50% when two sparks are arranged for, and 66.6% when three are used, and so on; but it is doubtful if any better results are gained by using more than three.

The plug is provided with two (or more) electrodes, the firing points of which are situated as distant from one another as possible. In the case of dual sparks being required, an insulated electrode is secured in the body of the plug in the ordinary manner, which leads from the high tension wire, and this is so shaped that, instead of sparking on to the shell of the plug, it sparks on to a second elec-

trode or conductor, which acts purely as a "bridge" to carry the current from one side of the plug to the other, where it is arranged so that the current again jumps another gap, and sparks on to the metallic body of the plug, and so to earth.

This bridge can be made in several ways which are covered by the patent.

It is obvious that if one wishes to obtain the best results from two sparks instead of only one igniting the charge in the cylinder, one must get these sparks as far away from each other as possible, and therefore it is desirable to have the plug as large as is convenient. The writer has for some time been using one so large that it screws directly into the valve ports of the cylinder, thereby obtaining two sparks situated 1¼ in. to 1½ in. from each other. As this is not practical, however, from a commercial point of view on account of so many sizes having to be made to suit various engines, the advantages in this direction have to be somewhat curtailed in order that it can be made standard size to suit all engines alike.

The reason that if shorting across one of the points occurs it does not render the plug *hors de combat* is because the current, although it has no gap across which to spark, nevertheless passes over from the one electrode across the bridge and sparks at the other end, so it will be seen that if one spark gap is shorted it will not cause the plug to be inoperative, but it will still continue to spark at the second gap.

In addition, for the above-mentioned reason, a cooler engine ensues, and also on account of the combustion being slightly more rapid the exhaust valve

retains its seating, and does not become burnt up and pitted so quickly because it is not exposed to the hot flame of the burning gases to such a marked degree as when only one spark is used.

The plug is not at present on the market, as it is only in its experimental stages, but the writer has had one in use for the past three months which has been subjected to some very severe tests. He has had sufficient confidence in it to use it in several hill-climbs and speed events, in addition to ordinary road work, and its behaviour has been all that has been expected, whilst he has also had good reports from friends who have been using the plugs and endeavouring to run them to destruction in order to find out their weak points, but so far they have all stood up to their work and no trouble has been experienced with them.

The illustration shows a section of the plug as at present made; it is, however, proposed so to modify the shape of the electrodes as to cause any oil that may collect upon them to run from the points, thus obviating the possibility of any short-circuiting.

Also it is intended that the second, or bridge, electrode should eventually be fixed in the non-conducting body in a different manner, and not project through the top, as shown, as there would hardly be room for this in a plug of standard size. The inventor is Mr. Howard Smith, of Four Oaks, Warwickshire.

It will be seen from the above description that there are great possibilities for this plug, and we hope shortly to be able to report upon its behaviour after a practical trial.

Change of Address.

Messrs. Price and Co. (late of 25, Rosebery Avenue, E.C.), the makers of Ukantes specialities, have removed to London Colney, Herts.

Third Successive Team Award.

The prize won by the P. and M. team in this year's Thousand Miles Trial is the third team prize this firm has won in succession.

Coming Along.

We are informed that the C.A.P. carburetter was fitted to machines which gained two firsts, two seconds, two thirds, one fourth, and fastest time of the day at the Newnham hill-climb on Saturday, September 2nd.

Fire Causes Delay in Delivery.

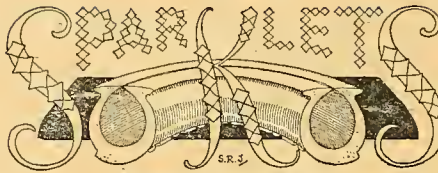
Osborne Bros. inform us that the fire at their Lincoln premises on the 23rd ult. will cause some delay in delivery, but that customers who have machines on order will receive delivery as early as possible, as they are making arrangements for the manufacture of the machines elsewhere.

A Manchester Reliability Trial.

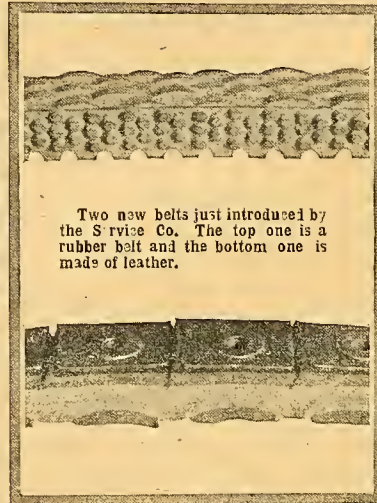
The reliability trial promoted by the Manchester M.C., for which the first award was the Triumph Challenge Cup, was won by W. Heaton, of Atherton, riding a 2½ h.p. A.J.S. lightweight. Twenty-two competitors took part, and fifteen completed the journey without a stop, the deciding point in the competition being a hill-climb.

Another \$5 Lathe.

Another firm to introduce a moderate priced screw-cutting lathe suitable for motor cyclists who do their own repairs is F. Patrick, of Oxford Street, Leeds. The "Patrick" 3½in. centre lathe is a self-acting boring, sliding, and milling tool with a 3½in. bed, gap 3½in. long and 2½in. deep, and saddle 8in. x 6in. The lathe will admit work over the bed 7½in. in diameter, over saddle 5½in., in gap 12in., and between centres 22in. Complete with treadle it weighs 220 lbs. The approximate weight as a bench lathe is 140 lbs.

**A New Rubber Belt.**

The Service Co., of High Holborn, W.C., have recently introduced two new motor cycle belts, which we have had an opportunity of inspecting, and of which we have been able to form a very favourable opinion. The first is a rubber



Two new belts just introduced by the Service Co. The top one is a rubber belt and the bottom one is made of leather.

belt in which a special device, consisting, as it were, of a number of "pimples," has been introduced to ensure a thorough grip on the sides of the pulleys. At the same time flexibility has been made a strong point, and to this end the under side of the belt is furnished with a number of transverse grooves. In all rubber belts there is a tendency for the top surfaces to crack and come away from the canvas core. In the Service Stud

Belt, as this new introduction is called, the top surface is embossed with a basket pattern, which, while not detracting in any way from the flexibility, nevertheless allows the belt to be bent to its utmost degree without causing it to crack. It is made in all sizes suited to standard pulleys from 2in. to 1½in.

A New Leather Belt.

The same firm have also produced an improved pattern of their leather belt. The tension between the engine and the back wheel belt rim is taken by three plies of chrome leather, above and below which are a series of square pieces of untanned hide, the function of which is to enhance the gripping surfaces of the pulley flanges without adding any more thickness to the material which has to be bent around the pulley. On the top of the upper leather pads are square pieces of coppered steel, through which pass hollow rivets which hold the plies together. The steel plates form an effective bed for the rivets, and, as a result, the belt appears likely to be enhanced both in durability and life. To take one of these belts in one's hands is to realise what a high degree of flexibility has been obtained by this simple and effective process of manufacture.

Dunlop Belt Sales Arrangements.

In future the Dunlop belt will be handled exclusively by the Dunlop Tyre Co., whose headquarters are at Aston Cross, Birmingham.

Club Notice Boards.

Mand's Motor Mart are placing a club notice-board in one of their windows at 136, Great Portland Street, W., and would be pleased to display any club notices for London and district clubs.

Catalogues Received.

Mr. G. N. Higgs is distributing a small leaflet telling what the Aleyon lightweight has done in three months. Copies can be obtained on application to 31, Vauxhall Bridge Road, S.W.

The Hutchinson Tyre Co., 70, Basinghall Street, E.C., have just issued a new catalogue.



The Hull and District A.C. hill-climb was run off on the 2nd inst. Our illustration shows competitors weighing in before the start.

*Striking
Evidence
of the
many merits
of the
B.S.A.
Motor Bicycle*

"POWER, COMFORT, RELIABILITY."

"I have just returned from a Cycling Trip in North Wales, and wish to congratulate you on the excellence of the B.S.A. Motor Cycle used. This machine (which has completed 2,000 miles) took a sidecar (passenger and self exceeding 22 stone in weight) from Birmingham through Bettws, Capel Curig, Beddgelert, etc., singly geared, without failing on a single hill, and has proved most satisfactory as regards its power, comfort, reliability, and general excellence.

"I have had single, twin, and 4-cylinder machines of various makes, but none to equal your 1911 3½ h.p. Roadster Model."

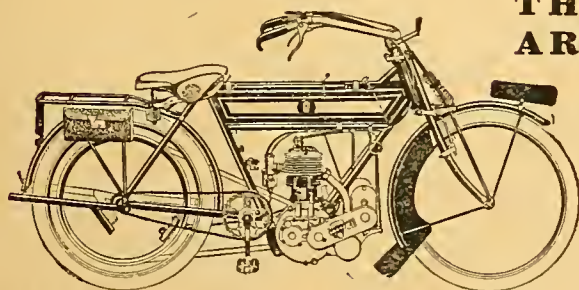
"B.D.," Edgbaston, August 29th, 1911.

THE B.S.A. MOTOR BICYCLE

is recognised as the most perfect machine on the road. Its distinctive finish, its silence, power, and smoothness of running are points that are fully appreciated by those who have ridden other makes.

Write for Catalogue.

**THE BIRMINGHAM SMALL
ARMS COMPANY LIMITED,
102, Small Heath,
BIRMINGHAM.**



The B.S.A. 3½ h.p. Motor Bicycle
(Fixed Engine) **£50**

The B.S.A. 3½ h.p. Motor Bicycle
(Free Engine) **£56 10s.**

Are you using B.S.A.
Specially Prepared
Cylinder Oil
For Motor Cycles?

THE NEW T.T. STEATITE LODGE



SPARKING PLUG

AS USED IN THE TOURIST TROPHY RACE.

The best plug to use on all motor cycles where conditions are unusually severe.

WONDERFULLY EFFICIENT,
ABSOLUTELY GAS TIGHT,
PERFECT INSULATION,
AND
GUARANTEED FOR RELIABILITY.

PRICE 5/- EACH.

Post free in U.K.,
including steel gauge for the sparking
points.

The ordinary Lodge motor cycle plug
is obtainable everywhere (with gauge)
price 4/- each, as usual.

LODGE BROS. & CO.,

Dept. E, New St.,
BIRMINGHAM.

**"Fall in and follow me,"
and never get left.**

In the A.C.U. 1,000 Miles Trials 18 Gold
and 12 Silver Medals were awarded riders
who used

RUSOLINE MOTOR OIL.

Now exclusively used on A.J.S., Douglas, Ivy-
Precision, Norton, Humber, Bradbury, Rudge,
and Quadrants.

Manufactured under the supervision of W. RUSSELL,
late of Price's Patent Candle Co., Ltd., London,

BY

RUSSELL BROS.,
National Oil Works, BIRMINGHAM

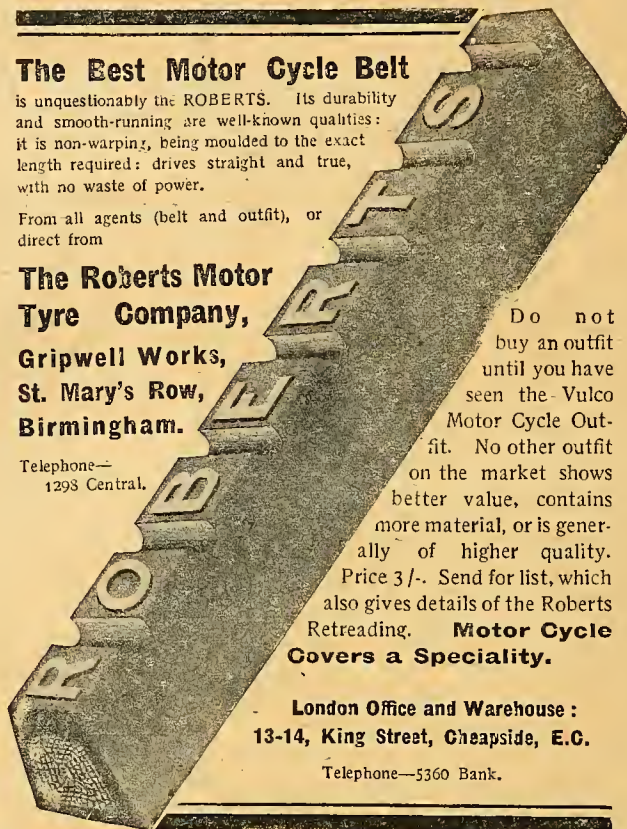
The Best Motor Cycle Belt

is unquestionably the ROBERTS. Its durability
and smooth-running are well-known qualities:
it is non-warping, being moulded to the exact
length required: drives straight and true,
with no waste of power.

From all agents (belt and outfit), or
direct from

**The Roberts Motor
Tyre Company,
Gripwell Works,
St. Mary's Row,
Birmingham.**

Telephone—
1293 Central.

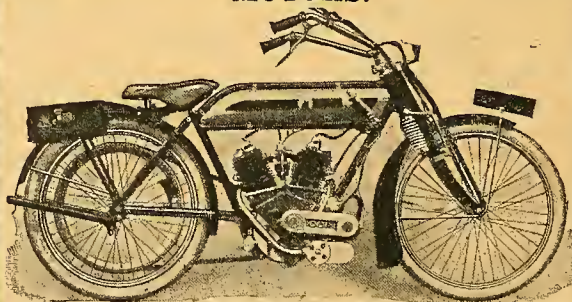


Do not
buy an outfit
until you have
seen the Vulco
Motor Cycle Out-
fit. No other outfit
on the market shows
better value, contains
more material, or is gener-
ally of higher quality.
Price 3/-. Send for list, which
also gives details of the Roberts
Retreading. **Motor Cycle
Covers a Speciality.**

London Office and Warehouse :
13-14, King Street, Cheapside, E.C.

Telephone—5360 Bank.

D EVOID O F T ROUBLE — MOTORS. —



6 and 8 h.p. Models.

The Finest Machine
in the World for

Design, Workmanship, & Finish.

Read this:

Dear Mr. Reed,—I write to tell you that on Sunday last I left here at 5 a.m. in the morning for London on the Dot with Sidecar, passenger, and luggage, intending to do the return journey during the day, which I am glad to say I accomplished without the slightest trouble save a puncture in the back wheel. This says a lot for the reliability of your machine, as in order to do the 350 miles in one day I had to travel at a very fair speed. I had absolutely no cause to open the tool bag. The J.A.P. engine ran magnificently, and in spite of being geared four to one took Birdlip on top, on the road to London. Coming back I actually passed several Solo machines blinding up Dashwood.

This I consider a wonderful performance, for as you know I have a very heavy sidecar and by no means a light passenger.

So far as I am able to ascertain no sidecar combination has yet done this journey from Cardiff to London and back in one day.

Yours very sincerely, ERIC LONGDEN.

MANUFACTURERS AND PATENTEES—

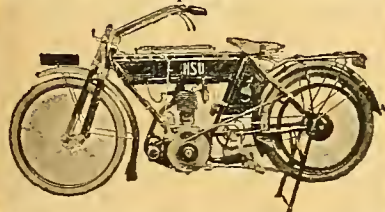
H. Reed & Co., Deansgate,
Manchester.

P.C. will fetch Lists.

In answering these advertisements it is desirable to mention "The Motor Cycle."

£48 FOR £36.

Undoubtedly we offer the biggest bargain obtainable in
THE N.S.U. 4h.p. MODEL DE LUXE



Brand new models, direct from makers, fitted with spring forks. Frame extra low. Back stay ends allow each wheel to be easily detached. Engine 4h.p., double row of ball bearings. Magneto ignition, gear driven. Carburettor N.S.U. improved model, handle-bar control, with special air regulator. Foot brake and internal expansion brake. Toolcase, Stand, Carrier, Footrests and mud-guard plates fitted.

List price, £48. Our price, £36.
Two-speed gear and free engine, £5 15s. extra.

Exchanges entertained. £3 allowed for push cycle.
Special prices to cash buyers.

5 h.p. REX DE LUXE, 1910, two speeds	£42 10
5 h.p. REX Twin, 1910	£29 10
5 h.p. G.B. NALA, 2-speed, magneto	£25 10
5 h.p. BRADBURY, brand new, 1911	£34 10
5 h.p. REX, 1909, Tourist	£22 10
5 h.p. REX, 1909, two speeds	£32 10
6 h.p. Twin N.S.U., 2 speeds, spring forks	£29 10
5 h.p. N.S.U. Twin, two speeds	£27 10
5 h.p. N.S.U., two speeds, 1908	£20 0
5 h.p. N.S.U., 1908, magneto	£17 10
5 h.p. N.S.U., 1908, magneto	£16 10
5 h.p. HUMBER two-speed, 1909	£29 10
5 h.p. HUMBER two-speed, 1910	£33 10
7-9 h.p. Twin PEUGEOT, Chater-Lea, accumulator ignition	£16 10
5 h.p. HUMBER, 1911, two speeds, like new	£45 0
5 h.p. QUADRANT, magneto	£16 10
5 h.p. N.S.U., 1910, two-speed gear	£32 10
5 h.p. REX, Roc clutch, magneto	£21 0
5 h.p. AUTO-MOTO, spring seat	£7 10
5 h.p. CLEMENT-GARRARD Lightweight	£7 10
5 h.p. KERRY, 26in. wheels	£9 10
5 h.p. HOBART, low built	£8 10
5 h.p. MITCHELL, spray	£6 10
5 h.p. NOBLE, vertical engine	£7 10
5 h.p. F.N., 1910, two-speed model	£28 10
5 h.p. HUMBER, chain drive, low frame	£4 10
5 h.p. N.S.U., M.O.V.	£4 10
5 h.p. MINERVA, M.O.V., h.b. control	£5 10
5 h.p. Twin REX, with forecar	£12 10
5 h.p. F.N., 1910, two-speed	£24 10
Four-cylinder HOLDEN, dirt cheap	£3 15

TRICARS AND CARS.

9 h.p. DARRACQ Car, three speeds	£19 10
16 h.p. EAGLE Four-cylinder, five-seater	£32 10
4 h.p. SLEEVENS' Tricar, Roc two-speed	£17 10
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MISCELLANEOUS.

Carburettors—Longueure and F.N.	4/6
B. & B. or Amac	5/6
Long Handle-bars, drop ends	5/6 and 6/6
Coronet Silencers, up to 5 h.p.	3/3 and 4/6
XL'ALL Spring Forks	9/6
Gripskin Belting: 2in. 9d., 3in. 10d., 4in. 11d.	
Rex Wheel with Roc Free engine	25/-
Wide Mudguard, 3in., 2/3; 4in. 2/11 pair.	
Handle-bar Watches, with holders	4/3
Magneto Handle-bar Switches	2/1
Mabon Free Engine Clutch, suit 3 1/2 h.p. Brown	27/6
Handle-bar Mirrors	3/-
Belt Patches	1/-
16 Guinea Lowen Sidecar	£5 15
Nearly New Coronet Sidecar	£3 10

SPECIAL BARGAIN.

2 1/2 h.p. GARRARD, spray, good tyres, complete with belt, coil, and accumulator £4-19-9

Booth's Motories,

Kelghley Mills, Bedford Street North, Halifax.
Tel. 1062.

MOTOR BICYCLES FOR SALE.

TRIUMPH, late 1909, new belt, tyres, etc., everything in perfect order; £33.—H. A. Hyde, Ormskirk.
BRAND New 3 1/2 h.p. P. and M., in stock; first cheque secures same.—Ewbank and Burnell, Castleford.
CROSS for Triumph and Matchless motors in Rotherham; free engine model Triumph and T.T. in stock.

4 1/2 h.p. Twin Minerva, with engine plates and inlet pipes; £26/6.—Cross, agent, Rotherham.
2 1/2 h.p. De Dion, perfect condition; £12: just overhauled, spring seat.—1, Brown St., Gorton.

1911 Brand New 2 1/2 h.p. 2-speed Enfield: what offers?—No. 8,427, The Motor Cycle Offices, Coventry.

2 1/2 h.p. Torpedo Precision, new July, perfect; £31, or offer.—Woffenden, Bolton-by-Bowland, Clitheroe.

3 1/2 h.p. M.M.C., Brown and Barlow, good condition; £8.—Cuswell, Park, Sheepbridge, near Chesterfield.

TRIUMPH, 1910, perfect condition, just overhauled, spares; £36, cheap.—Robinson, Royal Mills, Halifax.

3 1/2 h.p. Singer Motor Cycle, in new condition, been very little used; £35.—Carnforth Motor Co., Carnforth.

1911 Royal Enfield, 2 1/2 h.p., Continentals, lamp, horn, perfect; £29 10.—Thompson, 83, Anlaby Rd., Hull.

1910 Rex, fitted with P. and M. gear, with sidecar, a bargain, £49/10, cost £70.—R. Ewbank, Castleford.

TRIUMPH, 1909, free engine, splendid condition, perfect, new tyre; £35.—Banks, Cocker Villa, Barrow.

PHELON and Moore, 1911, 3 1/2 h.p., for immediate delivery.—The British Cycle Co., 1-3, Berry St., Liverpool.

1911 Triumph Standard, not ridden 100 miles, guaranteed as new; £43.—Thompson, 83, Anlaby Rd., Hull.

2 1/2 h.p. Minerva, accumulator, splendid running order, good Palmers, new belt; £6.—J. I. Foster, Sherburn-in-Elmet.

TRIUMPH, late 1909, T.T. engine, in splendid condition, very little used; £35.—Banks, Engineer, Skipton-in-Craven.

MOTOSACOCHE Lightweight, Whittle belt, excellent order; £14, or offers; approval, deposit.—Ludlum House, Didsbury.

MINERVA, 2 1/2 h.p., in good running order, plated rims, good Clincher tyres, low and light.—47, Boroughgate, Olney.

MOTOSACOCHE, cost £43 with spares 7 months ago, free engine, as new; approval; £27/10.—80, Bispam Rd., Southport.

3 1/2 h.p. Premier, 3-speed gear, new, illness cause of 3 1/2 disposal; offers wanted.—No. 8,402, The Motor Cycle Offices, Coventry.

B.S.A., 3 1/2 h.p., 1911, only ridden a few miles, and practically new; £45.—A. E. Ives, Cartref, 93, Aigbarth Rd., Liverpool.

1911 Enfield, 2 1/2 h.p. twin, chain drive, good condition, new June; £35.—Witter, Ayrefield House, Appley Bridge, Wigau.

PHELON and Moore, 1911, perfect condition, £47/10: with sidecar and child's seat, £50.—Simpson, Rockford, Balfour Rd., Southport.

BRAND New Unraced 3 1/2 h.p. Standard Bradbury; must sell this week, £40.—Letters only, Millard, 197, Warbeck Rd., Blackpool.

5 h.p. Twin Antoine, magneto, 2-speed and free engine, h.b. control, 26in. wheels, sidecar; £28.—Griffiths, 204, Deane Rd., Bolton.

1911 T.T. Premier, exceptionally low, very fast, Lucas lamp, horn, spares, splendid condition; £39/10.—Moore, "Hazelrold," Keighley.

TRIUMPH, re-enamelled and plated, in perfect order, also sidecar to same, F.R.S. lamp, horn, and tools; £28.—52, Oxford Av., Warrington.

GENUINE 6 h.p. De Dion, lamps, horn, pump, jack, etc.; £36; exchange 1910 or 1911 2 1/2 h.p. F.N.—Beaumont, Birds Royd, Brizhouse.

WANTED, offers for 5 h.p. F.N., splendid condition, too fast for owner; would exchange for 2-speed Douglas.—Oddy, Lothersdale, Keighley.

1911 5 h.p. Rex de Luxe, new F.R.S. lamp, Whittle belt, spare tube, complete accessories; £50, west.—Beesley, Charlestown Rd., Blackley.

REX, 1909, magneto, h.b.c., 3 1/2 h.p., Mabon, free engine, just overhauled; sacrifice, £19.—Walker, Withington Rd., Whalley Range, Manchester.

ARIEL 1909, 3 1/2 h.p., splendid condition, B. and B. carburettor, spring forks; £14, or offer; must sell.—217, Shirebrook Rd., Healey, Salford.

ALLDAYS 2 1/2 h.p. Lightweight Amac, h.b.c., Whittle belt, h.t. magneto, low and reliable; £12.—Thos. Lock, Hawthorne Terr., Church Lane, Easton, S.O.

3 1/2 h.p. Triumph, 1909, same has not had much use, can be seen and tried any time, fit-up complete; £29.—D. H. Cordingley, Summer House, Haslingden.

3 1/2 h.p. Fafair, 1910, Bosch magneto, B. and B. carburettor, h.b.c., new Dunlop covers, tubes, low fast; £26; seen any time.—Blakey, Market St., Burnley.

CORONET SIDE CARS



MODEL C.—£7 2s. 6d.



MODEL A.—£5 5s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest car pattern mudguards. Wicker, cane, or coach-patent bodies. Child's reversible seat. Excellent upholstery.

NOTE: front arm which grips main tube of sidecar, which is the only correct mechanical method—nothing lopsided about this attachment.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURYs, etc.

Discounts to Agents.



TEE BEE SEAT-PILLAR,
5/- each.

TYRES. TYRES. TYRES.

Dunlops, 28x2, beaded, 14/9; wired 10/6
Clippert Reflex, 28x2 or 24 8/6
20x2 1/2 Tubes 6/9; 28x2, 6/9; Butted 7/9
Covers, best make, 2 1/2in., 17/6; 2in. 15/6

GENUINE MICHELIN TYRES.

26x2 14/8 28x2 16/9 beaded
26x2 1/2 17/- 28x2 1/2 18/3 "
26x2 21/- 28x2 1/2 22/6 "
26x2 12/3 28x2 13/- wired
26x2 1/2 14/- 26x2 1/2 16/6 "
R.O.M.'s, SHANROCKS, PALMERS, etc.,
Old covers taken in part payment

ENGINES:

4 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
6 h.p. water-cooled, with clutch	£8 15
3 1/2 h.p. N.S.U., M.O.V., with gear-driven magneto, brand new from makers	£11 10
5 h.p. Twin SAROLEA, good order	£8 15
4 1/2 h.p. DE DION, genuine, water-cooled	£7 15
3 1/2 h.p. BROWN, M.O.V., with magneto	£7 10
4 h.p. CORONET M.O.V., air-cooled	£4 5
3 1/2 h.p. AUTOMOTO £2 0	2 CYCLONE, M.O.V. £1 15
3 1/2 h.p. MINERVA £1 8	3 1/2 h.p. BROWN £5 15
3 h.p. QUADRANT £3 0	5 h.p. ANTOINE £2 0
4 h.p. TRENT £1 18	2 h.p. ANTOINE £1 8
2 1/2 h.p. DE DION £2 5	3 1/2 h.p. REX M.O.V. £3 15

Exchanges entertained.

MAGNETOS. MAGNETOS. MAGNETOS.

We have a large stock of the best makes from 59/6. Your old coil and acc. taken in exchange.

NEW CARBURETTORS FOR OLD.

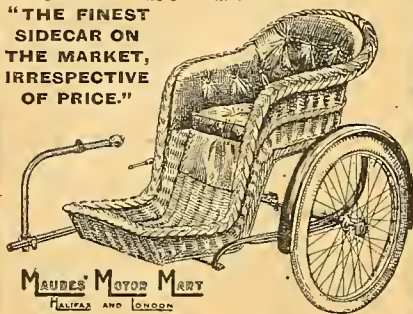
fit and your carb. secures a new 1911 B. and B. with h.b. control.
20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control.
Delivery per return.

BOOTH'S MOTORIES,
KEIGHLEY MILLS, BEDFORD ST. NORTH
(off Pellon Lane), HALIFAX. Tel.: 1062.

WHY HESITATE?

If you would have the best this will interest you. No need to pay £12 12s. and £14 14s. for a Sidecar. You get better for £5 5s. to £7 7s.

**"THE FINEST
SIDECAR ON
THE MARKET,
IRRESPECTIVE
OF PRICE."**



MAUDES' MOTOR MART
HALIFAX AND LONDON

The Portland.
MODEL "A." PRICE £5 5s.

Three-point suspension, enamelled two coats, double Cee springs, best quality upholstered body, wide mudguard, motor cycle beaded tyre, all telescopic tubes heavily plated. Guaranteed twelve months.

MODEL "B." PRICE £6 6s.

Similar to Model "A," but slightly better body, three coats of enamel, 26x24 Michelin, Dunlop, Warwick, or Avon beaded cover, plated rim, complete with apron and mudguard. Guaranteed twelve months.

MODEL "C." PRICE £7 7s.

Cane body upholstered, with apron, lamp bracket, double Cee springs, very fine finish to chassis. Guaranteed twelve months.

MODEL "DE LUXE." PRICE £8 8s.

As Model "C," but coach-built, and with car mudguard. Guaranteed twelve months.

Descriptive Catalogue post free upon request.

MISCELLANEOUS

- MILLFORD** 1911 Gloria coach-built sidecar, £18 18s. model, good as new, including tyre £9
CHATER-LEA sidecar, fit left side, very good condition £4
***PORTLAND** sidecar, 6 guinea model, very good order, 1910 model £4
MILLFORD Herald sidecar, left side, 1911 model £5

TRICARS AND CARS

- *REXETTE**, 5 1/2 h.p., water-cooled, open frame, two speeds, handle starting, very good order £20
HUMBER, 4 1/2 h.p., two speeds, wheel steering, open frame, coach built, handle starting £28
STAR CAR, 9 h.p., two-seater, three speeds and reverse, handle starting, tyres like new, a bargain £32
LITETTE, 5 h.p., twin, magneto, two speeds, water-cooled, handle starting, good tyres, good order £32
LITETTE, 5 h.p., water-cooled, two speeds, handle starting, M.O.V., special model, made for us and guaranteed by the Rex Co., latest 1911 models, friction clutch in rear wheel, Continental tyres; list price 62 guineas; accept £48. Only a few left.
BROWN tri-car, 3 1/2 h.p., two speeds, very good order, chain driven £17

ENGINES

- *AUTO-MOTA**, 3 h.p., very powerful £3
SAROLEA, 2 h.p., BRAND NEW, complete with Bosch magneto, plug, silencer, etc. £7
SAROLEA, 2 h.p., as above, but with contact breaker, new, and guaranteed £5
MINERVA, 1 1/2 h.p., A.O.I.V., contact breaker, good running order £27/6

NEW CARBURETTORS FOR OLD.

22/- and your carb. secures a new 1911 B. and B., latest type, with h.b. control.

GENUINE MICHELIN TYRES.

	Beaded.	Wired.	Endless.	Butted.
26 x 2 in.	14/8	12/3	10/3	11/9
26 x 2 1/2 in.	17/-	14/-	10/9	13/-
26 x 2 in.	21/-	16/-	11/9	13/9
28 x 2 in.	16/9	13/-	11/3	12/9
28 x 2 1/2 in.	18/3	—	12/-	14/-
28 x 2 in.	22/6	—	12/6	14/6

MAUDES' MOTOR MART.

136 GREAT PORTLAND STREET
LONDON, W.

Telephone 552. Mayfair
Telegrams Ab-dicate London

20 POWELL STREET HALIFAX
Telephone, 433. National
Telegrams "Petrol" Halifax.

(LISTS POST FREE)

MOTOR BICYCLES FOR SALE.

1911 5 h.p. Indian, finished blue, complete with lamp, generator, horn, pump, all tools, in new condition; cost £61, accept £45.—R. King, Shelly House, Wigan.

2 1/2 h.p. Humber Lightweight, 26 in. wheels, low built, 2 new tyres, in excellent condition; £11; any trial; owner buying sidecar machine.—Farrar, 15, Cheetham St., Rochdale.

TRIUMPH, 1909, bought 1910, July, Roe 2-speed, numerous spares; selling through no fault, price and particulars, been little used, guaranteed.—J. Lassey, Bridge St., Morley.

2 1/2 h.p. L.M.C., free engine, vertical, low position, 2 accumulators, Lyso, lamp, spares, splendid condition, just overhauled, re-enamelled; 10 guineas.—Gilbert, 86, Ley Lane, Armley, Leeds.

1909 Rex, 3 1/2 h.p., B. and R., Bosch magneto, excellent condition, new spring forks, h.b.c., extremely low and very powerful; £23; exchange good lightweight.—Nutter, 227, Keighley Rd., Colne, Lancs.

TO Traders—Hitchen's, of Morecambe, are now prepared to place contracts for delivery of 1911 P. and M.'s, Scotts, and Triumphs, and shall be glad to have quotations and date of delivery; terms, cash with order; we guarantee no cutting.

PHELOX and Moore, 1910, with sidecar, in splendid running condition, just been overhauled by makers, new chains, new back wheel, new tyres and tubes 3 weeks ago, including Cowey, lamp, and spares; £48, a bargain.—Sam Wilson, tobacconist, Batley.

2 1/2 h.p. Moto-Reve, twin, 1909, engine thoroughly overhauled by makers a month ago, £16; 2 h.p. Moto-Reve, twin, 1908, engine recently overhauled by makers, £12; 2 1/2 h.p. Enfield, new late 1909, £21; 3 1/2 h.p. Triumph, 1911, free engine, unpacked, immediate delivery.—Fred Lee, Pocklington.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

THE North Wales Motor Exchange, Rhosddu, Wrexham. Telephone: 283.

RUDGE Free Engine Motor Cycles in stock, immediate delivery; demonstrations given; your old machine taken in exchange, fair market value allowed; de luxe sidecars to fit any machine; £5/5; send for illustration, best value on earth; we have some splendid machines cheap, let us know what you require; prompt attention.

PHELOX and Moore, new 1911 model in stock, no waiting.—Moss, Wem.

QUADRANT Motor Cycle, new back cover, spare belt, battery, etc.; £7.—Marston, Bridge St., Chester.

QUADRANT, 3 1/2 h.p., splendid machine, over 20/- worth spares; trial; £15.—Ligat, Chaseler, Bramhall.

HUMBER Lightweight, used few times only, runs beautifully, all tools; £28/10.—I. Wood's Lane, Derby.

ZENITH-GRADUAS, 3 1/2 h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250 Stafford St., Walsall.

BRADBURY'S—All models in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250 Stafford St., Walsall.

END of Season Sale.—All 1911 models to be cleared cheap; send for list.—Motor Mart, 16, Cavendish St., Chesterfield.

TRIUMPH 1910, free engine, excellent condition; £20.—Rev. T. Glenn, Habblerley Rectory, Ponteferry, Shropshire.

LATEST Free Engine Rudge-Whitworth; must sell or take your old machine in part exchange.—Shandoo, Chesterfield.

1909 Triumph, beautiful condition, little ridden; sacrifice, £30; wanted, powerful twin.—Roht, Rise, Leawood, Matlock.

1910 T.T. Triumph, 1911 pattern engine, little used, perfect condition; £38.—A. K. Mockety, Hadley Park, Wellington, Salop.

1911 Bradbury, 3 1/2 h.p., in splendid condition; only £35/10 including lamp, generator, and horn.—32, Leopold St., Derby.

ZENITH-GRADUA, 6 h.p., June, 1911, speedometer, etc., absolutely perfect in every respect; £58.—P. W. Owen, Iron-Briggs, Salop.

BRAND New Standard Bradbury, in crate; best cash offers, or take Triumph or Douglas in part exchange.—Fox, Lichfield Golf Club, Staffs.

3 1/2 h.p. Rudge (Roper), 19 in. frame, 26 in. wheels, 1 in. 32 belt, everything perfect; £10/10; trial with pleasure.—J. Lidderdale, Berkswich, Stafford.

4 h.p. Roe, free engine, handle starting, Bosch magneto, Amac variable jet; £20, or exchange lightweight.—Shepherd South Norwotton, Alfreton.

NEW Free Engine Rudge, customer unable to take delivery; best cash offers, or take Douglas in part exchange.—No. 8, 428 The Motor Cycle Offices, Coventry.

SINGER, clutch model, only soiled, 200 miles, lamp and horn, £48; Triumph, new tyres, belt, B. and B. h.b. control Bosch, perfect order £22/10.—W. H. Miller, Craven Arms.

VARIATION.

If you would have a variation, read this list. All actually in stock. "Not to be seen"—In Stock.

Remember all Machines properly lined up.

- Machines started (* thus) are in stock at Halifax Depot.
***QUADRANT**, 3 1/2 h.p., 1911 model, only done 25 miles, and as new £39
***N.S.U.**, 2 1/2 h.p., twin, magneto, geared pulley, free engine, perfect order £22
***F.N.**, 4 1/2 h.p., four-cylinder, magneto, footboard fitted, fine running order £23
***REX**, 5 1/2 h.p., twin, free engine, handle starting, very fine order, suitable for sidecar £24
***MIDGET** Bicar, 3 1/2 h.p., 1 1/2 in. engine, 2 speeds, free engine, handle starting, cream finish £16
***ARIEL**, 2 1/2 h.p., vertical engine, just been thoroughly overhauled £12
***SCOTT**, two speeds, water-cooled head, magneto, just being thoroughly overhauled £40
P. & M., 3 1/2 h.p., 1910 model, good condition £18
INDIAN, 7 1/2 h.p., 1911 model clutch, splendid condition £18
***MINERVA**, 8 h.p., P. & M. two-speed gear, Chater Lea frame, 1911 mod. 1 Bosch magneto, complete with rigid sidecar. Good condition throughout £52 10
***REX**, 5 1/2 h.p., twin, 1909 model, Bosch magneto N.S.U., 6 h.p., twin, two speeds, complete with Chater-Lea sidecar £35
REX, 5 h.p., free engine, low built, powerful £17
P. & M., 3 1/2 h.p., two speeds, 1909 model, good order and condition £30
***MOTO-REVE**, 2 1/2 h.p., 1910 model, not ridden 100 miles £26
PREMIER, 3 1/2 h.p., 1910 model, spring forks, suit sidecar £32
***TRIUMPH**, 3 1/2 h.p., 1909 model, very good order, footboards £34
***BRADBURY**, 3 1/2 h.p., 1911 model, Dunlop tyres, Bosch magneto, perfect order £39
***BRADBURY**, 3 1/2 h.p., 1910 model, Druid forks, £32
***REX**, 7 h.p., 1911, two-speed, de luxe model, absolutely like new, M.O.V. £48
ZENITH, 4 h.p., brand new, 1911 models, from stock. Nett £54 12
***REX**, 3 1/2 h.p., 1910 model, tourist type £28
***N.S.U.**, 3 1/2 h.p., single, very fast, and good order £20
REX, 3 1/2 h.p., 1910 machine, very fast, good hill climber £28
REX, 5 h.p., 1910 tourist model, very good condition, had careful usage £32
REX, 5 h.p., 1910 de luxe, two speeds, excellent order £42
REX, 5 h.p., magneto, spring forks, free engine, handle starting £26
ALWAYS, 3 1/2 h.p., mag. low built, vert. engine £15
REX, 5 h.p., Bosch magneto, very fast £24
N.S.U., 5 h.p., two-speed, latest 1911 model, Bosch magneto, complete with Jones' £5 5s. speedometer, Lucas lamp, 1911 Millford £9 9s. sidecar, like new, tyres perfect £55
REX, 5 h.p., latest 1911 de luxe model, two speeds, handle starting. Actually in stock. Cash or exchange £63
REX, 5 h.p., latest 1911 cone clutch model, brand new. Actually in stock £1 5s
REX, 3 1/2 h.p., tourist model. Actually in stock. Latest 1911. Cash or exchange £43
REX, 3 1/2 h.p., cone clutch model. In stock £48
F.N., 2 1/2 h.p., two-speed lightweight model, handle-bar operated clutch £30
N.S.U., 5 1/2 h.p., twin, two speeds, Cowey speedometer, spring forks, Bosch magneto, complete with castor wheel sidecar £30
BAT, 8 h.p., 1911 latest T.T. model, J.A.P. engine, overhead valves, torpedo tank, grey finish £50
REX DE LUXE, 7 h.p., 1911 model, M.O.V., two speeds, excellent £48
***REX**, 5 h.p., twin, 1909 Tourist Model, spring forks, Bosch magneto £31
***HUMBER**, 3 1/2 h.p., 1909 model, two speeds, Bosch magneto, handle starting, with £6 6s. sidecar £35
***REX**, 5 h.p., 1909 Speed King, very fast, just been thoroughly overhauled £29
ARIEL, 3 1/2 h.p., 1910 model, footboards fitted £32
TRIUMPH, 3 1/2 h.p., 1909 model, very fast, magneto, etc. £33
F.N., 4 1/2 h.p., 4-cyl.-magneto, very good order £16
ROC, 4 h.p., two-speed, magneto, spring forks, handle starting £26
***TRIUMPH**, 3 1/2 h.p., spring forks, magneto, 1907 model £19
***ANTOINE**, 5 h.p., footboards, twin, very low built, take sidecar £15
Many others. Send for full Lists, post free on application.

Fuller specification of any machines post free with pleasure.

MAUDES' MOTOR MART,

For address, see opposite column.

WE DO IT.

We HAVE advertised, ARE advertising, and ALWAYS INTEND to advertise, that we send ALL goods on APPROVAL, against cash, and if not satisfactory they can be returned and the cash refunded IN FULL. We have been advertising on these lines for over TWO YEARS, and yet every post brings us 20 or 30 letters asking if we send machines on approval, and, if not satisfactory, do we return the money. These people are either UNBELIEVERS, or else they have been "had" in the past. WE DO everything that we say WE DO, and it gives us as much pleasure to return a cheque as to receive one, as we know that immediately a man has received the money back, he at once becomes a WALKING ADVERTISEMENT of the straightforward dealing of Hitchens, of Morecambe. We find that one cheque returned to a district has increased the trade of that district enormously. It does not matter whether the goods you purchase are 5/- or £50; if you don't like them, send them back to us and have your money back in full. SOME FIRMS will offer to SEND YOUR MONEY BACK and take out 5% for the trouble they have had in negotiating the deal. Hitchens, of Morecambe, risks the 5%, and considers that the trouble taken is recompensed by the advertisement obtained in returning the money, where this is necessary. We have explained many times that we are not philanthropists, and although our system of business may appear somewhat philanthropical, yet it is of a paying character.

HONESTY is the BEST POLICY at all times, and there is a proof of it in the enormous increase in our trade, and the thousands of satisfied customers that we have in all parts of the world. We can produce a drawer full of testimonials of the straightforward and upright treatment that our clients have received at our hands. EVEN YET, we do not please EVERYBODY, but we want to please you; therefore, send along your postcard for a new list. Note the terms—Cash, Exchange, and, under certain circumstances, the Deferred. We are ESPECIALLY ANXIOUS for cash offers, as we want to reduce the stock before going to Lancaster next month; therefore, cash offers will receive our most favourable consideration.

NEW 1911 MODELS IN STOCK.

TRIUMPH, free engine	£55 0
TRIUMPH, Standard	£48 15
DOUGLAS, 2-speed, Model E	£48 0
BAT-J.A.P. 8 h.p.	£60 0
DOUGLAS, Model D	£39 18
BRADBURY, 2-speed	£55 0
ZENITH-GRADUA, 5 h.p.	£69 6
ZENITH-GRADUA, 3½ h.p.	£54 12
HUMBER, 2-speed	£50 0
SCOTT, 1911, in stock	£85 0
CLYNO, 5 h.p., 2-speed	£65 0
P. & M., 1911, in stock	Best offer.
BRADBURY	£48 0
MOTOSACOCHE, free engine	£38 0

SIDECAR MACHINES.

BAT-J.A.P. 5 h.p., as new	£53 0
P. & M., 1911, as new	£55 0
P. & M., 1910, splendid	£50 0
INDIAN, 5 h.p., 1910	£33 0
REX DE LUXE, 5 h.p. Twin, 1910	£38 0
REX, twin, 5 h.p.	£25 0
VINCE SPECIAL, 5 h.p., Clutch	£22 10
ZENITH, 6 h.p., late 1909 Gradua gear	£37 10
REX, 5 h.p., fine order	£27 10
J.A.P.-CHATER-LEA, 10 h.p., racer	£40 0
P. and M., 1910, perfect order	£45 0
P. and M., 1909, strong puller	£34 0
J.A.P.-CHATER-LEA, 8 h.p., free engine	£32 10
HUMBER, 1910, 2-speed 1911	£35 0
HUMBER, 1911, used week	£40 0

LIGHTWEIGHTS

F.N., 1½ h.p.	£12 10
MOTO-REVE, 1910, single	£20 0
MOTOSACOCHE	£14 0
MOTO-REVE, 1910, twin	£22 10
ENFIELD, 1910	£28 0
DOUGLAS, 1910, fine order	£28 0
SIMMS, 1½ h.p.	£10 10
MOTOSACOCHE, free engine	£20 0

HIGH-CLASS SOLO MACHINES.

GRITZNER, 3½ h.p., free engine	£17 10
SINGER, 3 h.p., magneto	£12 10
TRIUMPH, 1910 Mabon clutch	£35 0
SINGER, 3½ h.p.	£18 0
N.S.U., 3½ h.p., M.O.V.	£18 0
REX, 3½ h.p., M.O.V.	£15 0

MOTOR BICYCLES FOR SALE.

- 3½ h.p. 1911 Premier, shop-soiled; £42/10, or near offer.—Below.
- 3½ h.p. F.E. Triumph, 1911, Palmer cords; £55/7/6.—Below.
- 3½ h.p. 1911 Midget Bicar, Danlops, in perfect order; £28.—Wheeler, Newbury.
- 1911 T.T. Roadster Triumph, used about 200 miles, and as new; £43.—Tollady, Bicester, Oxon.

1910 Standard Triumph, perfect, fully equipped; £36; seen by appointment.—41, Bruce St., Swindon.

ROYAL Enfield, 2½ h.p., 1911, chain drive, only used a few times; bargain, £33.—Williams, 19, Portland St., Cheltenham.

WRENCH'S Cycle and Motor Cycle Depot, Horse Fair, Banbury, have the following motor cycles in guaranteed order:

TRIUMPH 1910 Standard, 3½ h.p., magneto, Clincher tyres, full kit of tools, etc.; £35.

TRIUMPH 1910 Standard, 3½ h.p., magneto, new tyres, in first-class order, just overhauled, fully guaranteed; £37/10.

TRIUMPH 1908, 3½ h.p., magneto, in good order throughout, complete; £26.

F.N., 4-cyl., 4 h.p., 2-speed gear, free engine, complete with lamp, horn, tools and spares, first-class sidecar machine; £35, or near offer.

BUCHET 2½ h.p. Lightweight, in good order; £12/10.

MONTGOMERY Sidecar, castor wheel, in first-rate order, Michelin tyre, cover, etc.; £8/10, cost £12/12.

ALL the Above can be seen, examined, and trial runs arranged at Wrench's Cycle and Motor Cycle Depot, 5a, Horse Fair, Banbury.

DOUGLAS, 1910, perfect condition throughout, Brooks padded saddle; 27 guineas.—Bucknall, 237, Iffley Rd., Oxford.

BRADBURY'S—1911 Bradburs in stock; immediate delivery; trade supplied; exchanges entertained.—Jinger Motors, Banbury.

TRIUMPH, 1910, standard, Palmer cords, in exceptional condition; a snip, 36 guineas.—Freeman, 151, Barton St., Gloucester.

FOR Sale, 3½ h.p. magneto Triumph, dated 18/9/07, in good condition; bargain, £22/10.—Apply, Hale, Puzzle, near Ruardean, Glos.

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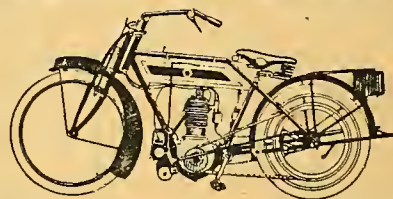
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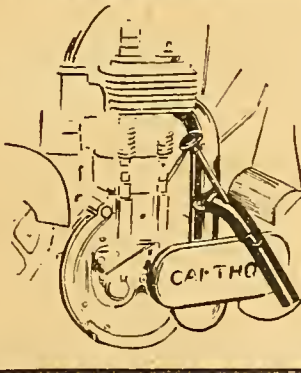
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ALL the Above for immediate delivery; terms, cash, exchange, or extended payments.—Only address, Rey, 5, Heath St., Hampstead. Tel.: 2678 P.O.

3½ h.p. Premier (July, 1910), in fine condition and perfect running order, carefully used, variable pulley, spare new inner tube and usual accessories and spares, etc.; owner hasn't sufficient time to use; any trial; £30, or near offer.—Appointment, 6, Caroline Place, W.C.

5 h.p. Twin Rex de Luxe, 2-speed, free engine, new m.e.v., new Palmer cord back, Jones speedometer, Antoclipa lamp and generator, mirror, Whittle belt, exhaust whistle, quite up-to-date, new last October, not done 1,500 miles; £38/10; photo.—Box L4,325, *The Motor Cycle* Office, 20, Tudor St., E.C.

WIN-PRECISION Motor Cycles.—Immediate delivery of 1911 model, Druid forks, Bosch magneto, B. and B. carburetter, Dunlop tyres, £45/10; cash or gradual payments, £2 monthly; trial by appointment, any reasonable distance.—Jennings, 268, Horseay Rd., near Public Baths, Holloway, London.

HAZEL Lightweight Motors.—We are now in a position to give early delivery of our 2½ h.p. model, the lowest, shortest, and lightest machine of its power on the market, fitted with Jap engine; price 35 guineas; second-hand machines in cash payment; many good second-hand machines in stock at reasonable prices.—*The Crompton Cycle and Motor Co.*, 24-28, Woodford Rd., Forest Gate, London, E.

MOTOR BICYCLES FOR SALE.

A FIFTY Pound 2-speed Humber, absolutely as new, beautifully tuned, enamel unscratched, powerful, fine sidecar machine, with over £4 worth of spares, including 2 new belts; £42/10; only 2 months old; expert examination invited and desired; seen any time.—Write, "Two-speed," 245, Gray's Inn Rd., W.C.

1910 Bradbury (July), splendid machine, fast and powerful, new belt and horn, spares, £30; Vindeu Special 5hp, twin Bosch, B. and B., Mabon clutch, all h.b.c., £25; 3hp. Clarendon, B. and B., h.b.c., splendid goer, £10; for P. and M., see Sidecar Combinations, and then come to Chesney's Motor Garage, West Hareley, Surrey.

DOUGLAS, 1911 model, 2 speeds, free engine, ridden only 500 miles, faultless, £39; twin Rex, 1909 model, £25; 3hp. Rex, 1909 model, 2 speeds, free engine, perfect, £24; twin Moto-Reve, 1909 model, beautiful machine, £19; 3hp. Rex, fast, reliable machine, £9; 2hp. Bradbury, perfect order, £8; exchanges; wanted, small 4in. lathe. — Motor Depot, Harwich, Essex.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

1911 Rudge-Whitworth, 3hp., fixed engine, in stock £48/15.—Moffat, Yeovil.

1911 Humber 2hp. Lightweight, in first-class condition; £27.—Hamlin's Garage, Bridgwater.

TRIUMPH 1910, splendid order; exchange Enfield or Douglas, 2-speed, or sell.—Evans, jeweller, St. Austell.

12hp. Wolf, new, not scratched; bargain, £15.—Particulars, Box L4,313, The Motor Cycle Offices, 20, Tudor St., E.C.

MOTO-REVE 1910 Twin, studded tyres, spares, good condition and reliable; £24, or near offer.—Rev. Quibell, Newberry Terr., Weymouth.

31hp. N.S.U., magneto, new lin. Lyso, spare valves, £2 tools, tyres uncut, Palmer cord back; £16/10.—Webber, County Fire Office, Beaminster.

T.A.C., 1911, not ridden 300 miles, absolutely as new, naval officer's property, going abroad; cash offers.—D. H. Scott, c/o Daa Gny, Weymouth.

DAN GUY, Weymouth.—1908 Triumph, guaranteed, and any trial or examination allowed, £28; free clutch Singer, 1911 demonstration model, few runs only, £50, close offer; 1910 4-yl. F.N., splendid machine, £30, close offer; 1910 Motosacche, free engine, Whittle belt, £18/18.

DAN GUY, Weymouth.—1910 2-speed Humber, very little used, appearance and tyres as new; any trial or examination; £35.

SINGER, 1911, lady's, 2hp., £29; Enfield, 1910, 2hp., twin, £26; Quadrant, 3hp., magneto, £22; Rex, 3hp., 1910, £10/15; Singer tandem, take lady back, converts to trike, £12/15. — Edwards, Motors, Tanaton.

5hp. F.N., 4-yl., magnificent machine, in perfect condition, and many spares; £30; Morgan or other runabout considered: would ride reasonable distance to meet customer, or send on approval against cash.—Tasker, Hinton Parva, Wimbore.

1911 Big Engine 2-speed Bradbury, not done 800 miles, footplates, handle starting, exhaust whistle, scarcely marked heavy Kempshalls, lin. Whittle and Lyso belts; also £10/10 Bradbury sidecar, as new, combination will take 1 in 8 with 2 up (20 stone); bargain, 52 guineas, or separate 45 and 7 guineas.—Best, outfitter, Bridport.

WE can give immediate delivery of the following: 1911 3hp. Rudge-Whitworth, £48/15; free engine model, £55; 1911 3hp. Humber, 2 speeds, £50; fixed engine model, £45; second-hand 1910 Douglas, £27; 1910 F.N., 2 speeds, £22/10; 1910 twin Moto-Reve, £25; 1910 Motosacche, £20; 1909 3hp. Quad rant, £15/10; 1909 lightweight Wolf, £6/10; 1908 F.N., £6/10; 1909 Douglas £20.—Tilley and Son, motor engineers, Weymouth.

SECTION X.

Scotland.

31hp. Triumph, free engine, 1911, done 300 miles, perfect; £50, or offer.—Nicoll, Leven.

HUMBER Lightweight, 1911 model, beautiful condition, very little used.—"Cycle," William Porteous and Co., Glasgow.

31hp. 1908 L.M.C., engine overhauled makers, Palmer £2 cords, all parts in good condition; £25.—Guthrie, merchant, Lochgelly.

23hp. Magneto Motor Cycle, excellent condition, all accessories; bargain, £21.—A., St. Margaret's, Greenlaw Drive, Paisley.

TRIUMPH, recently overhauled, new Dunlop belt, good Continental tyres, splendid running order; £14.—Bunn, Drumcho, Oldhall, Paisley.

5hp. Twin Kerry, rebushed throughout, rebored, new pistons fitted, h.b.c., low position, good tyres; going abroad; £13/10.—Vyner, Littleton, Thurles.

MOTO-REVE Lightweight, 2hp., twin-yl., magneto; accept £16, or exchange with little cash for a 3hp. magneto machine.—55, Lothian Rd., Edinburgh.

1911 Premier, 3hp., auxiliary exhaust, Lucas King's Own lamp and generator, machine only done 200 miles, perfect; price £39.—Irving, 54, Market Place, Annan, Scotland.

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1911 2½ h.p. Douglas, Model E, new ..	£48 0
1911 3½ h.p. Humber, two speeds, new ..	£50 0
1910 2½ h.p. Moto-Reve Lightweight, little used, all accessories ..	£23 0
1909 5 h.p. Rex Tourist, just overhauled	£26 10
1909 5½ h.p. Rex Tourist, very reliable ..	£25 0
1908 3½ h.p. Rex and Sidecar, 16-11, two-speed gear, splendidly fitted up with accessories for touring ..	£26 0
1908 2½ h.p. Rex Lightweight, magneto, engine just overhauled ..	£14 14
3 h.p. Rex, magneto, Rex clutch and starting handle ..	£10 10

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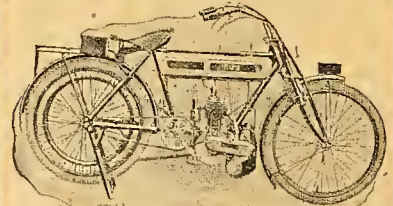
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MOTOR BICYCLES FOR SALE.

TRIUMPH, 1909½, all in splendid condition, complete with lamp, horn, leather belt, etc., £32; sidecar and fittings, if required, £4. — Adams, 23, Buccleuch Place, Edinburgh.

DOUGLAS, 2hp., model D, 38 guineas; second-hand twin Aycron, good order, £12; enquiries for any make invited; catalogues free.—Dundee Motor and Cycle Co., Ltd., Nethergate, Dundee.

1911 Indian, 7hp., and sidecar, cost, March, £90, with spares and fittings; will take saleable machine in part exchange; obliged to sell; £65.—Hunter, 20, Charing Cross Mansions, Glasgow.

B.S.A. and Millford Sidecar, spare Whittle belt, lamp, horn, in good condition, not done 5,000 miles; £45, or nearest; trial given; exchange for lightweight and cash adjustment.—Jas. Wilson, jun., "Ashgrove," Blackridge, West Lothian.

SACRIFICE.—4hp. twin Werner, h.b.c., long, low, fast, adjustable pulley, whole-length footboards, tyres, back new, front unscratched, all accessories, spare belt and tyre, complete running order; must sell, first cheque £12/10.—Mackenzie, Abbeville, Inverness.

SCOTLAND'S Largest Motor Cycling Firm.—Don't wait for months on your new mount. We can give immediate delivery of Indian, Premier, Douglas, Zenith, B.S.A., Rex, N.S.U., and Lincoln Elk. Besides these, we stock P. and M., Rex, and Norton, and can supply any other make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

SECTION XI.

Ireland and Isle of Man.

FREE Engine 1911 Bradbury, sidecar machine, 4 months (new condition); £48.—Cringle, Peel, Isle of Man.

PHILION and Moore, 3hp., 1911 model, new April; £50.—Danphy, 93, Anglesea Rd., Donnybrook, Dublin.

1911 Motosacche for sale, 2hp., free engine, first-class order, several extras and spares; £25; trial allowed.—Dudgeon's Garage, Buncrana.

5hp. Twin Kerry, rebushed throughout, rebored, new pistons fitted, low built, h.b.c., good tyres; owner going abroad.—Vyner, Littleton, Thurles.

1911 23hp. Twin Moto-Reve, with lamp and accessories value £3, lovely solo machine, perfect; £27/10.—Box L4,289, The Motor Cycle Offices, 20, Tudor St., E.C.

QUADCARS.

7-8hp. Phoenix Quadcar, magneto ignition, water-cooled, lamps, spares, etc.; quick sale, £25.—Gealy, Tumble, Llanelli.

NEW Monocar, used only trial runs, 6hp. J.A.P., single gear, good climber, £60 quick sale; also Monocar, complete less engine, P. and M. 2-speed gear, new tyres.—Particulars, Miller, Briggau.

TRICARS FOR SALE.

MORGAN Runabout, 8hp., single-seater, as new, not done 300 miles; £65.—Reynolds, Broadway, Dorset.

CHATER-LEA Tricar Chassis, 6-8hp. twin w.c. engine, 3 speeds, reverse; £19/19.—1, Ebner St., Wandsworth.

4hp. Tricar, M.M.C. water-cooled, 2 speeds, all spares; trial.—Crawford Normanston, Merrilocks Rd., Blundellsands.

31hp. Centaur Tricar, perfect order, engine just rebushed; no reasonable offer refused.—94, Allenby Rd., Dulwich.

A.C. Sociables; second-hand stock; from £75, complete.—Higgs, 31, Vauxhall Bridge Rd., S.W. Tel.: Victoria 1215.

4hp. Tricar, P. and M. gear, bucket seat, art cane front, running order; £13.—Smith, tailor, Buttershaw, Bradford.

61hp. Tricar, latest pattern Quadrant, excellent order; thoroughgoing bargain, £25.—Pearce, Langley Barr, Chippingham.

TRICAR, 4hp. White and Poppe, 2 speeds and free engine, water-cooled, 2 bodies, in good order; £18.—739, Old Kent Rd.

5hp. Twin Brown Tricar, dual ignition, machine like new; accept push-bike and cash.—F. C. Pass, Antrobus St., Congleton.

41hp. Bradbury, w.c., 2-speed and reverse, scarcely used, in new condition; must be sold; £25.—52, Orford Av., Warrington.

QUADRANT Carrette, 7hp., winner of the 6 Days' Trials; trial; £30.—A. E. Redding, 154, Pentham Rd., Handsworth, Birmingham.

QUADRANT Tricar, coachbuilt, 5hp., twin, 2 speeds, handle starting, tyres nearly new; cash offers.—28, Blackfriars St., King's Lynn.

N.S.U. Twin with detachable forecar, 2-speed, magneto, Whittle; £27.—The Hook, Sandlinds Rd., Wandsworth Bridge Rd., S.W.

6hp. w.c. Phoenix Tricar, 2-speed, wheel steering, new car back tyre, splendid condition; £26; exchange entertained.—Cooke, 45, Sankey St., Warrington.

THE MOTOR CYCLE

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Brakes and Stopping Power.

THE question has often been raised whether it is better to have the two brakes, which are by law required for a motor cycle, both on the back wheel or one on each, and in our opinion the question admits of only one answer, viz., that each wheel should be braked. This has been suggested by reading a sentence in an article describing a tour in the West, and at this time of the year, when new designs and novel patterns are on the *tapis*, and makers are endeavouring to improve their machines, a few lines on the subject may not be out of place. A single brake is quite sufficient to lock the back wheel if it is a powerful one, and if both brakes are fitted to the rear wheel, as is often done owing to the difficulty of fitting brakes to spring forks, then the second brake is of no use unless the first one fails, which it is not likely to do if it is properly made. Another point, and one worthy of notice, is that if two rear wheel brakes are fitted one will in all probability be a band brake, and this type—while it must be admitted that there are some few excellent examples on the market—has not upon the whole proved itself to be satisfactory on motor cycles, and it cannot be denied that in any case it makes the removal of the back wheel when a tyre has to be changed more difficult and troublesome.

In some brake tests on pedal cycles held a good many years ago it was found that a front wheel brake had a greater retarding effect than one fixed on the back wheel, because the result of applying the brake threw the weight forward, and this will apply also to a motor cycle, but in a lesser degree, owing to the greater length of the machine. Front brakes, however, are not in themselves so powerful as those

fixed to the back wheel. It is much better from all points of view to apply brakes to both wheels gradually than to retard one wheel only by the violent application of a powerful brake. It has been found, too, that front wheel brakes are most desirable for cars.

Of course, it is most important that the front wheel of a motor cycle should not be locked, as that would mean instant disaster, and no good brake should be powerful enough to do this, or at least every rider should be on his guard lest such a thing should happen. It is quite a mistaken idea that the wheels should be locked to gain the greatest retarding effect, for as soon as the wheel ceases to roll and begins to slide over the road the grip of the tyre becomes less effective.

It is well known that the co-efficient of friction is less when the bodies in contact have begun to move. The truth of this statement can easily be verified by allowing a book to slide down a sloping desk, when it will be found that if the book is given a slight movement by hand it will slide down a more gentle slope than if it is at rest and the top of the desk gradually raised until it begins to move. In fact, everybody knows this but often without realising it, for what is more natural when trying to pull a cork out of a bottle than to give it a twist round at the same time. Most people, even teetotalers—but in their case it would be a medicine bottle—will do this without giving a thought as to the reason why. The greatest retarding effect is obtained when the wheels are almost, but not quite, locked. Therefore the wise motor cyclist will never lock his wheel intentionally, partly for the sake of his back tyre—which deserves some little consideration, as it has to transmit the whole driving force to the road—but also for the reason mentioned.

In Wales and the West.

THIS tour was originally planned as a "camping" expedition, as we intended to carry a small tent and all necessities with us. The idea was only abandoned on the ground of initial expenditure, and as events turned out the change in our original plans was fortunate.

A few words as to our machines, equipment, etc., may be of interest.

My companion's machine was a 1909 two-speed Humber and mine was a 1909 3½ h.p. Rex de luxe, and many times did we bless those two-speed gears. I have toured on a single-gear machine and fared very well, but for hilly country and unknown roads, grease and traffic, convenience of starting and weight-carrying capacity, I would not be without my two speeds.

We were very completely equipped, for, besides a fortnight's supply of clothing and extras, we had each a large box in which were packed spirit stove, spirit, saucepan, aluminium tumblers, tea, and various jars and implements—we believed in doing our touring in comfort. Each machine was fitted with a Stewart speed indicator, and both carried a good outfit of tools and spares.

The total weights are interesting. My friend's machine 280 lbs., rider 168 lbs., total 448 lbs. My machine 274 lbs., rider 156 lbs., total 430 lbs.

First Day.—Sheffield to Newport (Salop), 72 Miles.

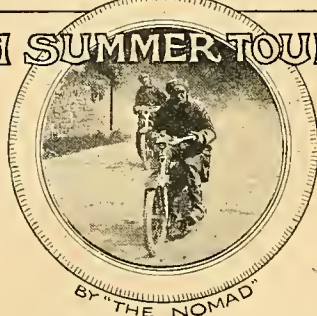
After weeks of preparation we were at last ready, when, just as we were about to start, my engine had a sudden severe fit of misfiring. Having put this right, we had our photograph taken, and at the word "Go" the engines roared, took up the drive, and away we went to meet many adventures.

It was a hot summer afternoon, and as we began with a few miles of uphill my engine (which was running a new piston in) soon overheated, but the low gear took me to the top all right, and then we had our first long free wheel down into the pretty little village of Baslow. The roughness of the road made steering rather difficult at a speed of forty-two (as registered by the indicator). Through Baslow, Bake-well, and then away over the hills to Ashbourne, and—down went my back tyre. Examination showed that it was a leaking patch, and as circumstances made a repair almost out of the question I put in a new butt-ended tube. Then we had another grand run down into Ashbourne, and an uneventful ride through pretty country to Uttoxeter, Stafford, and Newport, where, as it was getting dusk, we decided to remain for the night instead of going on to Shrewsbury as had been originally intended. A flower show in the town caused us some little difficulty in finding accommodation, and then—well we were hungry and tired!

Second Day.—Newport to Aberystwyth, 100 Miles.

A dull morning; but immediately after breakfast we started, and soon my engine began misfiring worse than ever, so I tried A's spare contact breaker

A SUMMER TOUR.



and all was well. The trouble was subsequently found to be due to a worn platinum point.

Immediately we passed Shrewsbury we began to see the mountains in the distance, and then we reached Montgomery. All who have travelled this way will know what a beautiful approach there is to the town. High hills rise up in front as if to bar the way, and the straggling little town lies half hid in the trees on

the mountain side. The road then winds away at the foot of tree-covered hills, and, though somewhat sinuous, has a fine surface. As we sped along on the straight at a good pace and then slowed round a corner, I found A just extricating himself from his machine on the ground. In avoiding some sheep, he had applied the brakes too suddenly and lost his equilibrium. We soon fixed up the damage to the great interest of a crowd of Welsh children, and then ran on to Newtown. At lunch time we had some rain, and then I punctured, a small nail having eluded the thorn-catcher. A "Holdrite" patch soon mended it, and on we went, up hill and down, by many streams and tree-clad mountains. After passing Llanidloes the road alters, and gives a chance for the men with big engines, being well engineered and mostly straight, though a bit loose in places. Mile after mile of rise taken at 30 m.p.h. overheated my engine, so I stopped and took a photograph.

But who shall tell of the free wheel down? And how a free engine scores. Kick out the clutch and away you fly! The road is perfect and speed unnoticed as the finger creeps up and up and is now at forty-five and quite steady. Then round innumerable corners, but never a sign of life—mile after mile of bleak and barren hills of loneliness and silence. At last some hotels and the turning for Devil's Bridge, but that is not our road to-day, so we keep to the right, and anon the country becomes more hospitable, trees and valleys, rivers and sunset all lie spread before us in a panorama of beauty.

The last few miles into Aberystwyth are soon covered, and who shall do that ride right through the heart of Wales and not rejoice? Beautiful and quaint Montgomery perched on the hillside with mountains waiting as it were to overwhelm it, perfect roads and weather through grand scenery, and the sensation of flying downhill with the engine "out" all combined to make us feel at peace with all the world.

Third Day.—Aberystwyth to Fishguard, 58 Miles.

We left Aberystwyth about noon and found it very warm. For sheer joy of riding and living I do not remember a day to equal this in all my experience. We were in hilly country, and riding for miles by the sea—deep blue sea and deep blue sky. Up hill with a roar and down hill in free engine and silence; the joy and exhilaration were so great that I must needs call out greeting to all and sundry whoever they might be.

In Wales and the West.—

Again my tyre went down and was cured by a new valve rubber. On through Aberayron and Cardigan, and a few miles further I stopped at a farm to ask for some cream. They filled my bottle, and when I asked "How much?" replied, "Oh, nothing." Nor would they take anything. "A" wanted to take the little girl for a ride on his carrier, but she evidently disliked the look of him, and declined. We soon found a little stream, and spread out our "encampment" and made tea.

I fitted a larger jet when we restarted so as to be ready for the hills of which we had been warned. The engine romped up all we met.

We neared Fishguard, and had been led to expect a pretty bad hill; and it was—I can vouch for that. It is called Dines, and leads into Lower Fishguard. There was a cart in the middle, and in reply to the very audible warning of my approach the driver pulled into his wrong side. This necessi-

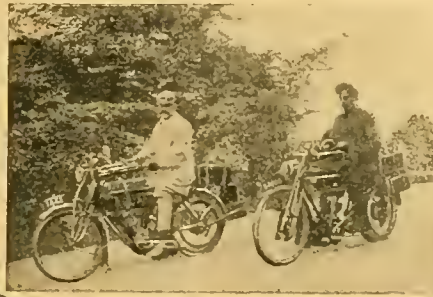
We spent the night at Fishguard and just missed seeing the *Mauritania* come in and go again.

Fourth Day.—Fishguard to Tenby, 66 Miles.

In the morning I finished patching up before going across to inspect the harbour, which impressed us as a great piece of engineering; a good deal of it having been blasted out of the granite cliffs.

We departed amid the lamentations of the people at the hotel—or at least of some of them—and soon reached St. David's, which is a very deserted looking place, whose chief feature seemed to be a large cross standing in the centre of the town. We were here to find that there were seventeen hills in the next sixteen

miles, and, without actually counting them, I am inclined to believe it! We played at switchback for a while, and stopped at the bottom of the steep hill at Newgale. A car came along and essayed to climb the hill, but failed, and tried again and again, but, in spite of smoking like a factory chimney, it could not manage



(2) At fresco luncheon near Cardigan on the third day.
(4) Ilfracombe and harbour from Hillsbro' Hill.

(1) The start from Sheffield.

(3) Which way? Rough going in South Wales.
(5) Ilfracombe from Capstone.

tated a very sharp swerve on my part to cross behind him, and my long footrest caught on the side and pitched me off on to my head, which, being hard, saved me from injury. The gradient here was 1 in 5. The damage was a broken lamp and bent footrests. As these latter carried all the brake and gear pedals it was necessary to take them all off and set to work to straighten things out. This I did with the aid of a cottage fire which I used as a forge for the nonce. "A" in the meantime making himself very popular with the children. The repair of the footrests, etc., took about four hours, as the tube had to be filed till the pedals would revolve properly. This experience would again prove the desirability of makers fitting all gear and brake controls on separate studs.

the climb. In order to show what a motor cycle could do, I just turned round to face up the hill, gave my handle a turn, the engine immediately responded, and I started on a fairly steep part, and went up to the top without an effort.

We now followed the coast for a while, and soon left the main road for Broad Haven. We were now out in the wilds indeed. Rough and curly roads about 10 feet wide, with many sharp corners and fearful hills, were the order of the day. The road was so thickly strewn with stones in places that we were glad to run on our low gears for some distance. There was never a signpost, and when we met a fork in the road we had to scour the surrounding country to find a farmhouse whence we might be directed. The photograph

In Wales and the West.—

"Which Way?" reproduced was taken hereabouts. Having lunched, we got under way once more, and soon turned on to some better roads, and got to Haverfordwest and on to Neyland, where we put our motors on the little ferryboat and were taken to Hobb's Point. We disembarked on a very steep slip-way, and some loafers wanted to "shove them" up, but we said we were not going to do anything of the sort, but were going to drive up. The man thought it was a good joke, and winked and smiled to his companions, but the smile changed to a stare of astonishment when we both set our engines buzzing, and then, engaging the low gear, went flying up with increasing speed. Twenty minutes later we were in Tenby, after a welcome improvement in road surface.

Fifth Day. — Tenby to Cardiff, 94 Miles.

This is a day that shines by contrast. As we had to be at Cardiff on the following morning to catch the boat, we had to make certain of arriving that night. The morning was dull and wet, but cleared enough for us to go over the castle hill and enjoy the views. We were altogether delighted with Tenby, and hope to renew our acquaintance at leisure.

The roads were very bad as we left, but soon improved, and after a few miles were quite dry, and enabled us to make good time. At lunch some very inquisitive cows were inspecting our machines, and I actually found one with its nose in "A's" lamp! The lunch stop proved our undoing, for, before we had quite finished, it began to rain, and then it poured in torrents. I got wet and my magneto got wet, and the engine was consequently difficult to start. We were driving in the teeth of the storm, and the South Wales coalfields are not pleasant on a wet day. We avoided Swansea by going from Morriston to Neath, with its queer gas-engine-propelled trams. Then my belt slipped, and had to be shortened, and meanwhile the magneto got wet again and the engine would not start. When a loud explosion occurred in the silence, the inevitable crowd of small boys fled in terror, greatly to "A's" amusement. Half a mile further my pulley flange unscrewed and the magneto got wet again, the rain descending in a perfect torrent.

But now follows a brighter chapter. The rain slacked off a bit, and the road became straight and level, and had been tarred for many miles. In places there is a mile, or even two, in a dead straight line, and the indicator went 30—35—40, and kept steady. Then I met "A," who had been waiting, and we did the last nineteen miles together. The road was, if possible, even better, and we let the engines "rip," and up went the pointer as before, and even a little above that, and kept steady at forty-five for several miles; then a corner and on again; on—on—on, in

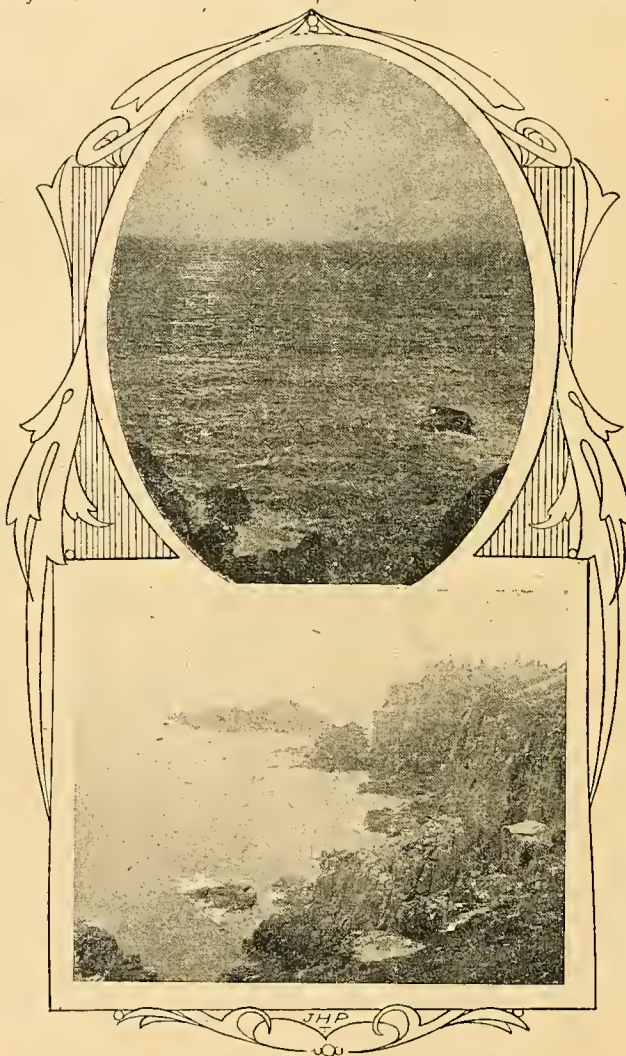
sheer joy of speed, making some atonement for past discomfort. The milestones were soon hopelessly out of count; they went from 11 to 8¼ and then to 4, and now we are in Cardiff, and a feeling of peace, innocence, and righteousness steals over me as the indicator drops to fifteen and the engine goes as sweetly as can be. The last twelve miles were done in twenty minutes, and we and the machines were mud from top to toe.

Sixth Day. — Cardiff to Ilfracombe and Porlock, 37 Miles.

It was still raining when we got up, but soon the weather improved very considerably. Our next move was to catch the 9.30 boat for Ilfracombe. This I did with a struggle. "A" wheeled his machine up the gangway on to the boat quite easily, but when I got there I found that my foot-rests were too long to go up the gangway, and there was nothing for it but to get about six men to hoist the machine on their shoulders and carry it bodily on board, I fearing every moment to see it disappear into the water. However, to my relief, it was at last safely on deck, and by and by firmly tied up to the paddle box to be

out of the way of the waves, which kept washing over the decks. The crossing was very rough and the boat pitched a good deal.

A glorious sail of about three hours brought us to Ilfracombe, and in order to get off the boat it was necessary to get our motors on to the top of the paddle box, and then, waiting for a downward movement of the ship, make a rush at the gangway (which was fortunately wide enough for me here), and then the succeeding rise of the ship shot me down on to the pier almost in a heap—quite an exciting method of disembarking, as all will admit.



Sunset at Ilfracombe, after crossing from Cardiff.
The Land's End.

In Wales and the West.

In the town we bought Devonshire cream and butter, petrol, and dough cakes, and when we talked to the man at the garage and told him where we were going he seemed quite surprised! The coast scenery is magnificent all through North Devon and Somerset, and we only regretted that we were not able to stay in that district longer. Its hills are well known. We went gingerly down into Parracombe, and stopped at the bottom of the hill. Here we met two other motor cycles, about the sixth since leaving Sheffield. One was a twin Enfield and the other a twin Minerva with two men on it—one on the carrier. They looked as if they had been through some exciting experiences!

The hill out of Parracombe presented no difficulty to two-speeded machines, and we soon arrived at the famous—or infamous—descent into Lynmouth. I don't know the actual gradient, but heard some tall stories of it! The hill certainly deserves all the bad things that have been said about it. The gradient is terrific and the surface a mass of mud and loose stones, and the last corner is a terror! Being in the unfortunate position of having no front wheel brake, I had some difficulty in getting down in safety; about the best thing to do seemed to be to lock the back wheel, keep in the soft part of the road, and slide. The next hill, Countisbury, was reported "not quite so bad," and certainly it did lack a corner comparable with the last, so under protest I agreed to try it. I let "A" start first, but passed him in a few yards as

his low gear was slipping, and then my belt slipped, and I had to get off and take a link up in the fastener. I put a stone behind my wheel to prevent the machine from running back, and made a fresh start, but accidentally stopped the engine in throttling it down, and so had to repeat the performance. Some attendant small boys were very anxious to push me up, and I was advised to get a start by a gateway a little higher up, but I determined to go from where I was, so I raced the engine a bit and put in the low gear, and the Rex took up the drive, and, though I was on the steepest part, sailed up to the top without a falter and without any acrobatic performance on my part. I walked down the hill and found "A's" low gear still slipping, so gave him a push off, and then he got up all right.

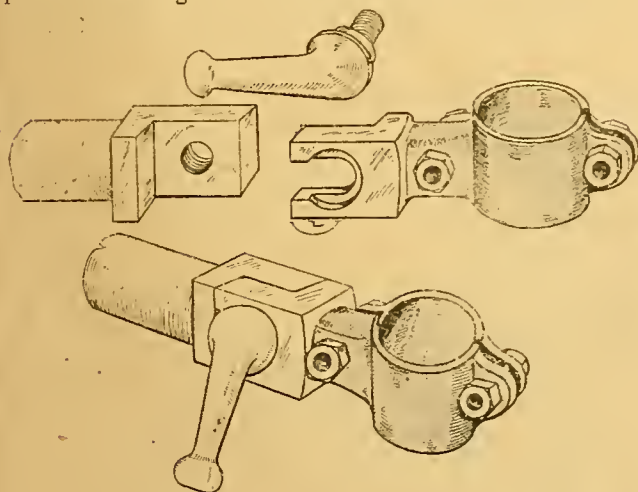
We now rode along the edge of a mighty cliff with an almost sheer drop to the sea, and stretching away into the distance was the bay and other headlands, and over all a brilliant sun—altogether a glorious sight never to be forgotten.

On the first part of Porlock "A" punctured with a stone (of which more anon). "Hurry up," I said, "and slap a patch on"; and then I found my tyre was punctured too! After mending these we went carefully down that famous and fearful descent into the charming little village of Porlock, and here we decided to stay the night, and made ourselves very comfortable.

(To be continued.)

A NEW SIDECAR FITTING.

Messrs. Maude's Motor Mart, 136, Great Portland Street, London, W., have introduced a new and instantaneously detachable sidecar fitting which we illustrate herewith. It will be noted that it is not necessary entirely to withdraw the bolt (which makes it much less liable to be lost), as there is a slot in the permanent fixing which allows it to slide out when

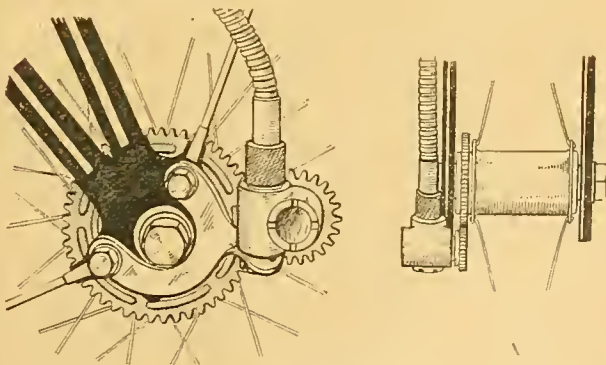


partly unscrewed. Three and a half complete turns are necessary before the boss clears the recess; it can also be screwed up by hand. Messrs. Maude intend putting this clip on all their 1912 models.

It is certainly a neat and ingenious attachment, and should make an appreciable difference in the time taken to fit or detach the sidecar.

NEAT BRACKET FOR SPEEDOMETER DRIVE.

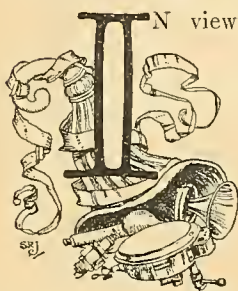
The special speedometer gear box clip illustrated was designed primarily with the object of overcoming the necessity for adjusting the gear wheels each time the front wheel was removed. It was found that when the ordinary clip was fitted to the Triumph it interfered with the method of securing the front wheel hub. Having decided where it was to be fixed, it became apparent that a stronger support could be used, with the added advantage that the operation of removing the wheel could be performed without moving



the clip or altering the adjustment of the gear driving mechanism in any way. There is no reason why all speed indicator brackets should not be designed with the same end in view, for it is an untold convenience. We noticed this fitting on Mr. D. K. Hall's machine, and the owner willingly allowed our artist to make the sketch reproduced.

FORMULÆ FOR HILL-CLIMBS.

The question of a suitable formula for motor cycle hill-climbing competitions still continues to occupy the attention of engineers and mathematicians, and it is with the object of evolving an up-to-date formula, fair to all classes of motor cycles, that we give the examples below, calculated on a number of different formulæ, together with some brief notes as to their merits.



IN view of the many hill-climbing formulæ which are at present being used, it will be interesting to apply some of them to the placing of the same men and machines in the same trial, and to ascertain what difference they make to the figure of merit and to the position (if changed) of the riders concerned.

For purposes of comparison, we will take Class 1 in the recent Coventry and Warwickshire open hill-climb at Newnham, and consider the positions of the first few riders.

The following table gives the weight of machine and rider (w), the capacity of the engine, the horse-power as given by the club's formula, the time taken to climb the hill (which was about one kilometre, or five-eighths of a mile, in length), and the approximate speed in miles per hour (v).

In possession of these fundamental figures, readers may judge for themselves which they consider the best performance, taking the h.p., weight, and pace into account:

		Engine		t .		v .	
		w .	c.c.	H.P.	secs.	m.p.h.	
$2\frac{1}{2}$	Singer	300	295	2.35	55.4	40½	
$3\frac{1}{2}$	Singer	383	499	3.76	49.8	45	
$3\frac{1}{2}$	Precision (1)	344	499	3.76	46	48½	
$3\frac{1}{2}$	Rudge	382	499	3.76	52.2	43	
$3\frac{1}{2}$	Rover	343	499	3.76	49.8	45	
$3\frac{1}{2}$	Precision (2)	333	499	3.76	48.6	46½	

Two Formulæ Give Similar Results.

The formula used in arriving at the results given below was $\frac{H.P. \times T}{W}$. This formula has been used for three

years by the Coventry Club, and is considered superior to the well-known A.C.U., or Professor Callender's, formula, $\frac{W}{C \times T}$, as the latter unduly favours the small engine propelling a heavyweight. The Coventry Club formula places a relative value on the length of the stroke, whereas the A.C.U. takes into account the cylinder capacity only; but it is a strange fact that the position of the first six remains unchanged no matter whether the Coventry Club or A.C.U. formula be used. Of course, the actual merit figures are different, and we tabulate them below to render this article complete:

Position.	Fig. of merit Coventry Club formula.			Fig. of merit A.C.U. formula.		
$2\frac{1}{2}$ Singer	4.34	...	...	545
$3\frac{1}{2}$ Singer	4.89	...	...	649
$3\frac{1}{2}$ Precision (1)	5.04	...	...	669
$3\frac{1}{2}$ Rudge	5.13	...	...	682
$3\frac{1}{2}$ Rover	5.46	...	...	724
$3\frac{1}{2}$ Precision (2)	5.58	...	...	728

If we bring in the square of the time and take $\frac{H.P. \times t^2}{W}$ as our formula, the revised placing and figures of merit will be as under:

$3\frac{1}{2}$	Precision (1)	...	...	...	...	23.19
$2\frac{1}{2}$	Singer	...	...	...	...	24.04
$3\frac{1}{2}$	Singer	...	...	...	...	24.35
$3\frac{1}{2}$	Precision (2)	...	...	...	...	26.67
$3\frac{1}{2}$	Rudge	...	...	...	...	26.85
$3\frac{1}{2}$	Rover	...	...	...	...	27.18

It will be noticed that both the Precision engines which made fastest times go up two places, the order of the other machines remaining unchanged.

The Result using a Car Formula.

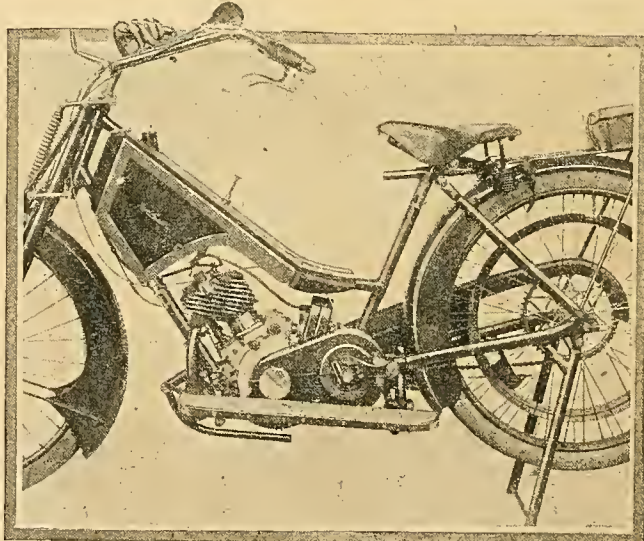
The next table we give is calculated from the car formula used by the Coventry and Warwickshire Club, the hill-climbing formula remaining as before, viz.,

		$\frac{DSN}{16} \times \frac{t}{w}$			
$3\frac{1}{2}$	Singer	...	...	...	60.78
$3\frac{1}{2}$	Precision (1)	...	...	...	62.68
$2\frac{1}{2}$	Singer	...	...	...	62.91
$3\frac{1}{2}$	Rudge	...	...	...	63.87
$3\frac{1}{2}$	Rover	...	...	...	67.87
$3\frac{1}{2}$	Precision (2)	...	...	...	68.18

It will be interesting to give a few results calculated on the supposition that the power equals the cube

		of the time, using the formula $\frac{H.P. \times t^3}{W}$			
$3\frac{1}{2}$	Precision (1)	...	...	...	1,067
$3\frac{1}{2}$	Singer	...	...	...	1,213
$3\frac{1}{2}$	Precision (2)	...	...	...	1,296
$2\frac{1}{2}$	Singer	...	...	...	1,332
$3\frac{1}{2}$	Rover	...	...	...	1,353
$3\frac{1}{2}$	Rudge	...	...	...	1,402

This formula, it will be seen, gives greater prominence to speed and less to weight. In all these formulæ the cubic capacity can be used instead of the horse-power. And as the various classes are arranged according to cubic capacity, which is easily ascertained by the formula $.7854 \times D^2 \times S$, this method has much to recommend it. (The c.c. can be found without trouble from *The Motor Cycle* Cubical Capacity



Left-hand side of the new open frame single-cylinder Enfield described on page 960 of our last issue. Observe the footboards, chain guard, and front wheel support folded under the crank case.

Formulae in Hill-climbs.—

Table, copies of which may be obtained from the offices of this journal, 3d. post free.) .7854 is a constant, and need not be introduced into a hill-climbing formula.

Our Suggested Formula.

From careful calculations and considerations of results based on the many different formulae in use, we would suggest, as *The Motor Cycle* formula for hill-climbs, $\frac{D^2 \times S \times t^2}{W}$

The air resistance (as we explained last week) varies as the *square* of the velocity, frictional resistances on lubricated surfaces vary in the case of rapid movement as the *cube* of the velocity, but the power required for lifting the weight up the hill varies directly as the velocity, so probably t^2 is the best compromise, but we should like to hear our readers' views on the matter.

The above formula is suggested for single cylinders; a fair allowance for the extra friction in multi-cylinder engines would give $\frac{D^2 \times S \times N \times .9 \times t^2}{W}$ as a suitable formula for twins, etc.

For the sake of comparison, we give the placings of the class used as an example calculated from the above formula:

	Figure of merit.
$2\frac{1}{2}$ Singer	385
$3\frac{1}{2}$ Precision (1)	392
$3\frac{1}{2}$ Singer	411
$3\frac{1}{2}$ Precision (2)	439
$3\frac{1}{2}$ Rudge	453
$3\frac{1}{2}$ Rover	460

It is interesting to note that the best figure of merit obtained at the meeting, according to the suggested formula, was made in the lightweight class by a $2\frac{3}{4}$ h.p. three-speed New Hudson, and is 366, which tends to show the advantage of a good variable gear. Another point is that these last figures are very much nearer to one another than those given by the A.C.U. formula.

A THREE DAYS' CAMPING EXPEDITION.

THE illustrations published on this page were taken during a short tour which was recently made by Mr. D. J. Gibson, of Frinton-on-Sea, Essex, with a friend in the sidecar attached to his 7 h.p. Rex.

Mr. Gibson started from Frinton on the Wednesday, and travelled through Ipswich, Cromer, Sheringham, King's Lynn, Peterborough, Cambridge, and back again through Colchester to Frinton—in all a distance of 330 miles—in three days, riding six hours a day. Each night the tourists camped on farm grounds, and on one occasion—at Cottishall—had cause to be thankful to a Mr. Field for supplying them with necessary provisions, as it was early closing day and all the shops were shut.

The rider was practically a novice, having had delivery of his machine just four days before undertaking the ride, and only once previously having mounted a motor cycle. The weather was perfect,

which, of course, was a great help to the tourists, who had no difficulty whatever in averaging the legal limit speed. A heavy load was carried throughout, comprising a tent, mackintoshes, blankets, rugs, pots and pans, etc., in addition to the passenger, and Mr Gibson says he experienced no tyre trouble and no involuntary stop of any kind—and, further, he had no cause to effect any adjustments to the working parts, which speaks well for his Rex machine and the finished method in which they are turned out of the works.



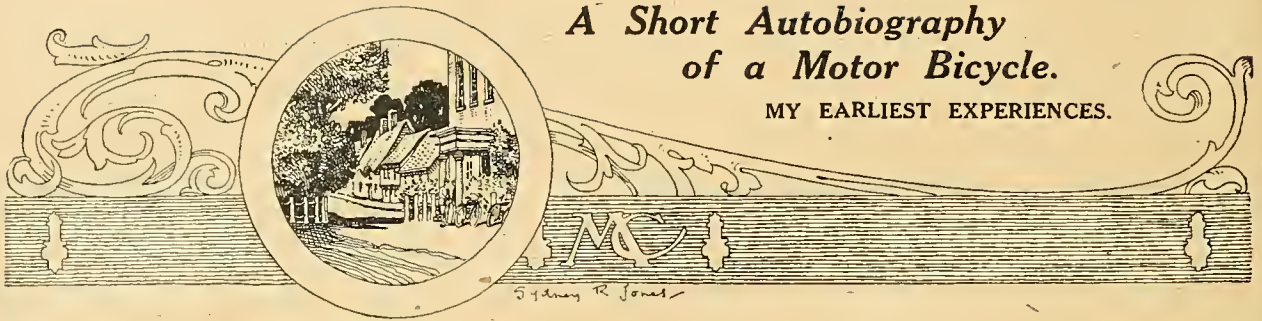
A 330 MILES TOUR IN THREE DAYS BY AN UTTER NOVICE AND HIS FRIEND.
(See accompanying letterpress.)



(1) The camp near Cottishall, Cromer.
(2) D. J. Gibson with his new 7 h.p. Twin Rex and sidecar.

A Short Autobiography of a Motor Bicycle.

MY EARLIEST EXPERIENCES.



I WAS made abroad and sent over in pieces to London, where I was put together. Never shall I forget the pride with which I first saw myself in the glass, resplendent with my long plated handle-bars and green tank, looking every inch the goddess that I was.

I was sent with some of my sisters to a large cycle shop in the City, where I was displayed in the shop window and ticketed at £32—a very low price, considering my first-class workmanship.

Days went by, and I saw my sisters sent off one by one for the summer riding, and at last I myself was carefully packed in a crate and sent off to one of the London suburbs. My owner was what they called a "City man"; at least he only took me out on Saturday afternoons and on Sundays. He treated me very well, and kept me nice and clean; but I gave him a lot of trouble with my leather belt. The number of rivets which he put into my belt was appalling, and how they did wear my pulley wheel! Then my points were always troublesome, and constantly required to be filed down and cleaned up. Punctures soon started, and finally my master got so tired of me he determined to get rid of me. I heard him tell his wife that really he could not afford both me and his baby, and so he had advertised me in a widely-read penny paper, as being for sale.

An offer soon came for me, and I was taken down to some engineering works to be tested. A good report was given of me, and after a few letters had passed, haggling over my price, I was taken up to London to be sent down by passenger train to a town on the south coast. On a dark November night I reached my destination, to be immediately put into the cloak room to be "called for." After waiting for an hour in eager expectation as to who my new master would be, I heard someone enquiring after a motor bicycle, and a young man came and claimed me. He wheeled me carefully and rather nervously out of the station and down a hill into the town to a shop. How well I got to know the inside of that shop in later days!

My New Lord and Master.

After a refreshing cup of petrol my belt was put on, and I was soon warmed up, and the owner of the shop, who did not know much about me, although he called himself an agent, gave my new master a few tips and explained my taps and wheel and brake. Then I was once more cautiously led out into the dark and through the town and on to a black stretch of open road, where I could hear the plashing of the waves on the beach.

My young master flooded the carburetter and raised my exhaust, and, pulling himself together for a desperate effort, ran me for a few yards, dropped the

exhaust lifter and leaped into the saddle. I was off at once, and shuddered as I realised by his touch that I was in the hands of an absolute novice.

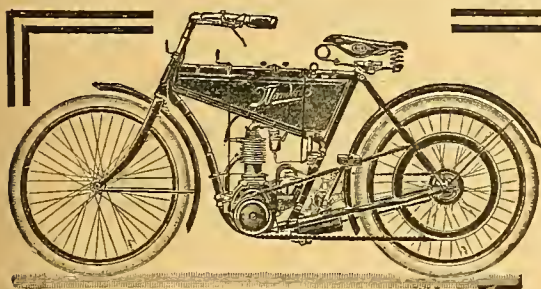
I felt my handles convulsively gripped, and I could picture my rider with a set determined face peering forward into the gloom, lighted only by one candle lamp. Four miles up and down hill and never a change of my levers, throttle full on and no extra air. How hot I got! How I knocked up a long hill of 1 in 15 with my spark so far advanced! But I really think he was much too frightened to leave go of the handle-bars, and all he dared do was to switch off and on every few minutes. How pleased I was to reach the little village where my master lived! I was put away into a shed with a sigh of relief, but was not left alone long. A small crowd of my master's friends soon appeared to look at and admire me. One of them would get on me and start me off on my stand—goodness knows I was hot enough already!—but that was a trick of his, which I soon got to know.

The Inquisitiveness of Visitors.

The next day was a Sunday, and my master took me out on the coast road for a few miles. He drove me a little better than the evening before, and prevented me from knocking my inside out up the hills.

In the afternoon I was brought out again, and one of his friends asked to be allowed to try me. With a little hesitation, permission was given, and with the permission the strict injunction to mount at once on hearing the first "teuf," as my explosions are called.

The advice was taken rather coolly and with the air of one who had nothing to learn about motor cycles. The friend wheeled me out into the village street, and with a friendly wave to my master started running me. I had not gone ten yards before I had started, and expected him to leap into the saddle. But no! he rejected all advice and waited till I got a little speed on. Fatal mistake! After the first "shot" I was off like a hound from the leash, with him running by my side, making frantic efforts to switch off on the wrong handle and to raise my exhaust with the lever of my totally useless rim brake. One desperate effort to leap on me, and then a crash. How it hurt! We rolled together in the mud, he on his back with his legs in the air, and I scraping all the nickel off my handle-bars and the paint off my tank. My master came and tenderly picked me up, hardly daring to look to see what the damage was. He twisted me straight and tried to wipe up my tears of petrol which were pouring out of a broken feed pipe. I could see that he hardly knew whether to laugh or to cry, and I think he did both. I did not look much hurt, but I knew by the pains in my carburetter that I had injured



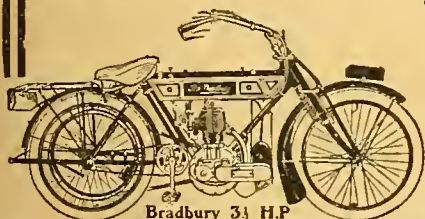
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DOUGLAS, 2½ h.p., two speeds, free engine.
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F.N., 5-6 h.p., 4-cyl.
F.N., 2½ h.p., two-speed, Lightweight.
PREMIER, 3½ h.p., Standard.
ROVER, 3½ h.p., free engine.
ZENITH-GRADUA, 3½ h.p.
ZENITH-GRADUA, 6 h.p. or 8 h.p.
And others.



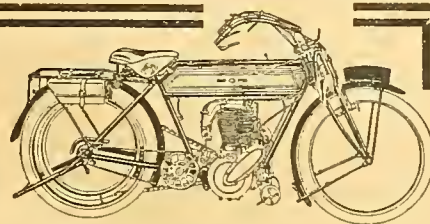
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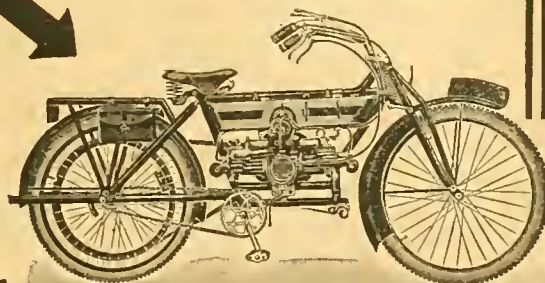


SHOP-SOILED BARGAINS.

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3½ h.p. REX Tourist	39 Gns.
3½ h.p. BRADBURY	£45 0
3½ h.p. SERVICE	40 Gns.

A FEW SECOND-HAND SELECTIONS.

103. RED INDIAN, 1910, 5-6 h.p.	£37 0
148c. N.S.U. Lightweight, 1½ h.p.	£18 0
146c. 1911 Free Engine 3½ h.p. SINGER	£45 0
140c. ARIEL, 1909, variable gear and free engine	£25 0
DOUGLAS, 1909	£23 10
797. P. & M., late 1909, overhauled and parts renewed, with a sidecar	£42 0
692. REX, Grey Speed King, 1910, 5 h.p.	£37 0
703. 1910 SCOTT, 1911 forks and improvements	£42 0
123c. 1909 3½ h.p. BAT, magneto	£27 10
1911 3½ h.p. T.T. SERVICE, Precision engine	£35 0
1911 3½ h.p. Two-speed HUMBER, excellent	£41 0



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For sidecar work it is particularly suitable, and it holds the record for non-stop performances in the A.C.U. Quarterly Trials.

The marked flexibility of the engine and the simple control render it very manageable and therefore ideal for town work.

Write for full particulars, which will be posted to you on receipt of application.

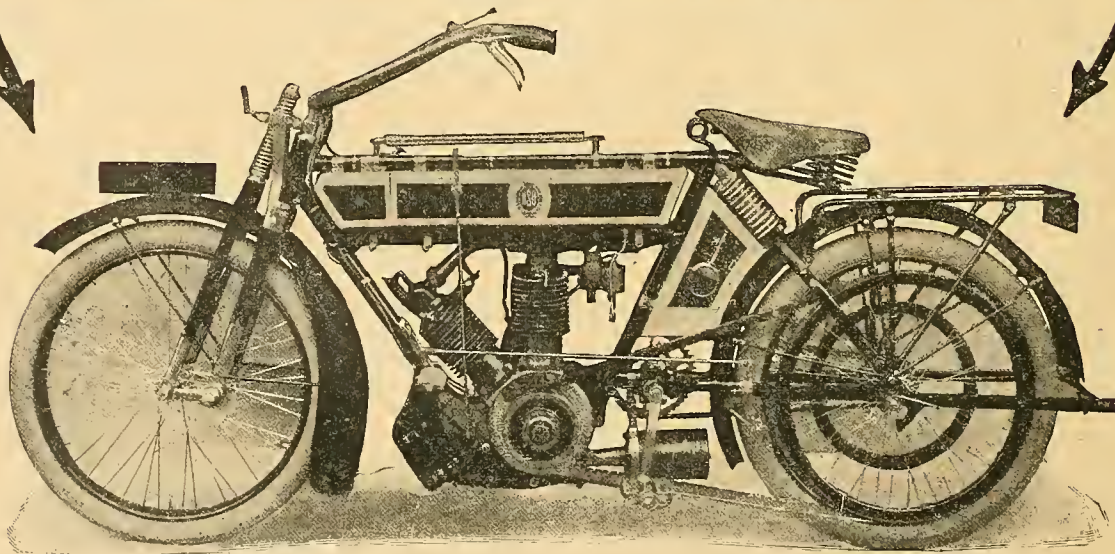
ABBREVIATED SPECIFICATION.

N.S.U. twin-cylinder engine, 796 ccm., 75×90mm., M.O.I.V., gear-driven, high-tension Bosch magneto, new type carburetter, drive by rim. "V" belt. This machine can be delivered with either a spring frame or a rigid frame, the latter where the motor cycle is intended for sidecar work. New pattern spring forks, divided mudguards, automatic spring stand, separate tanks for oil and petrol of improved design, two powerful brakes, 26in. wheels fitted with 2½in. tyres, engine clearance 5in.

This motor cycle is delivered as standard, with an adjustable pulley, but, if specified, can also be supplied fitted with our two-speed gear and free engine apparatus to the engine shaft at a small extra price. Weight, 200 lbs.

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A Short Autobiography of a Motor Bicycle.—

some vital part, and I never quite did myself justice after that accident.

My master had learnt a valuable lesson, and that was never to lend me again, even to his best friends.

Holidays and Hard Work.

A month's hard work followed. I was made to do journeys of 100 miles or more, for it must have been holiday time, as my master spent nearly the whole day with me, and with what pride he introduced me to his family, and how he boasted of my use in shopping for the household! What tricks I used to play him, too, on our shopping expeditions! Two hours in the cold one day I kept him waiting not 300 yards from my stable door. It was only an inlet valve trouble, but the whole of my carburettor was taken down and deposited in pieces on the road. I could always stop him every fifty miles regularly with my contact points until he got some really good ones, and not sham platinum that pitted frequently. But we had some good runs through different counties, and when I was in a good temper I could go as well as any other bicycle, but being a lady I was fickle!

One hundred and eighty miles was our record, with only belt trouble. But what belt trouble it was! I tore through two belts and kicked off the new one, and my master cut his finger and tore the palm of his hand over those ———, as he called them. But he would ruin my rubber belts by leaving them on all night, and this annoyed me very much. I would always crack them regularly where they left my pulley wheel. He could very easily have run the belt off every evening and on again for the morning run. The belt would have lasted twice as long, but he never realised that.

In the summer I was again taken down to the sea, and many an evening ride I used to enjoy in company with a Coventry machine with whom I could always hold my own when really in the humour.

A Late Supper and what followed.

One evening we set out for supper at a little town thirty miles off. Except for kicking my belt off three times in a mile, I was going very well. After a fine old castle had been inspected and a hill of 1 in 10 had been climbed with a standing start—I got up while my Coventry friend stuck—they stopped for supper, and started back at ten o'clock. It was very dark, but my master drove at a pace I did not quite approve, so I kicked my belt off once to show my independence. He had to stop and find it, but then in putting it on he had to lift up my brake pedal, and by mistake he left it disconnected. Having started again gaily at about eighteen miles an hour, I was going well, and in spite of the darkness and the twisting roads we met with no mishap until we came to a downhill road between two high walls. The road appeared to go straight for some distance, but, to my

horror, I saw a right angle turn with a low and villainous looking stone wall full in front of us. My master saw it as soon as I did and hastily put his foot on the brake, which was futile, and we careered to our ruin. There was no hope; it was impossible for my master to steer me round the corner, and so with a "Good luck, old girl," he slipped off behind and I dashed on, resigned to my fate. The agony I felt as I dashed madly into that wall I cannot describe. I plunged up a bank which guarded the wall, and with a supreme effort managed to twist my head away from the wall and so fell over on my side. There I lay, with my handle-bars looking round at the tank. Fortune was with me in the shape of a pair of foot-rests, one of which was twisted round my engine and had broken my fall. How I blessed my master for fitting them on, although he never used them. It was only five minutes before we got started again, and we reached home safely, but I felt very shaken. My master was very tender and kind to me, and made everything very comfortable.

My Third and Worst Mishap.

That was my second accident, and my third, which I was expecting—being a woman I am superstitious—came very soon, and proved the worst of all. It was very near my master's holiday—at least he was planning a long tour up North, and was wondering to himself where he and I would be in two days' time. Much trouble was spent on me, and I blush to confess to being painted. Thoroughly cleaned out, and fortified with copious draughts of refreshing oil, that evening my master proudly took me out for a mile or so to try some new arrangement of my dress which he called a new adjustment. We ran quietly through the village—where I was pleased to see that I attracted some attention—and up a side street on to the main road. As we turned the corner I saw a car coming very fast down the hill. We had time to cross the road, and my master steered me steadily to his proper side, thinking the car would, of course, slow down. But it was travelling too fast for the brakes to hold, and with a loud report of bursting tyres it crashed into us.

Ordered Abroad.

I was picked up from under the car in pieces, a battered, unrecognisable shape. Some kind friend—I recognised him as the rider who would not mount at once as he was told—picked me up and laid me by the road side, where I could watch the crowd that had gathered round my poor master.

I was laid up many days and weeks after this, and my master too. He thought we should never get on together again so well, and so we parted. I was always very groggy after this, and the convalescent home to which I was sent in London thought it would be better for me to try my luck with a new master in China or Peru, where my age and the marks of my chequered life would not be so easily detected.

TWO DAYS' RELIABILITY TRIAL IN THE NORTH.

A two days' open reliability trial is being organised by the Liverpool Auto Cycle Club on October 7th and 8th. We are told that it will be held under A.C.U. special permission, and it is the first open competition in the Liverpool district. Already some thirty local motor cyclists have promised their support, and as

soon as the A.C.U. permit is received entry forms will be issued. A fifty guinea challenge cup has been presented to the club, which will be awarded as first prize. The hon. sec. is Mr. Lionel W. Barton, Bee Hotel, St. John's Lane, Liverpool, from whom all information may be obtained.

LETTERS EDITOR

TO THE

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

A New Design of Passenger Machine.

[5886.]-While riding my machine recently along the road between Hinckley and Nuneaton (Warwickshire), I noticed a most extraordinary contrivance approaching. As it passed I saw that it was a two-wheeled vehicle, the front part being like a motor bicycle, but where the saddle should have been there was a seat on either side of the machine, and again where the carrier should be there was another seat in the centre. It held three people altogether, a man and two ladies (the man driving from the right-hand seat). If any readers have seen this curious machine I should like to know what it was.

J. A. W. BOURNE.

The Terrors of Sutton Bank. Are they Exaggerated?

[5887.]-Having seen in the motor cycle press a great deal about "The Terrors of Sutton Bank," three members of our club—the Westmorland M.C.C.—myself included, determined to see for ourselves, and the other day we did so. The candid opinions of the three who tried it all agree that, as a hill, it is no class, and if the surface was decent it would do for a tricky speed trial.

We all three lowered our gears, and, without waiting for engines to cool, got up quite easily first attempt. Two of us had never seen the hill before, and are not impressed with it. Let some of the Sutton Hillers come over to Westmorland and try Kirkstone Pass from Ambleside—if they don't agree that it knocks Sutton Bank hollow I am very much mistaken—and we have a few other hills, Red Bank, Grasmere, Underbarrow, Scar, and Brigsteer Brow, etc. The three who conquered Sutton rode T.T. Triumph, Rudge, and Touring Triumph.

EC 513.

Military Motor Cyclists.

[5888.]-May I take up a small space in your paper with a few remarks upon the military motor cycling notes by "Celeriter" in your issue of September 7th.

Although, as "Celeriter" tells us, there are no manoeuvres this year as regards the army as a whole, still civilian motor cyclists are needed. Several were required for duty at Lewes on the 11th inst. (but were cancelled on the same day), whilst several more were also required at Aldershot on Sunday evening, September 17th, for a week.

This is the third year that I have been in a position to organise a number of motor cyclists for military work in connection with one of the largest motor associations of this country, and my experience is that, so far from any "strike" of motor cyclists, such as contemplated by "Celeriter," the number of those willing and anxious to serve as despatch carriers on manoeuvres grows bigger every year; probably because motor cyclists generally do not know what excessively hard work is, and what risks are run by those who take part.

The number of damaged motor cycles last year was enormous, and 6s. 6d. per day for petrol and oil—there being no pay—although it sounds generous enough, is, in reality, quite insufficient to cover the damage, and wear and tear, of a week on manoeuvres; and this is in spite of the fact that several riders were men in the motor cycle trade who would naturally take the utmost care of their machines.

It certainly seems extraordinary that the War Department should be content to employ men who are under no discipline, and who, if the weather were unfavourable (the last two years have been extremely fine as regards weather), could simply go home and leave the dispatches to carry themselves, and it is of the utmost importance for the good of the country and its adequate defence that a properly organised and armed corps of dispatch riders should be

formed, whose machines should be also properly insured by the War Department.

It is much to the credit of civilian riders that so many should have been found to give their services, still nearly all of those with whom I have come into contact have felt that on many manoeuvres they were decidedly "out of it" through not being military, and that, although they enjoyed seeing the manoeuvres, they were merely telegraph boys after all, with the addition of considerable risk and danger to themselves and their machines.

A RETIRED REGULAR OFFICER.

Sidecars and Change-speed Gears.

[5889.]-The photograph herewith is of my eldest boy aged fifteen on a 7 h.p. two-speed Indian with Millford sidecar, and was snapped on Newcastle Quay.

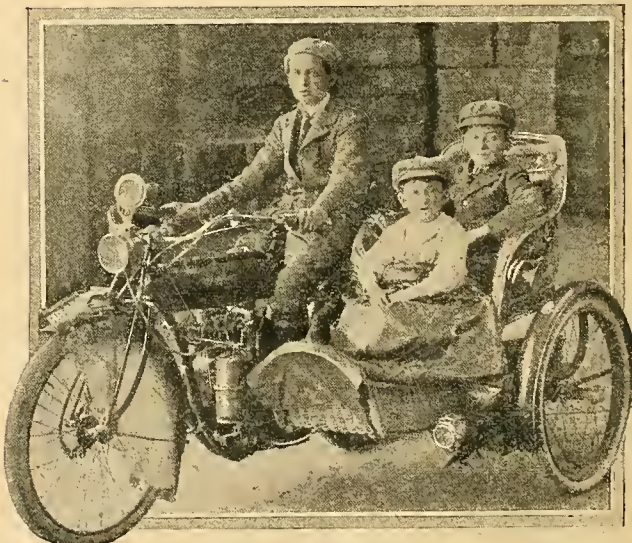
He is particularly keen on this "Indian" (he has a 2½ h.p. New Hudson himself), and out of the 7,000 miles it has done since I got it last March, he has driven it well over 2,000 of them, and can dismember, clean, and adjust any part of it. I always let him do the cleaning of cylinder heads, valves, carburetter, repair and replacing of tyres, tubes, etc. He drove me in one day (mostly raining) from Shap to Leyland (near Preston), and home *via* Blackburn, Clitheroe, Skipton, Ilkley, Harrogate to Newcastle, about 240 miles. I was not once in the saddle that day.

My "Indian" generally carries four of us, my wife and I, one boy age eleven on the carrier, and the other age six on a seat between his mother's knees in the sidecar, luggage and a two gallon tin of petrol.

In this way we went from Newcastle to London and back, in two days going and same time for return.

At 7,000 miles by the Cowey speedometer the engine is as sweet as ever it has been, and the machine generally is in perfect working order. There have, of course, been the usual sundry repairs and renewals due to ordinary or perhaps in this case extraordinary wear and tear.

W. B. ELLIS.



A fifteen year old driver of a 7 h.p. Indian and sidecar. (See accompanying letter.)

The Spider Quad.

[5890].—May we be allowed to correct a paragraph in the very interesting criticism of "Mug-wump M.D." It referred to our misadventure in the trials. Our dog clutch did not break—in fact, we believe that such an accident would be quite impossible. If a dog clutch is fitted without a friction clutch, it would be useless, but, as "Mug-wump" is no doubt aware, every first-class car, with the exception of the Lanchester, is now fitted with a dog clutch for its direct top drive. Our dog clutches are made large enough to stand any possible strain, and this form of drive is more simple and far more efficient than an epicyclic gear can be, and quite easy for a novice. Perhaps it will interest your readers, some of whom have so kindly taken an interest in our little car, to know what actually happened at the trials. The breakage was in the propeller-shaft from the engine to the gear box, which was built up out of a length of tube, and two end pieces which were pegged and brazed. The shaft so built was sufficiently strong for our one seater, but not for our two seater—at least on the Yorkshire Moors. We need hardly say that since the trials we have altered this part of our machine, and the accident will not recur. May we add that this is one example of the enormous value of these trials in the development of any new machine. The experience gained by them is not only useful, but absolutely necessary.

Before a machine is put on the market, it must be thoroughly tested, and these official trials are infinitely more valuable than any private trials can possibly be. No wise maker will shirk these trials because he feels that so severe a test may reveal defects. We have entered our runabouts for all the more important events, and, though we have not always won a gold medal (we have had our share), we have always gained what is still more valuable—experience which has enabled us to detect faults and to make improvements.

MORGAN AND CO.

Which is the Stiffest Reliability Trial?

[5891].—With reference to "Ixion's" remarks *re* Six Days' Trials, I am of the same opinion as he, that the Scottish Trials of 1910 were the severest which have ever been held for motor cycles, and having been a competitor in both, viz., Scottish Trials in 1910 and A.C.U. Harrogate Trials of 1911. I think I am justified in giving an opinion. I consider every credit is due to the Edinburgh Motor Cycle Club for the manner in which it conducted the trial and the judging of the machines at the end of the trial far exceeded in scrutiny and carefulness those of the A.C.U. just terminated.

Furthermore, I can thoroughly endorse "Ixion's" remarks with regard to the awards and gold medals given in the Six Days' Trials of the A.C.U. this year.

I should like to see a six days' trial carried out next year on the principle of toolbags to be sealed, competitors only being allowed to carry a tyre repair outfit and a set of levers. The accomplishment of this trial no doubt appears to be a difficult one, but I think it could easily be overcome by several official cars riding amongst the competitors, one car to leave the starting point each day fifteen minutes after the last competitor leaves. The principle of the trial would be on the "knock out" principle—i.e., should a competitor have a mechanical stop of any description, which he was unable to remedy without tools, he should be allowed to break open his toolbag, use his tools to put matters right, and then proceed to the point of starting of the day's run, to report, and take no further part in the trial. I do not consider it would be necessary to have a big mileage every day, say 100 miles, including several severe hills each day.

A trial of this description would be a far better test of reliability of the present-day motor cycle than those at present carried out. Machines would, of course, have to be standard in every respect, e.g., no two plugs fitted into one cylinder and such like fittings; then at the end of the trial, those machines which finish to be placed at the disposal of the judges for one week, to be thoroughly examined throughout.

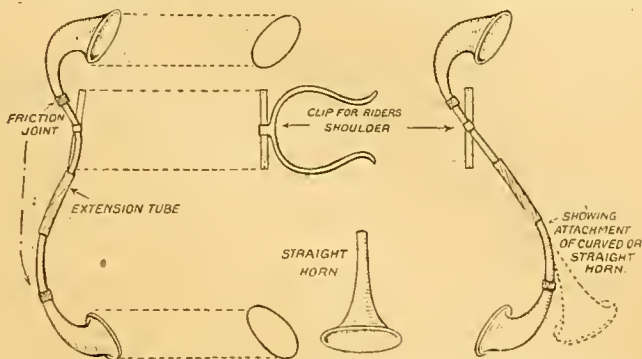
I would suggest a course similar to the trials which we have just had, but competitors not to be allowed to cool their engines at the bottom of each hill, but to make a straight away ascent, and the hills to be observed not to be mentioned.

W. PRATT.

The Latest—A Speaking Tube for Tandem-seated Machines.

[5892].—I have oftentimes noticed and experienced the difficulty with which riders in tandem (whether on a car, tricar, or motor cycle) have of conversing one with the other.

May I bring forward an idea of mine which will, I think, obviate this?



As you will see by the enclosed sketches, it is a speaking tube of light metal, which clips on to the shoulder of the foremost rider. The horn ends can be turned in any direction, and can be extended. Conversation can be carried on quite easily, and it does not obstruct the view. It is protected.

ERNEST W. CLEGG.

Scorching.

[5893].—It is curious how seldom people take the trouble to notice exactly what is asserted in a controversial letter or article. If Mr. Hart-Davies reads my criticisms of the End-to-end record, he will notice that there is not one single aspersion on his own riding. I did not assist or follow him, and am therefore left to speculate from what I know of his ordinary riding, and from his lectures and newspaper articles. I have always believed that if any rider in England could be trusted to average 30 or 35 m.p.h. without endangering the public, that rider was Mr. Hart-Davies. But I did not tackle the question of these record rides in special relation to any individual. It is common knowledge that over thirty attempts were made within a single season not long ago, and several of the aspirants were totally unfitted for the job. I adhere to every word I said upon the general question, while I certainly admit that Mr. Hart-Davies could be trusted to reduce the risk to the minimum. Even thus I do not think Mr. Hart-Davies can absolutely eliminate risk, though I am sure he would rather run into a wall than collide with a member of the public. Mr. Hart-Davies lectured on his first record ride in Northampton by my invitation, and I happen to remember two statements in his lecture which show that even with a superb rider on the job risk is not wholly eliminated. He described a pretty lurid mix-up between himself and his followers round a blind corner, which the clump of them misjudged in the dark; and he concluded by saying that whether his existing figures were beaten or not, he should not essay the ride again, because "the risks were too great." Whether he meant risks to himself and his followers, or to the public, I leave him to explain. In either case his statement justifies the A.C.U. policy.

I believe that what is really irritating Messrs. Hart-Davies, Hugh Gibson, and Co. is the feeling that there is a cloud of hypocrisy overshadowing the R.A.C. and A.C.U., in that these bodies condemn speed feats in their corporate capacity, while their individual members frequently exceed the speed limit in their private capacities. The contentions of my last article show that there is a basic difference between a brief voluntary speed burst and a sustained speed burst rendered compulsory by the attraction of smashing a record. Here is an illustration. Up to date Mr. Hart-Davies has been able to minimise risks by perfect organisation, by good luck, and by thorough training. Somebody may presently put up a new record and average, say, 38 m.p.h. from End-to-end. Mr. Hart-Davies, if we may judge him by his former protestations, would probably have a third smack at the record, and might reach Exeter five minutes ahead of record, well fed, not at all tired, and very fit. On the other hand, he might reach Exeter a trifle behind record, and exhausted. One bad spill, one small failure

in his feeding arrangements, or a small miscalculation of his stamina, and he would reach Exeter in a condition which would render perseverance highly dangerous to himself and to the public. But it is more than doubtful whether he would abandon the ride so long as he could sit in his saddle and see even an outside chance of success.

B. H. DAVIES.

Business Methods. The Other Side.

[5894].—I see so many letters blaming firms for neglect and delay in delivery of spare parts that I feel I should like to give the Premier Cycle Co. a little praise in this direction. I wrote for a spare part that had to be specially made (my machine being an old one). I received same within a week, and the invoice enclosed was only 7d., including postage. Had the job been one of the most profitable—instead of what I feel must have been a humbug—I could not have been better treated.

BLACKPOOL.

[5895].—I am desirous, and shall be pleased if you will permit me, through the medium of your valuable publication, to pay a tribute to the firm of Messrs. Nye and Co., Leather Lane, and Gray's Inn Road, London.

For some considerable time I have had business dealings with this firm. I have confidence in them, and can honestly recommend them to any prospective purchasers of new or second-hand machines as a thoroughly reliable and fair dealing concern. Perhaps it is needless to state that I have no interest whatsoever in their business, being just a thoroughly well satisfied customer.

At the same time, I should like to speak in praise of the Service belt, purchased from the Service Co. of High Holborn. It has pulled my Triumph and sidecar for over 3,000 miles, and appears to be good for a long while yet. One of its chief features is the absence of slip in wet weather.

L. J. L. PULLAR.

The Quality of Modern Tyres.

[5896].—I thoroughly endorse the statement of your correspondent [5841] that motor bicycles are under-tyred.

The tyres are not nearly strong enough for the back wheel, especially when carrying luggage.

If manufacturers would realise that most people are quite prepared to pay more for a really reliable tyre there might be some improvement, but the ultimate solution will, probably, be found in a tyre constructed on different lines from those at present in use.

F. G. TALBOT.

[5897].—I was very surprised on reading letter 5885 to find the abnormal wear of tyres of the writer's machine, namely, only 800 miles per cover. Perhaps my experience as well will be of interest as a contrast. Machine, 1911 Triumph and rigid sidecar; tyres, ordinary Clincher studded on back and front wheels, Dunlop on sidecar. Total distance to date 2,838 miles, made up of rides all over Devon and Cornwall, average speed always from eighteen to twenty miles an hour, weight of passenger and driver always over twenty-one stone.

The Clincher on back wheel was not touched for 1,848 miles, when it was changed with the sidecar tyre. The Dunlop has now done 900 miles on back wheel, and the side studs are still quite visible. The front Clincher is in splendid condition. Have only had two punctures, nail catchers being fitted over each tyre. I am certain these same tyres will run for quite another 1,000 miles, when I shall have one retreaded for back wheel only.

C. C. WILSON.

[5898].—The various letters re faulty motor cycle tyres, particularly one in your issue of September 14th, by G. C. Pohlmann, leaves me to wonder if any of your correspondents have ever tried a Clincher Dreadnought. (Please do not imagine I am a commission agent for the makers of this tyre.) My experience with it proves that at least one make of tyre can claim suitability for its purpose. I have used the Clincher Studded Dreadnought on the rear wheel of my big four for approximately 3,000 miles, 1,300 of which were done with sidecar, including some fast work, and on several occasions with very heavy load. The tyre has been through to the last day of the Scottish Six Days' Trials, and with the sidecar from Birmingham to the Land's End and back, and whilst I cannot say that "it shows not the slightest cut

or sign of wear," which seems a favourite quotation in tyre testimonials, yet I must express my entire satisfaction with it. I have not had a moment's trouble with the cover. The tread is certainly worn smooth, but the fabric is in perfect condition—apparently as good as new. Not included in above mileage are many short runs with and without sidecar. Nevertheless I consider the cover with a new tread will be good for, at least, another 2,000 miles. Whilst complaints are so rife, I think a little appreciation not out of place.

JAS. L. NORTON.

Spring Forks.

[5899].—On the letter [No. 5875] signed "Engineer" appearing in last week's issue of your valuable paper, I see a question about the working of my new pattern spring fork, an illustration of which you published on the 31st ult. I am pleased in reply to "Engineer" to say that if the fork is made exactly as I have designed there is no danger of the front wheel fouling the top of the forks, and no risk of the lower mudguard touching the frame when the wheel is pushed backwards.

The wheel can move upwards, backwards, and forwards, and springs will absorb any kind of severe jar and engine vibration.

H. LANZEROTH.

Accident at the New Brighton Track. An Eye-witness's Impressions.

[5900].—Will you please allow me to say a few words in connection with the deplorable accident at the above track, as possibly I have had more experience of this track than anyone else? I wish particularly to take exception to your statement that the engine sizes ought to be limited after this accident, for what has the accident to do with engine capacity? At the time of the accident I do not consider Mr. Henshaw was doing more than 42 m.p.h., and as I hold the record for the track at 57 m.p.h. it is obvious the track is quite safe at that speed. Now we all know that nearly every lightweight is able to do well over 40 m.p.h., and only recently we have heard of several attaining 60 m.p.h. The true cause of the accident has nothing to do with the speed or power of the engine, but was due to Mr. Henshaw not confining his attention to the track.

I may say that New Brighton track is a slow one, as a single that will do over 60 m.p.h. on the straight will not touch more than 52 m.p.h. on the track.

E. F. BAXTER.

Sunday Competitions.

[5901].—On Sunday, the 3rd inst., whilst riding to Monmouth I suddenly ran into a hill-climb which was being held on the Crosshands Hill situate between Usk and Raglan. I need scarcely say I was very much astonished and disgusted. The hill in question is on one of the main roads of Monmouthshire, it is crossed at right angles at the point where the competitors would be going fastest by another much used road, and further the day was Sunday. Such conduct can only serve to bring our sport into disrepute, and if this climb was held under the auspices of any club (which I believe was the case) it ought to be severely censured.

COMMONSENSE.

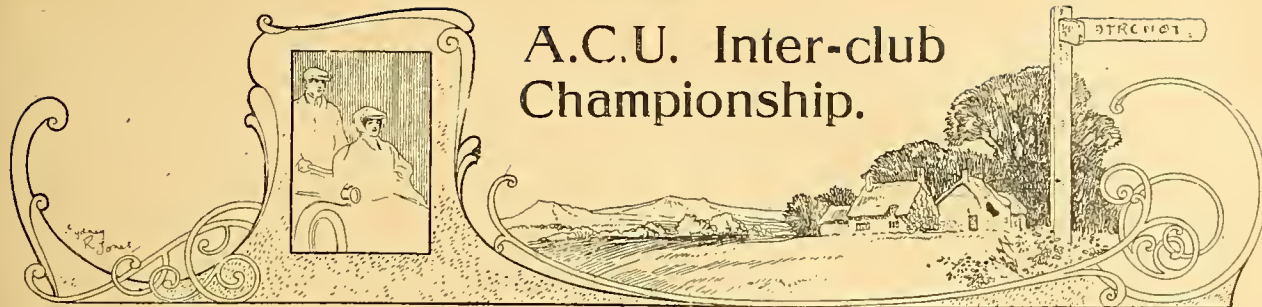
Silence.

[5902].—I fail to see that your correspondent "Open Exhaustion" (albeit he rides a fast lightweight, and despite his assertion that he annoys no one) will further the gospel of the Anti-cut-out Mission by his lurid and somewhat hysterical tirade.

His parallel of an open exhaust and a prehistoric savage howling in the tree-tops is pretty, but the analogy is hardly convincing.

I have heard of engines which develop more power under an open exhaust, and I have even heard of motor cyclists closing their cut-outs in villages and towns and when passing horses; but as for the man who "whizzes like a gatling gun" under your correspondent's window (have you, sir, ever seen, or heard, a gatling gun "whizz"? it is a most impressive sight, or sound)—why he should necessarily be a "brainless bounder" or a "moral imbecile," I cannot quite follow. Nor can my stunted reasoning power grasp the reason why in order to ride an open exhaust one need wear "quaint attire," or carry a representation of a "wailing babe" or a trodden-on dog.

ARTHUR M. C. SCOTT.



A.C.U. Inter-club Championship.

SATURDAY'S A.C.U. inter-club championship proved a great deal more successful than last year's event, both in the matter of entries and organisation. This year there were teams of six representing nine different clubs, compared with last year's total of three clubs. The course was much more severe than the one selected in Derbyshire last September, being mostly over Warwickshire roads, and including four ascents of the famous Edge Hill, near Kington. To render the hill-climbing test still more severe marks were awarded for slow ascents, so that riders of change-speed geared machines were at a decided advantage.

After the course had been announced and the numbers and route cards distributed at the Red Lion Hotel, Banbury, a prompt start was made at 9 a.m. from the Cross at Banbury in fine weather, competitors representing different clubs being despatched in trios by Messrs. J. W. G. Brooker, H. Synyer, and H. P. Beasley.

Four circuits of a forty-two miles course had to be covered at a speed of twenty miles per hour, and the route was as follows: Drayton, Wroxton, descending Sunrising Hill, Pillerton Priors, Ettington, Stratford-on-Avon (20 miles), Tiddington, Wellesbourne, Kington, Edge Hill (slow test $3\frac{1}{4}$ miles), Wroxton, Drayton, and Banbury.

Performances on the Test Hill.

There was little of incident on the first circuit until Edge Hill was reached, and at once the process of thinning the ranks was commenced. The timekeepers were Messrs. F. Straight and A. G. Reynolds. Geo. Hill (Wolverhampton) punctured at the hill foot; A. H. Gutteridge (Herts County) and E. A. Gorton (Coventry) stopped on the 1 in 7 gradient owing to their belts slipping. H. J. Pooley (N.W. London) stopped on the first steep pitch, and was later seen being towed into Banbury behind a carrier's cart.

Quite a number of the passenger machines failed on the test hill. T. F. Cooke (Wolverhampton) found the gradient too steep for his Scott and side-car, and on the next three ascents shed his passenger near the hill foot and continued *solus*. This practice was also adopted by A. C. Seale (Chesterfield) with his Bradbury and N.S.U. gear. Alan Hill (Coventry) conked to a standstill near the summit, and again later in the day, but made two creditable ascents on his Rudge, which was the smallest engine on a passenger machine in the trial. Having mentioned the majority of the failures we may refer to one or two of the especially good performances on the hill, and before doing so may remind readers

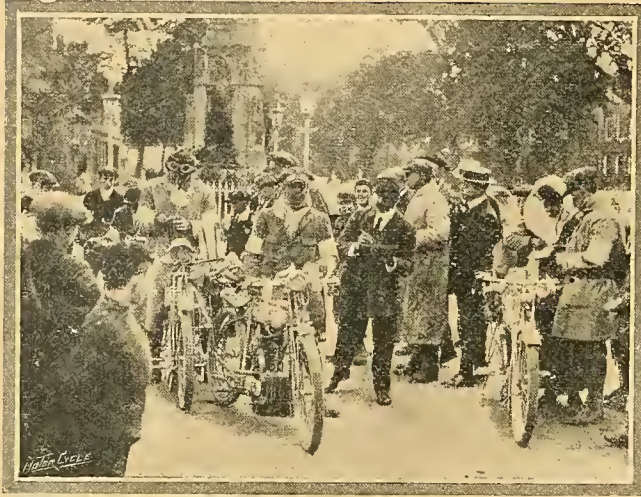
that two years ago it was the exception rather than the rule for $3\frac{1}{2}$ h.p. machines to climb the hill with touring gears, yet nowadays riders may toy with the hill and take liberties with the engine undreamt of in those days.

The most impressive ascents were made by the Charley's Aunt of motor cycling—Sam Wright (Coventry), who has non-stopped in every reliability trial he has entered. His two-speed $3\frac{1}{2}$ Humber literally crawled all the way on the low gear with the throttle only a quarter open until it appeared almost difficult to balance the machine. His slowest official time was 4m. 32s. for the measured stretch of three-quarters of a mile, equal to 9.93 m.p.h. He was, in fact, so slow that he had to race to the turning point



The restart from Banbury Cross after the luncheon interval.

A.C.U. Inter-club Championship.—



THE STARTING POINT, WITH THE FAMOUS BANBURY CROSS
IN THE BACKGROUND.

On the right Mrs. Cooke is seen verifying Mr. Cooke's watch. On the left is C. S. Burney (Rudge), and in the centre P. Weatherill (3½ Zenith), all non-stop competitors.

where the timekeeper was stationed. R. W. Duke (Birmingham) created some amusement by chaffing Wright as they crawled up, and he was so anxious to reduce the pace of his Zenith to that of Wright's Humber geared 5 and 10 to 1, that he came to a standstill altogether. Another of the Birmingham team—H. D. Jones, the exhaust of whose engine blew direct on to the ground, raising clouds of dust—followed Duke's example. The ascents of R. H.

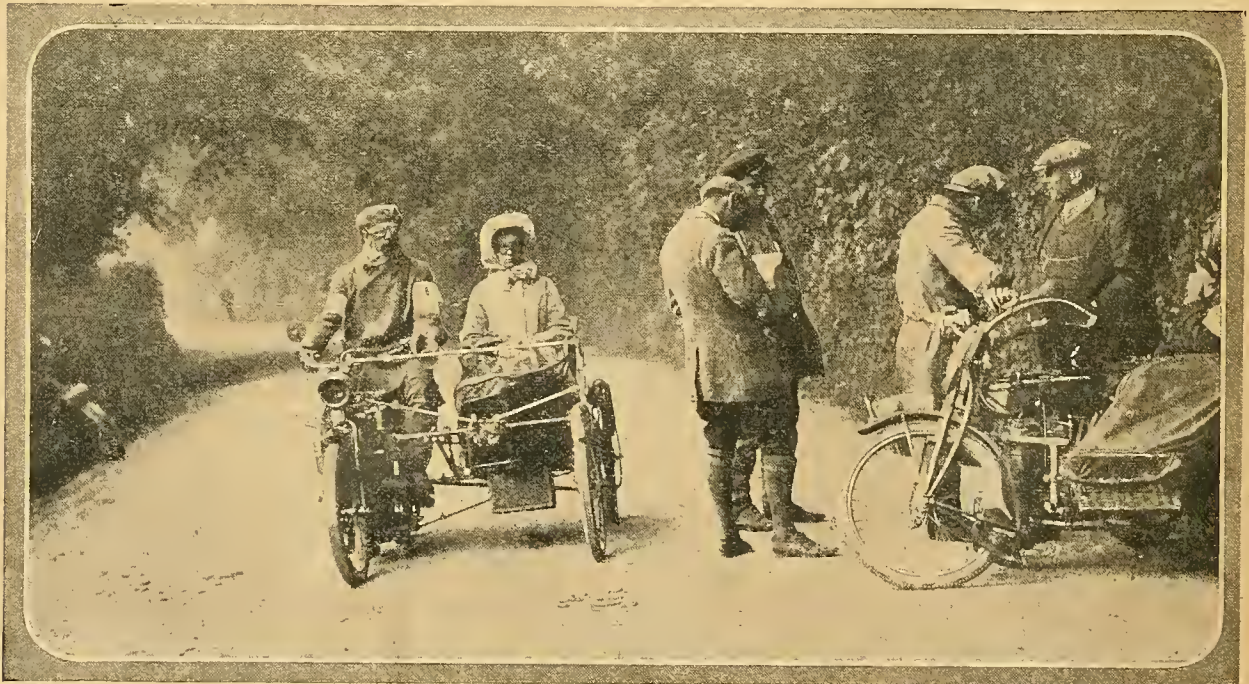
Viggers (Oxford), A. J. Stevens and P. J. Evans (Birmingham) were much admired by the crowd collected on the hill, which increased in proportions as time went on. F. W. Barnes and P. Weatherill (Streatham) manipulated their Gradua gears to advantage, Rice Pyle (Herts County) made four clean ascents, as also H. F. S. Morgan (Oxford). E. B. Ware (Streatham) was perhaps slowest of all on his three-speed Chater-Lea sidecar, for Harold Karslake walked alongside and chatted for part of the way up. Of the single-gear machines R. G. Mundy's Triumph geared 5½ to 1 pulled steadily but surely to the summit at a speed of approximately 15 m.p.h., G. Smith (Coventry) and S. T. Tessier (Streatham) being only a few seconds faster. Most of the riders of single-gear machines dared not take liberties with their engines for fear of failure, and got up as best they could; others tried to go too slowly and suffered the humiliating experience of conking to a standstill.

The Mid-day Interval.

At the end of the second circuit there was a stop of an hour for lunch, and many were the grumbles that no halt had been arranged on the morning's run of 84 miles (4¼ hours); indeed, this utter neglect on the part of the A.C.U. officials led to many disgraceful scenes upon which we need not dwell. There was much consternation when it became known that not a single complete team had accomplished non-stop runs even at the half distance.

The Monotony of the Trial.

Resuming in the afternoon, the course was taken in the same direction, but why, oh why, were not the riders despatched in the reverse way at half distance? As so much had been made of the secret course, we



SCENE NEAR THE SUMMIT OF EDGE HILL.

Dr. B. Fawcett (8 h.p. Chater Lea and Lowen sidecar), passing Alan Hill, who had stopped at this point, the gradient being 1 in 7.

A.C.U. Inter-club Championship.—



Two competitors arrive at Banbury together for lunch. L. Smith, Chesterfield (Bradbury), followed by A. Elson, Coventry (Triumph).

should have thought that this course would have immediately suggested itself to the organising body. It would have been greatly appreciated by the competitors, who were thoroughly bored by the monotony of travelling over the same roads four times during the day. Besides, the ascent of Sunrising would have been an interesting and instructive change, and would have helped considerably in the weeding out process.

Mechanical troubles were exceedingly few, the most serious being a burst cylinder head; punctures, of course, were very much in evidence. E. B. Ware had five, took nearly two hours to remove the back wheel and fit a new tube, and therefore retired. Dr. B. Fawsett, who made three very pretty ascents of Edge Hill on his 8 h.p. Chater-Lea and Lowen two-wheeled sidecar, was obliged to shed his passenger on the last run up, which increased the Birmingham riders' failures on the test hill to four. S. T. Tessier stopped with a sooted plug. Several riders ran off the course, one party (Cooke, Blumfield, and Tonks) finding themselves at the top of Edge Hill ninety minutes before they were due. It should, however, be mentioned that the route was excellently marked; further cards denoting intervals of five miles.

The Finish in Semi-darkness.

A goodly crowd had collected in Banbury to witness the finish, and by the time the tail-end of the procession arrived it was almost dark. Turning to the results, it must be confessed that the demonstration of reliability was disappointing. No team finished with a clean score—in fact, the winners—the Oxford M.C.C. team—suffered three involuntary stops, the Coventry and Warwickshire M.C. (second) four, and the Birmingham M.C.C. (third) six. Two teams could not even boast a non-stop run among them. In arriving at the results, marks were awarded for slow ascents of the hill, and deductions were made for every minute a competitor was early or late at the checking stations. The Oxford team, whose win, by the way, proved most popular, won on reliability. Their total marks for regular running and hill-climbing were not quite so good collec-

tively as the Coventry team, who were the holders of the cup. The new club champions had five amateurs in their team.

The individual performances of the first three teams are tabulated hereunder, and those riders who accomplished non-stop runs are marked accordingly.

WINNERS OF THE CUP AND GOLD MEDALS.

OXFORD M.C.C.

H. S. Askew ($3\frac{1}{2}$ h.p. Triumph), non-stop.
W. A. Matthews ($3\frac{1}{2}$ h.p. Triumph), non-stop.
H. G. Hill ($3\frac{1}{2}$ h.p. Bradbury), non-stop.
H. F. S. Morgan (8 h.p. Morgan Runabout), non-stop.
R. H. Viggers ($2\frac{3}{4}$ h.p. two-speed Enfield), one puncture.
Jas. E. Webb ($3\frac{1}{2}$ h.p. Triumph), two stops, test hill, and puncture.

SECOND.—SILVER MEDAL WINNERS.

COVENTRY AND WARWICKSHIRE M.C.

A. Elson ($3\frac{1}{2}$ h.p. Triumph), non-stop.
Sam Wright ($3\frac{1}{2}$ h.p. two-speed Humber), non-stop.
Geoffrey Smith ($3\frac{1}{2}$ h.p. Triumph), non-stop.
C. S. Burney ($3\frac{1}{2}$ h.p. six-speed Rudge), non-stop.
E. A. Gorton (7 h.p. Rex), two stops, test hill, and puncture.
Alan Hill ($3\frac{1}{2}$ h.p. Rudge and sidecar), two stops on test hill.

THIRD.—BRONZE MEDAL WINNERS.

BIRMINGHAM M.C.

A. J. Stevens ($2\frac{1}{2}$ h.p. two-speed A.J.S.), non-stop.
T. Pollock ($3\frac{1}{2}$ h.p. three-speed James), non-stop.
P. J. Evans ($3\frac{1}{2}$ h.p. two-speed Humber), non-stop.
R. W. Duke ($3\frac{1}{2}$ h.p. Zenith), two stops, test hill, and belt.
H. D. Jones ($3\frac{1}{2}$ h.p. Zenith), three stops, test hill, and puncture.
Dr. B. Fawsett (8 h.p. Chater-Lea and sidecar), one stop, test hill.

STREATHAM AND DISTRICT M.C.C.

F. W. Barnes ($3\frac{1}{2}$ h.p. Zenith), non-stop.
P. Weatherill ($3\frac{1}{2}$ h.p. Zenith), non-stop.
R. G. Mundy ($3\frac{1}{2}$ h.p. Triumph), non-stop.

HERTS COUNTY A.C.

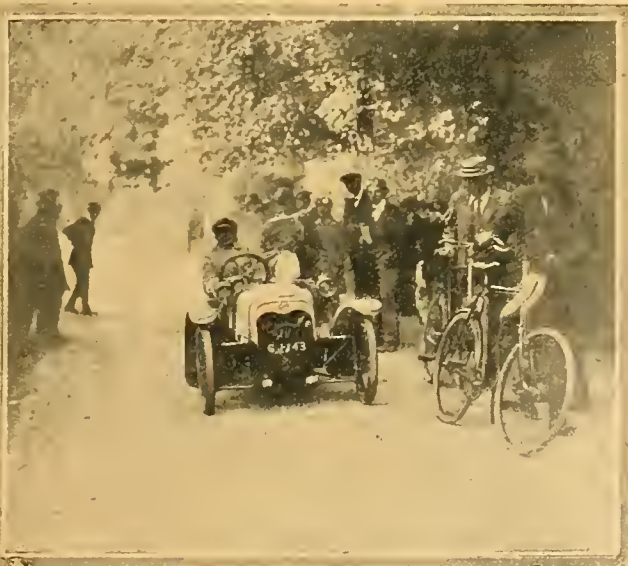
E. C. Jarvis ($3\frac{1}{2}$ h.p. Triumph), non-stop.
R. Rice Pyle (8 h.p. Bat and sidecar), non-stop.
C. Cather Cooke ($3\frac{1}{2}$ h.p. Triumph), ran off route, otherwise non-stop.

NORTH-WEST LONDON M.C.C.

W. Cooper ($3\frac{1}{2}$ h.p. Bradbury), non-stop.

CHESTERFIELD AND DISTRICT M.C.C.

L. Smith ($3\frac{1}{2}$ h.p. Bradbury), non-stop.



H. F. S. Morgan, who was a member of the winning Oxford Team, making a neat ascent of Edge Hill on his 8 h.p. two-seater Morgan runabout.



SNAPPED FROM THE BACK OF THE OFFICIAL ROVER CAR.

A string of competitors leaving Banbury for the last lap (which may be obvious from the long shadows across the road). The sidecar in the distance is going to Banbury; competitors passed each other along this stretch of road after encircling the Banbury Cross. The foremost rider is S. T. Tessier, and behind him R. H. Viggers, J. A. Pell, P. J. Evans, and P. Weatherill.

IRISH END-TO-END: A LIGHTWEIGHT RECORD ESTABLISHED.

THE Irish End-to-end record has of late loomed largely in the eyes of Irish motorists, and within the past fortnight a couple of attempts have been made to put up new figures for the distance. Last week we briefly mentioned that James Stewart, one of the most successful Irish motor cyclists, and who, it will be remembered, recently won the End-to-end run for the Palmer Trophy, promoted by the M.C.U.I., essayed the task of establishing a time for lightweights. In his self-imposed task he selected a $2\frac{3}{4}$ h.p. Douglas, and the result showed the wisdom of his choice, for the machine went through the journey without the slightest trouble.

An Early Start.

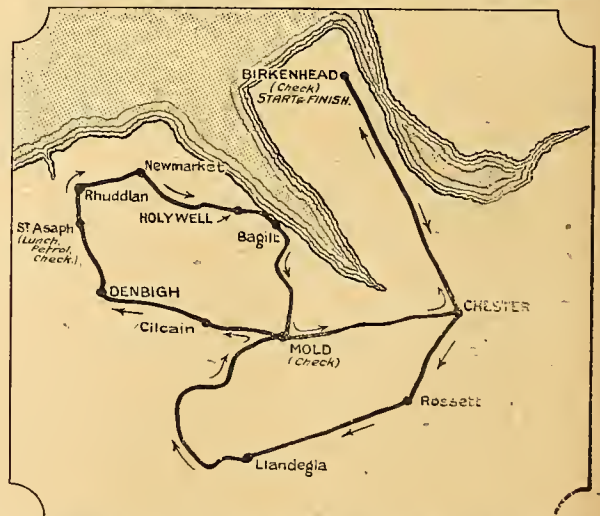
Starting from Mizen Head at 5 a.m., the eighty-one miles to Cork were knocked off in 3h. 5m., being equal to an average of $26\frac{1}{2}$ m.p.h. This was certainly a good beginning, when the wretched state of the greater portion of the roads is taken into consideration. From Cork to Cashel (sixty miles) occupied 2h. 5m., or an average of $28\frac{3}{4}$ m.p.h. Fresh petrol was taken in at Cashel, and as a quantity of dust got into the tank the carburetter became choked at times. To add to this misfortune, punctures were encountered, and between Cashel and Dublin Stewart found it necessary to detach his back cover four times. Exactly one hour was lost from this cause, the ninety-seven miles to the metropolis monopolising 4h. 2m., which works out at an average of $22\frac{1}{2}$ m.p.h.

Carburetter Again Choked.

From Dublin to Banbridge (seventy-nine miles) another hour was lost through the carburetter again becoming choked with the dirty petrol. However, a slight improvement was made in the average, which showed $24\frac{1}{2}$ m.p.h. Fresh petrol was taken in at Banbridge, and the effect was soon apparent. Antrim, twenty-seven and a half miles distant, being reached in 2m. under the hour. From the latter place to Ballyvoy, Fair Head is exactly fifty miles, and it only took 1h. 25m. to roll off the half-century, which shows the highest average

for the day, viz., $35\frac{1}{2}$ m.p.h. The entire distance of 394 miles took 15h. 8m. to traverse—not 12h. 8m., as our wire stated last week—which gives an average of 26 m.p.h. When the lost time through punctures is taken into account, it must be admitted both rider and machine made a very meritorious performance. Stewart rode the entire journey unaccompanied by any friends, and this certainly enhances the merit of his performance.

THE PROPOSED TWO DAYS' RELIABILITY TRIAL IN THE NORTH.



The course selected for the second day's run. The Liverpool A.C.C. has applied to the A.C.U. to hold this event on October 7th and 8th, so far without success.

Climbing Edge Hills on a 3½ h.p. Sidecar.

THE famous Midland acclivities known as Edge Hills are always considered good tests for a single-geared solo machine, and with a sidecar attached to a standard single-cylinder mount a change speed is usually required to enable the hills known respectively as Sunrising and Edge Hill to be successfully negotiated. We believe it is possible to climb both hills with a standard 3½ h.p. mount with sidecar, geared low, but a more certain ascent can be made with a variable gear. It was, therefore, with considerable pleasure that we accepted B. Alan Hill's invitation one day last week to accompany him in his Rudge sidecar machine fitted with the N.S.U. two-speed gear. Hill was one of the C. and W.M.C. team which took part in the A.C.U. championship trial last Saturday, and it was with a view of ascertaining if the combination would ascend these hills that the trials were made which we were asked to observe.

Sunrising Climbed at 25 m.p.h.

We left Stratford-on-Avon by the Banbury Road, and kept the machine running all the way to the foot of Sunrising at an average speed of twenty miles an hour, and took the hill with a hot engine, the combined weight of passengers being eighteen and a half stones; the Rudge combination went up without a falter and never dropped below twenty-five miles an hour by the Jones speedometer. A second ascent of the same hill was, if anything, faster, as the engine had an opportunity to cool during the descent.

Continuing along the ridge past the round tower the more severe acclivity of Edge Hill from Kineton was attacked. The ascent of this was equally successful, and the combined weight not being enough to satisfy Mr. Hill's ambitions, it was raised by a change of passengers to twenty-three stones. Soon after the start, the speedometer needle showed 30 m.p.h. on top gear, and so continued till just below the bad corner on the hump of the hill; on changing down and quickly accelerating, the needle went to 25 m.p.h., where it remained till near the summit, when it went back to 23, 20, and 21 m.p.h.

EXCURSION TO OLYMPIA.

An excursion to London for the Olympia Cycle and Motor Show is being arranged by the Birmingham centre of the Cycle and Motor Trades' Benevolent Fund for Saturday, November 25th.

THE OFFICIAL OCTOBER QUARTERLY TRIALS COURSE.



The last A.C.U. Quarterly Trial of the 1911 series starts from Birmingham at 9 a.m. on Saturday, October 14th, when the course, measuring 150 miles, shown in the above map will be followed.

The gear ratio on low speed was 6½ to 1, which gives a high gear ratio of about 4½ to 1. Strangely enough the same clever sidecar demonstrator had two stops in the before mentioned trial last Saturday. It is the old story again. When a machine is especially required to give of its best, it develops a fit of the sulks.

It will be of interest to Rudge riders to know that a thirty-eight jet was fitted to the B. and B. carburetter, and the extra air port enlarged. The petrol level was also adjusted higher than usual.



A HILL-CLIMBING CONTEST IN BAVARIA.

Basil V. Jones competing in a hill-climb at Schesslitz, near Bamberg, in which nineteen riders took part. Riding a Premier, Jones was first on formula, and made the second fastest time.

M.C.C. RUN TO WORTHING.

A run had been arranged by the M.C.C. to Clacton at the week-end, but at the request of a number of members the destination has been made Worthing instead.

BRISTOL CLUB'S TRIAL.

A trial was held last Saturday over the course, Keynsham, Saltford, Globe Inn, Marksbury, High Littleton, Pensford, and back to Keynsham, distance twenty-three miles, the circuit to be covered three times, no watches or speedometers allowed, and a non-stop run had to be made. About twenty-eight entries were received, and the winners were: 1, G. L. Fletcher (2½ h.p. Douglas), only 4m. 34s. error; 2, A. B. Canks (2½ h.p. Douglas), 6m. 15s.; 3, E. J. Prosser (5 h.p. Rex Sidette), 7m. 2s.

FORMULA RESULTS OF TORBAY HILL-CLIMB.

The formula results in the Torbay and District M.C.C. hill-climb in South Devon are given hereunder: The results on time were given on page 963 of our last issue:

Class 1. Open Lightweight Event.—1. A. Powell (2½ h.p. Enfield); 2. W. W. Douglas (2½ h.p. Douglas); 3. H. Benny (2½ h.p. Enfield).

Class 2. Touring Machines.—1. Rupert May (3½ h.p. Triumph); 2. J. Woodhouse (3½ h.p. Comet-Precision); 3. F. T. Wilson (3½ h.p. Rudge).

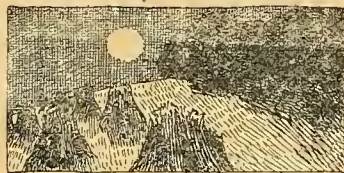
Class 3. Club Event for Lightweights.—1. A. Powell (2½ h.p. Enfield); 2. H. Benny (2½ h.p. Enfield); 3. — Edwards (1½ h.p. Motosacoche).

Class 4. 500 c.c. Touring Singles.—1. R. May (3½ h.p. Triumph); 2. J. Woodhouse (3½ h.p. Comet Precision); 3. F. T. Wilson (3½ h.p. Rudge).

Class 7. Club Event (Unlimited).—1. A. Powell (2½ h.p. Enfield); 2. R. V. W. Jamson (4 h.p. Norton); 3. R. Broadbear (3½ h.p. Premier).

TIME TO
LIGHT LAMPSCURRENT
CHATSPECIAL
FEATURES

Sept. 21st	...	6.59 p.m.
" 23rd	...	6.54 p.m.
" 25th	...	6.50 p.m.
" 27th	...	6.45 p.m.



FORMULÆ FOR HILL-CLIMBS.
IN WALES AND THE WEST.
A.C.U. CLUB CHAMPIONSHIP.
BRAKES AND STOPPING POWER.

An Overseas Issue

of *The Motor Cycle* will be published on Thursday, October 12th. Special articles of interest to motor cyclists in far-away countries will be included, together with a selection of colonial motor cyclists' experiences. The usual features will, of course, be retained.

Track Race at the Festival of Empire.

On the 30th inst., at the Crystal Palace Track, the Marlborough Athletic Club will hold a five miles open handicap for prizes value £5, £2, and £1.

An Old Motor Cyclist's Appointment.

W. A. Sale, whose name will be better known to motor cyclists of 1906-7, has, we understand, sold his Luton business, and is about to take up his new duties as manager to W. H. Wells, of the Hendee Mfg. Co.

An Invitation.

Ever to the front with new ideas, Messrs. Brown Bros., Ltd., forwarded to us by the first U.K. aerial post, an invitation to view their new warehouses in Great Eastern Street, E.C., an invitation which is extended to all our readers.

Bristol Club's Blunder.

A special meeting of the Bristol B. and M.C. was held on Tuesday last week to go into the results of the Bristol-Oxford trial held on July 8th last, in which several serious errors had been made in the awards. The correct results now are: 1, W. W. Douglas; 2, Eli Clarke; 3, G. L. Fletcher—all riding 2½ h.p. Douglas machines.

Liverpool A.C.C. at Loggerheads with the A.C.U.

The pending 200 miles reliability trial organised by the Liverpool A.C.C. has generated a bit of trouble unexpectedly. Being the first and only open competition arranged about Merseyside, Mr. Secretary Barton determined to make it a big success, and soon found that he was on the way to achieving that end. The A.C.U., however, has objected to an "open" competition on the allegation that it will clash with its own affairs. In Liverpool the attitude is regarded as rather dog-in-the-manger, for it is argued that the A.C.U. will neither arrange contests about Liverpool and North Wales, nor, according to present circumstances, will it encourage the Liverpool club to hold one.

The New Brighton Team Race.

Referring to the track race at New Brighton between teams purporting to represent the Birmingham and Liverpool clubs, and in which a serious accident occurred, the hon. sec. of the first named body asks us to make it known that no race between his club and any other club has been arranged or held at any time, and the Birmingham M.C.C. committee are very indignant that their club's name was mentioned in the advertisements and announcements before the event.

3,000 without an Engine Adjustment.

D. R. O'Donovan, whose attempt to cover 3,000 miles without using a tool on the engine we referred to last week, is going in promising style. Writing us from Kempston, Beds, last Monday, he mentioned that his mileage now totals 1,000, and all the seals affixed by *The Motor Cycle* are intact. His 3½ h.p.

clutch Singer is, he adds, running splendidly, and should good luck attend him, he proposes having the machine timed for a flying mile after covering 1,500 miles, and again at the conclusion of the trial. The method of sealing the engine was as follows: The valve caps are sealed to the cylinder, the cylinder to the frame, crank case to the frame, and rear wheel spindle to the frame.

Speed Limit Abolished in the Isle of Man.

On September 5th an Act of Tynwald was promulgated, abrogating the speed limit in the Isle of Man, which up till then was fourteen miles an hour, and relying for the protection of the public on a section similar to Section 1 of the Motor Car Act, passed by the House of Commons in 1903, penalising reckless driving. The Manx A.C. is to be congratulated on the success of its efforts to have the speed of motor cars placed on a sound basis.

**A.C.U. INTER-CLUB CHAMPIONSHIP.**

Edge Hill was the scene of many failures. Our illustration shows two passenger machines, and another solo rider in the distance, all of whom stopped on Edge Hill, but the single-gear Rudge rider in the centre took no risks and ignored the slow test. Perhaps he imagined that, wearing a racing skull cap, it would be *infra dig.* to ascend the hill at anything but speed.

A Twice-stolen Mount.

For the second time a Douglas machine belonging to Mr. W. O. Oldman, of 77, Brixton Hill, S.W., has been stolen. It was taken from the Stadium, Shepherd's Bush, after the North-west London M.C.C. gymkhana, but the police have again been successful in their efforts to regain possession. On the occasion of its first disappearance the police adopted a novel and clever method of entrapping the thief. It transpired at the police court that a detective inserted an advertisement in the miscellaneous columns of *The Motor Cycle* as follows: "Wanted, a Douglas lightweight," and the unsuspecting thief answered the advertisement and was promptly arrested.

The Next B.M.C.R.C. Meeting.

At the Brooklands Automobile Racing Club meeting on Wednesday, October 4th, there are six events for cars and one for motor cycles. The latter is termed the fifth long motor cycle race, which is a handicap for all classes of motor cycles over a distance of about eight and a half miles. Entries close next Saturday at noon.

M.C.C. Hill-climb at Sundon

We have examined the times at the above contest held on the 8th inst., and notice that A. J. Moorhouse's time of 47 secs. on the 7 h.p. Indian in the open class was equalled by F. W. Barnes on his touring 6 h.p. Zenith-Gradna in Class 3. The fastest single-cylinder machine was the 3½ h.p. L.M.C. ridden by J. H. Slaughter, A. L. Ommaney (3½ h.p. Rudge) being but one-fifth of a second slower.

The Coveted Single-cylinder Hour Record.

After J. R. Haswell had captured the 500 c.c. hour record on his Triumph, we ventured the opinion that it would not be allowed to stand for long without molestation. O. C. Godfrey has already had several tries to wrest the honour from the Warwickshire amateur on the single cylinder Indian—the Plough—which he used at the last B.M.C.R.C. meeting. On one of these attempts, so we are informed, A. J. Moorhouse was present, and after the signal to start had been given, Moorhouse mounted his 7 h.p. twin Indian and overtaking Godfrey commenced to act as his pacemaker. The timekeeper, Mr. A. V. Ebbelwhite, promptly objected to this practice, and the attempt was stopped.

A Military Ride.

For the purpose of proving to the Canadian military authorities the value of motor cycles in time of war, Percy A. McBride, a well-known Toronto rider and Captain McCarthy, of the 34th Regiment, Ontario Command, recently rode from Toronto to Ottawa, the capital city of the Dominion, a distance of 325 miles, over many kinds of roads, in fourteen hours. Four h.p. single-cylinder Excelsiors (American machines) were used and outside of tyre troubles the pair encountered no trouble en route. Each was the bearer of an official message, McBride carrying a dispatch from Mayor Geary, of Toronto, to Mayor Hopewell, of Ottawa, while Captain McCarthy took a message from Colonel Henning to the Militia headquarters.

A New Lightweight Record.

On Monday, the 11th inst., Harold Cox, mounted on a lightweight twin-cylinder Forward motor bicycle, succeeded in lowering the two hours and 100 miles records for this type of machine. The scene of his triumph was Brooklands, and the weather on the occasion of his ride was dull, while a slight wind was blowing. The machine was fitted with Dunlop tyres, Lyso belt, Bosch magneto, and C.A.P. carburetter. Price's oil and Shell motor spirit were used. The time

FUTURE EVENTS

Sept. 23.—B.M.C.R.C. Race Meeting at Brooklands.

" 30.—Streatham and District M.C.C. Open Hill Climb

Oct. 12.—"The Motor Cycle" Overseas Number.

" 14.—A.C.U. Quarterly Trial (Midland Centre) fourth and last of 1911 series.

Nov. 20-25.—Motor Cycle and Cycle Exhibition at Olympia.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.

for the 100 miles was 2h. 5m. 37½s. (47.76 m.p.h.), while in the two hours 95 miles 1,230 yards were covered (47.84 m.p.h.), constituting a Class B record. The previous best performance was by C. S. Franklin, on a Hazel-Jap, 70 × 76, on July 22nd, 1911, who covered 78 miles 132 yards in the two hours. The timekeeper was Mr. A. V. Ebbelwhite.

Motor Cyclist's Claim against Horsebreaker.

The collision case in which W. Pratt was involved on the occasion of his P. and M. toolbagless trial comes up for hearing at Gloucester to-morrow (Friday).

Martin Attempts Record.

Harry Martin, on a new 500 c.c. class twin Martin-Jap, 75 × 55, 498 c.c., made an attempt on the hour record on Friday, the 15th inst. The wind, however, blew so strongly from the north-west that he was unable to travel sufficiently fast.

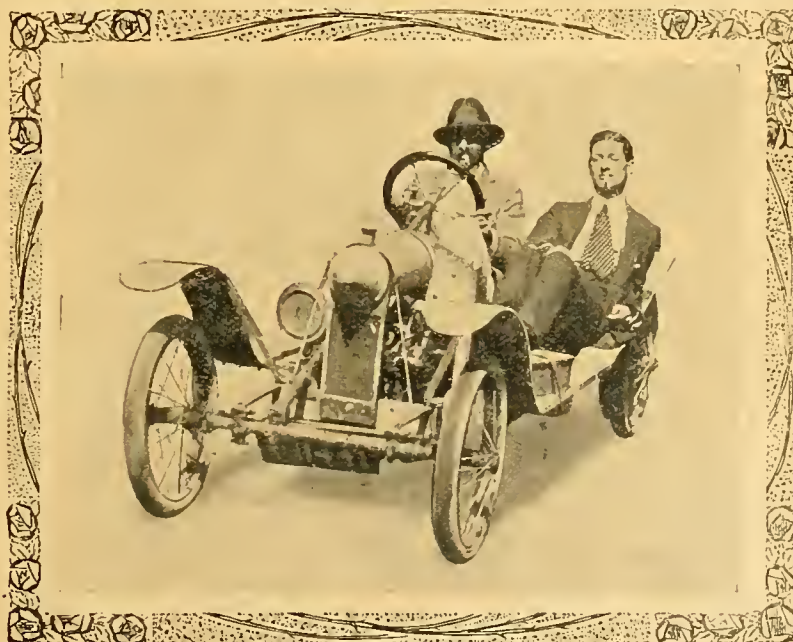
Saturday's Brooklands Meeting.

Next Saturday's B.M.C.R.C. meeting will most likely prove the most interesting of the year, as quite a number of the leading riders will participate. In the hundred miles race, C. R. Collier will ride a new machine fitted with a single-cylinder 3½ h.p. Matchless engine, having the dimensions 90 × 77.5 = 495 c.c. Collier will endeavour to improve upon J. R. Haswell's mileage for the hour.

Sam Wright will also bestride a stripped T.T. twin Humber, on which he is confident of beating previous best. A couple of Alcyons will also show their paces on the track.

The Next Quarterly Trial.

The last A.C.U. Quarterly Trial of the 1911 series will be held on Saturday, October 14th. Several routes in the Midlands are under consideration. The course will be one of about 150 miles in length, and will extend over a route from near Birmingham via Hagley, Kidderminster, Bewdley, Farlow Bank (test hill), Ludlow, Tenbury, Bromyard, Martley, Worcester, Tewkesbury, Gloucester, Birdlip (test hill), Cheltenham, Winchcombe, Evesham, Bromsgrove to Birmingham. This contest should prove the most interesting and instructive of the series, seeing that it starts from the motor cycle manufacturing district, and will decide the winner of the aggregate cup in the four Quarterly Trials of 1911. The two timed test hills, Farlow Bank and Birdlip, are gradients which should adequately test the competing machines especially if the roads are wet and heavy.



A QUADCAR SEEN AT SHANKLIN, I.O.W.

The runabout illustrated was snapped at this hilly seaside resort. It is belt driven and has an 8 h.p. Aster engine. The petrol consumption, we are told, is 60 to 70 miles to the gallon.

A NOVEL MOTOR CYCLE FRAME.

LAST week we were permitted to inspect a $2\frac{1}{2}$ h.p. motor bicycle which has just emerged successfully from a thousand miles test on the road. Its chief novelty is the built-up frame, the invention of Mr. F. T. Robb, but the mount was assembled by the Roulette Cycle Co., of Gosford Street, Coventry, who are in a position to grant royalties

are duplicated, and that, instead of being brazed, they are bolted together. This plan, if it can be carried out without the joints becoming loose (and the machine has run 1,000 miles or so without this happening), has the very obvious advantage over the usual method that any tube can easily be replaced in a few minutes if damaged by an accident without taking the whole machine down for re-brazing, which also necessitates re-enamelling, and is a matter of several days.

Light Weight Considering Horse-power.

All tubes are 20 gauge, and the weight of the machine, with a $2\frac{1}{2}$ h.p. J.A.P. engine as illustrated, comes out at the surprisingly low figure of 122 lbs., in spite of the increased number of tubes. An interesting feature of this construction is that it renders the use of special tank fastenings—always a possible source of trouble—quite unnecessary. The tank is clipped tightly between the twin top tubes and needs no other fastening. It can be taken out if necessary by the removal of one of the horizontal top tubes in the space of five minutes. The cantilever saddle spring is very neat and effective, the saddle pillar being hinged where it joins the frame. Its action will be easily seen from the sketch. The engine is held very rigidly by no less than four bolts, which rigid system of suspension is considered by many to add considerably to the efficiency of the engine.

We are given to understand that the option of using the frame on 1912 models is under the consideration of one or two leading manufacturers. It may be possible for our readers to inspect the machine at the Olympia Show, as should the negotiations at present proceeding fall through, the Roulette Cycle Co. anticipate exhibiting the machine direct at that exhibition. It is further not improbable that the design will be standardised.

BRITISH IMPORTS AND EXPORTS.

The value of the imports for the month ended August 31st for the last three years was—

1909.	1910.	1911.
Motor cycles— £2,689	£4,398	£2,597
Parts thereof— £2,852	£6,013	£4,875
£5,541	£10,411	£7,472

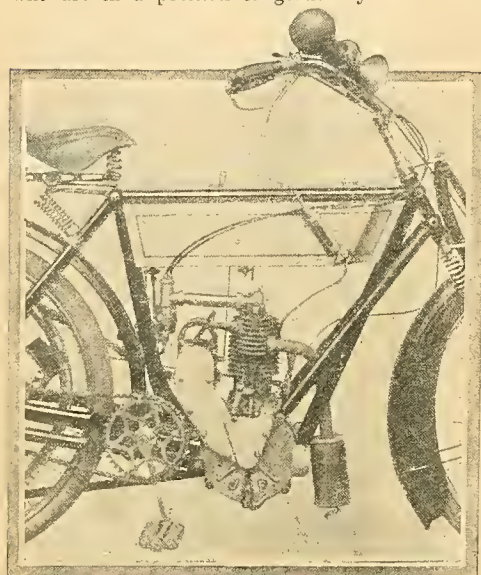
Below will be found figures showing the exports for the same month in each year, and the rapid increase cannot fail to be noted :

1909.	1910.	1911.
Motor cycles— £6,315	£11,317	£19,497
Parts thereof— £2,739	£4,766	£5,990
£9,054	£16,083	£25,487

The following table gives the imports and exports for the eight months ended August 31st :

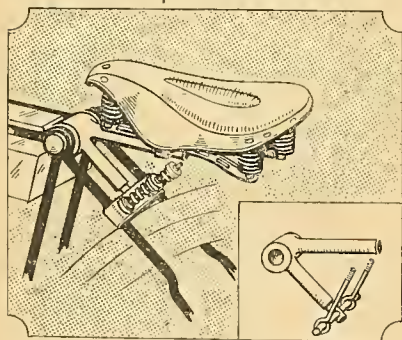
IMPORTS.		
1909.	1910.	1911.
Motor cycles— £29,891	£35,462	£34,096
Parts thereof— £2,852	£6,013	£4,875
£32,743	£41,475	£38,971
EXPORTS.		
1909.	1910.	1911.
Motor cycles— £30,517	£64,978	£139,786
Parts thereof— £21,637	£26,130	£41,632
£52,154	£91,108	£181,418

The enormous increase in the exports, amounting to almost double in the case of motor cycles and parts, must be very gratifying to the British manufacturer, as well as most deserved.



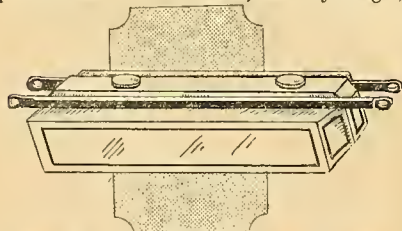
The power plant of the Roulette, also showing double tube frame and spring seat pillar. The tank is supported entirely by the frame tubes.

for the use of the frame. The machine illustrated was built for experimental purposes, and is somewhat shorter than

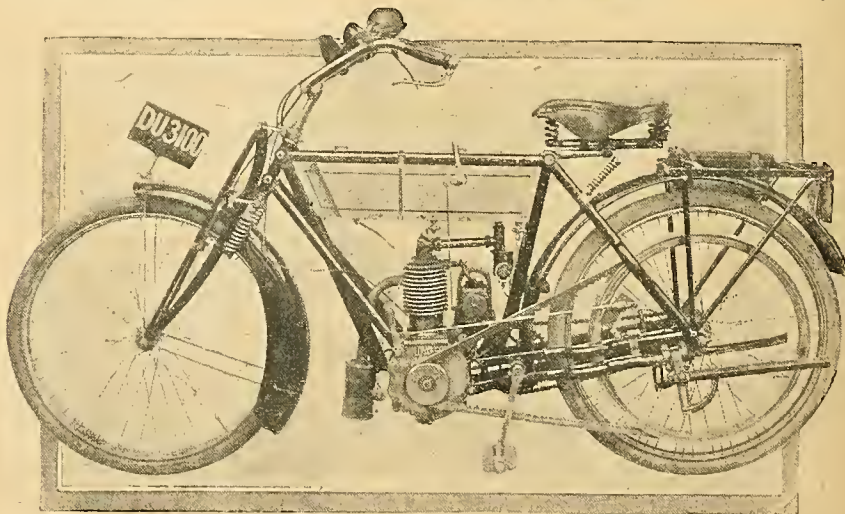


The cantilever spring seat pillar.

is proposed for the final design. The chief point of divergence from standard practice is that all tubes, usually single,



Showing the double D section top tubes gripping the tank.



The Roulette-Jap motor bicycle, which, as will be seen, has a novel type of frame

CLUB NEWS.



Manchester M.C. last hill-climb of the year. Harry Reed (3½ h.p. Dot) who was third, and W. T. Munroe (3 h.p. Triumph) on the starting line.

Western District M.C.

Members and friends are reminded of the run on the 24th inst. to the Clarendon Hotel, St. Albans. Return will be made by way of Sarratt in the afternoon.

Ipswich and District M.C.C.

We are informed that a club bearing the above title will shortly be formed in Ipswich. A meeting will be held on September 30th, at the Co-operative Hall, Carr Street, Ipswich, when the president and officers will be elected.

The Motor Cycling Club.

The above club will hold a speed-judging trial on Saturday, the 30th inst., for which a large entry is expected, this being the last competition of the year. Entries close next Monday. The trials hon. sec. is Mr. Robert H. Head, 7, Upper Baker Street, N.W.

Walthamstow M.C.

The final for the W. S. Low Cup was run over a course from Newmarket to Bishop Stortford last week. Competitors were timed at a secret milestone, and the one riding nearest to a 20 m.p.h. schedule was declared holder of the cup for the ensuing twelve months. The results are as follows: 1, F. A. Applebee (3½ h.p. Scott and sidecar), error from schedule time 2s., silver cup and gold medal; 2, M. Raven (3½ h.p. Rudge), 5s., gold medal; 3, J. W. Percival (6 h.p. Fafnir tricar), 5½s., gold medal; 4, J. T. Browett (8 h.p. Minerva), 20½s., gold medal.

Manchester M.C.

This club held its last hill-climbing competition of the year on Saturday, the 16th inst., at Heyden Bridge, for motor cycles and sidecars, there being the large number of entries of nineteen singles, three twins, and four sidecars. The competition (for this club) was run on original lines, known as the knock-out, the riders being handicapped on weight, horse-power, and previous performances. The riders were despatched in pairs, the first to finish drawing for the second round, until the last round, when the first, second, and third were decided. The course was a mile in length, and the riders could be seen from start to finish. W. Heaton (2½ h.p. A.J.S.) was unfortunately too light, and had to carry a bag of stones 19 lbs. weight on his back, which interfered with his mounting and riding. H. Scales, H. Reed, P. Butler, R. Birkett, and H. Andrews all made excellent times. Results:

SINGLES.—1, R. Birkett (3½ h.p. Triumph), 14s. start; 2, H. J. Scales (3½ h.p. J.A.P.), 8s.; 3, H. Reed (3½ h.p. Dot), 7s.; 4, J. L. Timperley (3½ h.p. Lib), 2s.

TWINS.—1, P. Butler (5 h.p. Dot), 10s. start; 2, J. A. Bottoms (2½ h.p. Enfield), 23s.

SIDECARS.—1, P. Platt (3½ h.p. Bradbury), scratch; 2, W. Houghton (3½ h.p. Bradbury), 10s. start.

Derby and District M.C.C.

On Saturday last the final event of the year was run off, which took the form of speed trials at Hulland Ward. The entries were somewhat limited, but the competitors and spectators made up in enthusiasm for lack of numbers. The winner was J. W. Cox (3½ h.p. T.T. Triumph), second D. C. Bolton (1 h.p. Bolton-Jap). Bolton's mount, which he has just had built up, is fitted with a special J.A.P. engine 60 mm. bore by 53 mm. stroke, capacity 150 c.c. The machine exhibited a surprising turn of speed, and on the handicap of three-quarters of a yard per c.c. capacity ran into the final, being then beaten by Cox's Triumph.

The quarterly general meeting will be held at headquarters on the 27th inst. at 8 p.m.

Lewes M.C.C. and Tunbridge Wells and District M.C.C.

A combined hill-climb was successfully held by the above clubs on Wednesday, September 13th. An ideal hill was found near Mayfield, which is about midway between Lewes and Tunbridge Wells. Over thirty entries were received for the six classes, which were arranged as follows: 1, standard touring twins; 2, standard lightweights; 3, standard touring singles; 4, flexibility; 5, T.T. machines; 6, any machine made during 1908 or earlier.

Prizes were kindly offered by the following firms: The Continental Tyre Co., Messrs. Dunhills, the Bosch Magneto Co., Messrs. Garners (exhaust whistle), Messrs. Wakefield (oil).

The winners were: 1, J. S. Richardson (5 h.p. Indian); 2, A. E. Sutton (2½ h.p. Douglas); 3, A. L. Russell (3½ h.p. Rover); 4, J. S. Richardson (5 h.p. Indian); 5, J. S. Richardson (5 h.p. Indian); 6, W. E. Gillot (4 h.p. Bat).



LEWES M.C.C. AND TUNBRIDGE WELLS AND DISTRICT M.C.C. INTER-CLUB HILL-CLIMB.

The meeting place.

Competing machines at the foot of the hill near Mayfield.

Club News.—

North Staffordshire M.C.C.

The competition for the president's trophy took place on 10th inst. Result: 1, C. E. Fowke ($3\frac{1}{2}$ T.T. Triumph); 2, T. F. Rodgers ($3\frac{1}{2}$ Rudge).



Mrs. J. Harvey, of Bournemouth, who is believed to be the first local lady motor cyclist, with her 2 h.p. single-cylinder lightweight Humber.

Essex M.C.

Mr. G. C. Sweet, assistant hon. sec. of the Essex Motor Club, is shortly leaving for Calcutta to take up a lucrative appointment. The best wishes of his clubmates and friends will go with him, as he is a popular member.

Newport (Mon.) and District M.C.C.

Entries for the hill-climb for machines up to 500 c.c. to be held during the first few days of October must be sent to the captain (Mr. J. Foreman) on or before September 21st. Members are kindly asked to comply with this request as it greatly facilitates handicapping.

North Middlesex M.C.C.

A breakfast run will be held to Westcliff on the 24th inst., leaving the Gatehouse, Highgate, at 6 a.m. A somewhat long route will be taken to evade the bad roads. Will all those taking part kindly communicate with W. S. Bennett, 23, Aberdeen Road, Highbury, who is making the necessary arrangements?

Woolwich, Plumstead, and District M.C.

Messrs. H. Collier and Sons, Ltd., having offered a set of prizes for a hill-climb, it was arranged and took place recently at Westerham under most favourable conditions. It proved a most sporting event, each competitor having an equal chance notwithstanding great variations in power, etc. Competitors were despatched up the hill singly at intervals of two minutes and timed very carefully, the handicap being arranged in accordance with each performance. Ten seconds improvement in time disqualified. Fastest time in this trial ascent was made by T. A. Carter ($3\frac{1}{2}$ Matchless). The difference between his time and others is shown against each. H. Cork (4 Matchless), 1s.; C. R. Collier (6 Matchless), 3s.; H. A. Collier (5 Matchless), 3 $\frac{1}{2}$ s.; H. Hill ($3\frac{1}{2}$ Rudge), 14s.; F. J. Ellis ($3\frac{1}{2}$ Matchless), 18 $\frac{1}{2}$ s.; H. Peterson ($3\frac{1}{2}$ Matchless), 21s.; J. Galley (5 M.O.B.M.), 37 $\frac{1}{2}$ s.; S. Lloyd (5 Matchless and sidecar), 58s.; S. C. Davis (2 $\frac{1}{2}$ Kerry), 66s.

Riders were then paired off as nearly as possible and despatched in pairs, the winners of this round to ride in the final. C. R. Collier having qualified for the final, decided to stand down. The result was: 1, S. C. Davis; 2, H. A. Collier; 3, H. Hill.

The fastest timed ascent was made by H. Cork. The club wishes to thank Messrs. Dowd, Walker, and others for their assistance, to which the success of the competition is largely due.

Birmingham M.C.C.

On Saturday next, the third annual "all equal" hill-climb will be held.

New members may join the club now by paying a combined subscription and entry fee of £1 1s., which will carry them up to December 31st, 1912. There will be several winter events, including smoking concerts, etc. Full particulars from Mr. Vernon C. Brook, hon. sec., "Oakdene," Cambridge Road, King's Road, Birmingham.

Sheffield and Hallamshire M.C.C.

The result of the above club's reliability trial to Pickering and back, including the ascent of Sutton Bank, is as follows: 1, F. H. Dunston ($3\frac{1}{2}$ Rudge), lost 1 $\frac{1}{2}$ marks; 2, Daniel Bradbury ($3\frac{1}{2}$ Norton), 2 $\frac{1}{2}$; 3, J. Haslam (6 Zenith), 4; 4, S. Sawyer ($3\frac{1}{2}$ Premier), 5 $\frac{1}{2}$. The following qualified for bronze medals: T. Durant, J. Arden, C. E. Squire, N. Newton, Chas. Nicholls, J. A. Stacey, H. Fawley, and F. Dover.

Huddersfield and District A.C.

The results of the reliability trial to Louth and back on the 9th inst. were: 1, *W. A. Lockwood ($3\frac{1}{2}$ h.p. James), cup and gold medal; 2, A. Graham (4 h.p. Roc), second prize; 3, T. Canley ($3\frac{1}{2}$ h.p. P. and M.); 4, G. Tolson ($3\frac{1}{2}$ h.p. P. and M.), novice prize. *This is the second year in succession that this rider has won the cup and gold medal.

The roads were in a very loose condition, and tyre troubles frequent. There were eleven starters, only one of whom failed to complete the whole course.

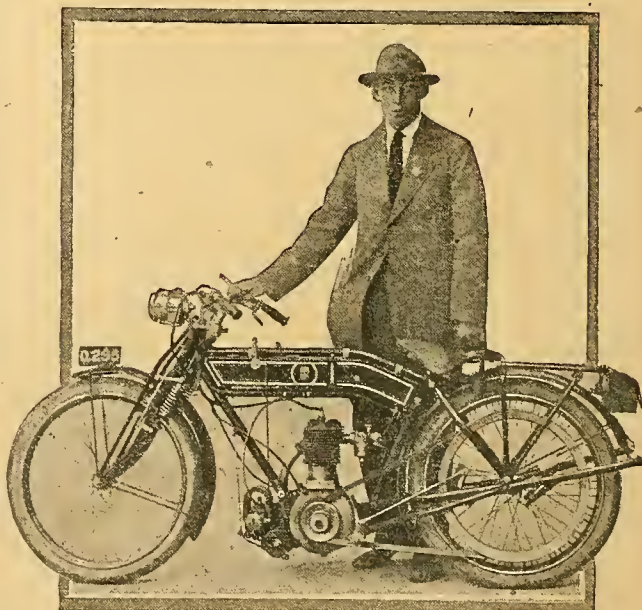
Lincolnshire A.C. (Motor Cycle Section).

The above club will hold a petrol consumption trial on Saturday, September 23rd, starting at three from South Park, Lincoln, and proceeding *via* Blankney and Ruskington to Sleaford, and returning by the top road to Lincoln—in all about thirty-five and a half miles. All tanks will be emptied at the start, and half a gallon of petrol served out to each competitor. The course completed, the amount of petrol remaining in tanks will be ascertained, and the results calculated on A.C.U. formula.

The Wheelers challenge vase will be awarded for the best performance, and a second prize will be given provided there are ten starters.

N.W. London M.C.C.

A speed-judging competition has been arranged for Saturday next, starting at 3.30 p.m. prompt from the Duke of York Hotel, Great North Road. The entry fee is 2s. 6d., and watches and speedometers are barred.



J. W. Woodhouse and the $3\frac{1}{2}$ h.p. Comet-Precision on which he has recently shone conspicuously in open hill-climbing competitions.

OCCASIONAL COMMENTS

By "IXION"

The A.C.U. and Private Owners.

I am in a position to state that if any trade men figured as "private owners" in the Six Days' Trial, the onus rests with the manufacturers and not with the A.C.U. The secretary made confidential enquiries about every entrant who described himself as a private owner, and no such entry was accepted unless the enquiries confirmed his amateur status.

Businesslike Methods.

"Only a Medico" (letter No. 5856) must not think that only obscure owners suffer from the unbusinesslike methods of certain firms. I suppose I am pretty well known to most of the concerns in the industry, and here is an account of my latest experience with one of the biggest tyre companies on earth. On July 4th I sent them two inner tubes, the valves of which needed reseating, and I mentioned that my racing machine was *hors de combat* until these tubes were returned. For several weeks I heard nothing, but at last a couple of angry letters extorted a *pro forma* invoice for 4s. 6d., which was settled per return. August 25th found me still impatiently awaiting my tubes, and another frantic letter elicited a parcel. When I tore this parcel open I found it contained two of the weirdest and holiest tubes I had ever seen, neither of which bore the slightest resemblance to my own tubes, and both of which stood in urgent need of extensive repairs; one contained an unremended gash some inches in length, and was disfigured by a dozen patches crudely applied by some frightful duffer, most of them curling off, lifting, and leaking; the other was disqualified by a torn-out butt, and disfigured by about a bucketful of solution, smeared on by somebody in a misguided effort to convert it into an endless tube. My vituperative remonstrances procured a most polite letter from the manager, promising me two new tubes. This was a fortnight ago, but the new tubes are not yet to hand.

Silent Gears.

A good many readers wonder why certain leading firms are so slow in standardising variable gears, of which the patents have long since been granted. Hundreds of customers are clamouring for the gear; its design and principle are obviously clever and sound, and yet the gear is not marketed. The best firms in the industry are notoriously scrupulous in not marketing a device until it is absolutely right, and a little patience is desirable. A common defect of new gears is want of silence. After the perfect noiselessness of the direct belt drive, the faintest whirr or hum from the transmission is undesirable, and it is astonishing how insistent the faint noise of a shaft running free on ball bearings may become. Variable gears are coming along all right, and before long everybody will be satisfied; in the meantime we can only applaud a

policy which aims at sheer perfection. I am glad to see the trade realises at last that the counter-shaft gear, with a chain for its fore-drive and a whopping pulley on the gear box, can practically eliminate belt trouble; I believe the combined chain-cum-belt drive is going to reduce our belt bills and our belt troubles past imagining.

The weakest point of a rubber belt is its fastener. The fastener itself may be unbreakable. Newsome, the Triumph rider, said the other week that he had not broken a belt-fastener for two years, and if he uses the make I chiefly affect I can easily believe him; but an unbreakable fastener only transfers the trouble to the belt, which will sooner or later "pull through," if the fastener stands up indefinitely. Now I have some experience of the behaviour of belts used as the secondary or rear portion of a combined chain-cum-belt drive, as when the engine drives by chain to a counter-shaft gear box, whereon a huge belt-pulley is mounted; it is very, very rare for such a belt to give any trouble at all, when once the preliminary stretch has been taken out of it. What a pity we cannot eliminate the fastener altogether and be able to buy endless belts woven to a given length. Of course, it would mean taking out the rear wheel and dismounting the brake rod to fit them, and in some cases springing out the rear stays—the keen rider does not mind a little trouble—but what a boon they would prove! It would, of course, be necessary to fit an adjustment to the rear wheel spindle.



N.W. LONDON M.C.C. GYMKHANA AT THE STADIUM.
The musical chairs event. A lady passenger dismounting from C. Williams's 8 h.p. Chafer Lea sidecar.



A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Oil on Commutator.

(1.) I should be glad if you could tell me why my $3\frac{1}{2}$ h.p. 1908 Minerva runs slower with exhaust valve raised than with it dropped when magneto is switched off. (2.) I am also troubled with oil getting on commutator of Eise-mann magneto (eccentric driven), causing engine to misfire and finally stop. When the high-tension terminal carbon brush is removed, however, it seems quite clean. After inserting a rag and rotating magneto a few times it will fire all right. Do you think a new carbon is needed or does the rag get in and clean oil off armature? Is there a fibre ring in this type of magneto (high-tension)? (3.) Would a Millford Herald sidecar and Mabon free-engine clutch suit this machine for fairly level road?—F.G.

(1.) We cannot understand why the machine should run less freely with the exhaust valve raised than when it is dropped, though of course when the speed has passed a certain point the compression acts merely as a cushion and does not appreciably retard the engine. It seems also that the compression is very low in your engine. (2.) The trouble is probably due to a worn bush, and the oil leaking through the transmission gear case. The only remedy is a new bush, or the fitting of a felt washer over the point where the leakage occurs so as to collect the oil. No, there is no fibre ring in this type of magneto, the make and break being produced by means of a cam. (3.) The sidecar and clutch in question should suit your machine admirably, but a change-speed gear would be desirable.

Bexhill to St. Ives.

I am riding from Bexhill to St. Ives, Cornwall, and would be much obliged if you would kindly suggest the best route, and a couple of places where I can spend the night, as I propose being three days on the road. If the surface is good, I should like to visit Stone-henge and cross Dartmoor.—S.C.D.

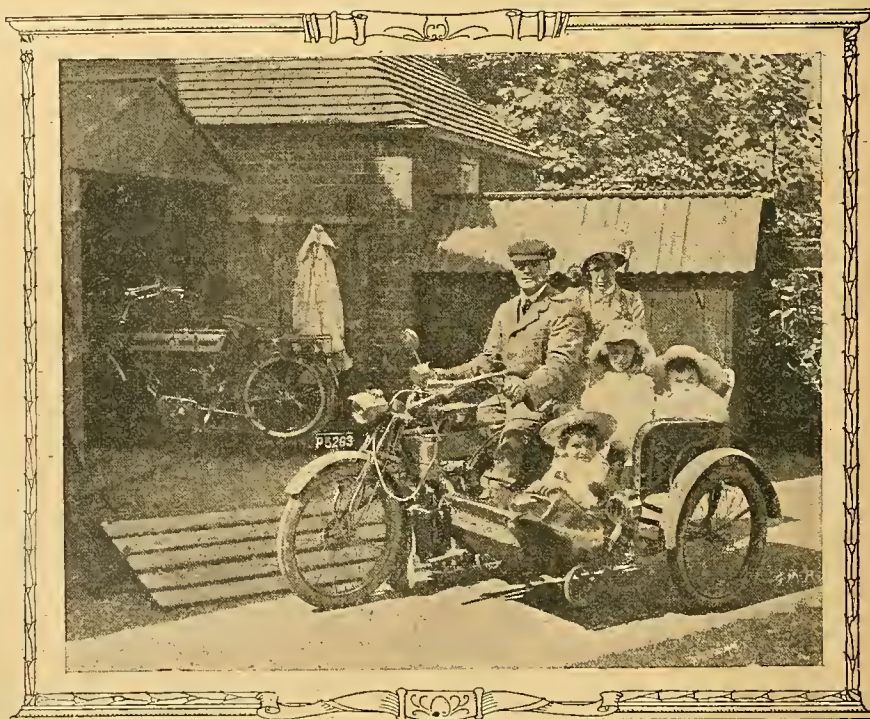
From Bexhill your best route would be as follows: Lewes, Botney, Horsham, Guildford, Farnham, Basingstoke, White-urch, Andover, Amesbury, Salisbury, Hindon, Wincanton, Langport, Taunton, Wellington, Cullompton, Exeter, Okehampton, Launceston, Bodmin, Redruth, St. Ives. A detour might be made at Amesbury for Stonehenge, which is well worth examining, and the first night's stop

could very well be made at Amesbury, as this is a small, inexpensive, but entirely comfortable town, the roads in the neighbourhood being excellent. On the second day it would probably be wise to stop at one of the small hotels in Exeter, of which there are a good number, and in particular on the further side of the bridge going out of the town there are one or two on the left-hand side of the road which offer every comfort and are quite inexpensive. The roads over Dartmoor are very hilly and rough. If desired, and prettier scenery was the object of the run, it would probably be better to go through Barnstaple and follow the coast down to St. Ives, but you will find excellent roads and not a great number of hills on the route given. Care should be exercised in Redruth, as there is a steep hill down into the town, but if you are careful the police make no objection to a fair speed.

Harrow to North Wales.

I shall feel much obliged if you can furnish me with the best route from here (Harrow) to Llan-dudno via Worcester. I am shortly taking my holidays, and want to run down there on my $3\frac{1}{2}$ h.p. Triumph. Any information you can give me with regard to condition of roads, gradients, etc., will be most acceptable. Also if there is a better route without touching Worcester? I shall be glad if you will kindly give details of same.—R.J.H.H.

Your route through Worcester would be via Watford, Beaconsfield, High Wycombe, Oxford, Chipping Norton, Moreton-in-the-Marsh, Evesham, Worcester, Kidderminster, Bridgnorth, Shrewsbury, Oswestry, Llangollen, Corwen, Llanrwst, Conway, and Llandudno. Take care to drive carefully in the neighbourhood of Llandudno. If you desire



THE MANY USES OF THE MOTOR CYCLE.

The above reproduction is from a photograph sent by Mr. Walter Scott of Surbiton, showing one of the many services into which a motor cycle may be pressed, viz., conveying "small guests" to a wedding. The photograph was taken as Mr. Scott was starting with Mrs. Scott for their old nurse's wedding at Esher. Mrs. Scott is seated on the carrier of the Matchless.

to avoid Worcester it would be better to go through Barnet, St. Albans, Dunstable, Fenay Stratford, Dunchurch, Coventry, branching off the Coventry-Birmingham Road at Stonebridge, and proceeding to Llangollen *via* Castle Bromwich, Brownhills, pass to the south of Cannock, and follow Watling Street through Gailey to Wellington and Shrewsbury. The former is the more hilly route. In view of the present condition of the Llangollen-Corwen-Bangor Road (see *The Autocar* of the 19th inst.) we should recommend the following in preference to either of those mentioned. Route 2 to Coventry, then *via* Kingsbury. Two Gates (turn to left and avoid Tamworth), Fazeley, Lichfield, Rugeley, Great Haywood, Stone, Nantwich, Chester, Flint, Prestatyn, Rhuddlan, Abergele, Conway, to Llangollen.

Burford to Southsea.

? (1.) Which is my best route by motor cycle from Burford in Oxfordshire to Southsea in Hampshire? Are there any notably dangerous points *en route*? (2.) As I shall be spending a few weeks at Southsea, could you advise me as to the most reliable place to garage my motor cycle? Are garages generally responsible for risks, *e.g.*, fire or theft? About what rate per week should I expect to pay for garaging? (3.) Is it worth my while to join the Auto Cycle Union? I do a good many long rides in the year. (4.) My machine is a $3\frac{1}{2}$ h.p. Excelsior, 1910, cost 44 guineas, has done about 1,600 miles. I should rather like a free-engine machine; what steps do you think would be best for me to take? Have a clutch fitted, or see whether I could give the old machine in part exchange for a new one? About what money ought I to expect for the above machine if I sold now? apparently unscratched and scarcely any rust on it. (5.) To what cause do you attribute the fact that when one is driving over a lumpy road full of hollows it is very difficult to drive slowly, and misfiring takes place from time to time, and the motion becomes very jerky? (6.) Would it be possible and would it entail much expense to have an adjustable pulley fitted to the above machine? (7.) What speed do you consider to be the most economical speed for driving when touring on a $3\frac{1}{2}$ h.p. machine? Does the speed vary with the machine?—W.N.R.G.

(1.) Your best route would be as follows: Burford, Faringdon, Wantage, East Ilsley, Newbury, Whitechurch, Winchester, Botley, Fareham, Cosham, Portsmouth. If you wish to avoid the heavy traffic between Cosham and Portsmouth, you may go to Gosport and then take the ferry. (2.) We can thoroughly recommend the garage of the Southsea Automobile Co., Ltd., 20, Granada Road, Southsea. You would have to make an arrangement with them as regards the charges, as we do not know these. (3.) Certainly it is worth your while to join the Auto Cycle Union. (4.) If you are satisfied with your present machine it would be well to fix up such a fitting as the Mabon clutch (the Mabon Motor Works, 54, High Road, Finchley, N.) If you sent your old machine back you would probably be allowed about £25. (5.) The trouble is due to the float being joggled up and down

by the vibration of the road, causing too strong a mixture. (6.) No, we should say you could fit an adjustable pulley without much difficulty; in fact, the clutch we have recommended is supplied with one. (7.) About 25 m.p.h. Yes.

Queries—A Basketful.

? (1.) Acceleration. Is it permissible to slam open the throttle and air levers immediately one is seated on the saddle, or is not this bad for the engine, etc? (2.) Chain drive. Is it safe to ride with the chain having a considerable amount of sag (though not sufficient to pull chain off the sprockets by the fingers)? I think a slack chain is better for the bearings. (3.) Low gear work. What would be the cause of rather "jerky" running on the low gear, with a two-speed machine? The engine is all right, and the gear is adequately lubricated. I also notice occasionally that the steering is a bit "wobbly" when running very slowly, which was not the case with my last machine—a single-gear one. (4.) Retarding spark. When running at a low speed in traffic, is any harm done by the ignition being kept advanced (magneto)? I imagine the engine would overheat if the spark were retarded for more than a few minutes at a time. (5.) Lubrication of twins. I have heard of the back plug of twins sooting up, and I have observed that if the oiling is generous it is always the rear silencer that begins to smoke first. Does not this indicate beyond all doubt that the rear cylinder gets more oil than the front one? And, if

so, why is no effort made to introduce a sort of "baffle plate" to prevent an undue amount of oil entering one cylinder, as compared with the other? I may say that my remarks apply not only to V twins, but to horizontal as well.—OILE.

(1.) Naturally, it is kinder to the engine to open the throttle, etc., slowly. (2.) There is no object in riding with a slack chain. The chain should be just the right tension. The ideal adjustment is to set it so that there is no appreciable tightness, and yet it links up so that it imposes no strain upon the bearings. (3.) There might be a variety of causes for this trouble; probably an incorrect mixture. With regard to the steering, this may be some defect in the design of the machine you are now using. Some machines steer very much better than others. (4.) The ignition need not be quite advanced; you may retard it, say, one quarter if you have to run very slowly for a short time, but it is better to close the throttle than to retard the spark unless engine knocks. (5.) We do not think there is much doubt of the back cylinder getting more oil than the front one. In cases of this kind a baffle plate should be fitted, and we do not know why this has not been done.

EXPERIENCES WANTED.

Readers who desire to have information about the experiences of other riders with any particular machine, gear, lamp, tyre, etc., are invited to make use of this column, but it is requested that stamped addressed envelopes be enclosed for the forwarding of replies.

M.C. Morgan runabout.



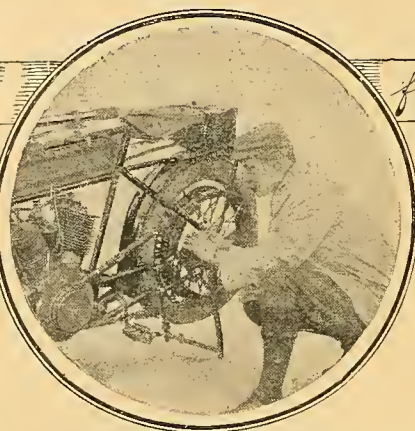
TO BAY AND DISTRICT M.C.C. OPEN HILL-CLIMB IN SOUTH DEVON
E. Kickham making a good ascent of Raydown Hill on his Douzlae.

Hints & Tips

for Motorcyclists.

THE N.S.U. TWO-SPEED GEAR.

376. The N.S.U. two-speed gear is one of those pieces of mechanism which the amateur rider will do well to let alone. It is emphatically not a thing which he should take to pieces to "see how it works," for he will have a rare job to get it together again, and, indeed, in most cases, a dismantled gear will have to be returned to the makers for re-assembling. I have known gears of this make which have run for 10,000 miles without other attention than oiling, but the meddlesome type of owner will probably complain that the gear is troublesome. The gear needs regular lubrication with a thinnish engine oil. No owner need be afraid of over-oiling; its worst effect is to make the high gear slip on full throttle until the surplus oil has been thrown out. Under these circumstances the low gear does not slip, and so any hill can be climbed with certainty. It is advisable to use a force pump in oiling, as with a squash oilcan it is difficult to make sure how much has been injected. I find I get the best results by injecting half a sherry glass of oil every 200 miles. The most fatal thing that can happen to the gear is to let the main adjustment work loose. This is of a dual character, and consists of a nicked locking ring just outside the pulley flange, which, in its turn, hides a locking grub-screw



beneath the ring. The latest types have two of these grub-screws. If the ring works loose, i.e., slides up against the pulley flange instead of lying away at a distinct gap from it, the nick in the ring may overcome the grub-screw, which will then jar out, and both guardians of the adjustment are thus lost. When the owner discovers the state of affairs he will probably think it is only necessary to tighten the locking ring and insert a spare grub-screw. In some cases this will suffice, but, as a general rule, one or more of the balls in the big ball race will have slipped over the edge of their ball race into a cup-shaped depression behind it, and if the gear is run in this condition the ball race will become corrugated and the balls will be crushed. But if care be taken to keep the locking ring tight

the grub-screw cannot be lost, and no trouble need be apprehended. After a long mileage, wear of the parts may necessitate a new position of the grub-screw for which a fresh hole must be tapped. If the gear is taken apart, the main trouble is to replace the spring and its washers. The English firms who fit the gear all employ a special and very complicated tool to refit these parts, and even then their fitters occasionally spend half an hour in coaxing the parts into position. I do not know what tool the German house employs, but their men certainly do not rely on ordinary garage tools. I hope this warning will prevent any amateur from taking his gear to pieces. If the gear is left alone and the locking ring kept tight no trouble need be apprehended beyond under-lubrication, in which case the low gear pinions will seize and the low gear will go out of action. The tips are as follows:

1. Never take the gear to pieces.
 2. Always see that the locking ring is screwed tightly away from the outer pulley flange.
 3. Oil regularly.
- (Not every user of this gear is aware that the gear may be slipped on both high and low gears by judicious manipulation of the control levers. The gear improves in smoothness and elasticity after a few hundred miles running.)

SPARKLETS.

A Good List of Records.

The Aston Motor Accessories Co., Ltd., Talford Street, Birmingham, advise us that they obtained no less than eleven records on machines fitted with their carburettors during last month.

The Value of Tuning up.

The attainment of a speed of over 64 m.p.h. for a mile on an engine measuring 76 x 59.5 mm. is an excellent performance, and shows that Harry Martin knows all there is to be known about tuning up. It is an open secret that Martin uses a valve gear of his own design.

A New Spring Fork.

With regard to the Lanzerotti spring fork which was described in our issue of 31st August, it should also have been mentioned that all communications with reference to it should be addressed to Messrs. H. Taylor and Co., 21a, Store Street, Tottenham Court Road, W.

A Rudge Record.

An advance copy of a new catalogue of the Rudge motor bicycle has just reached us. This booklet is well got up on art paper, and besides illustrations and a full specification of the various models and a long list of successes achieved, there are hints and tips on the management of Rudge machines, including removing the wheels and cylinder. At the end of the book there is a list of spare parts, the smallest details being priced for ease of replacement. Five pages are devoted to recommended accessories for the Rudge.



M.C.C. HILL-CLIMB AT SUNDON.

A. L. Ommaney making a fast climb on his Rudge.

Derbyshire Hill-climb Cancelled.

An open hill-climb had been arranged by the Derby and District Motor Cycle Club for September 30th, but the event has now been cancelled.

A Bargain Sale.

There are only three more days of Messrs. Godfrey and Applebee's end of season sale, and we have been specially asked to mention that for the convenience of motor cyclists who are engaged during the day the company's showrooms at 208, Great Portland Street, W., will be open until ten o'clock each evening during the sale.

Sidecars.

W. Montgomery and Co., of Coventry, who, as all our older readers know, are pioneer sidecar makers, have lately devoted a considerable amount of attention to the production of a light coach-built sidecar body, and the result of their efforts is a roomy and most comfortable body, which is very little, if any, heavier than the standard pattern wicker chair. The springing of the chair is also a point which has received considerable attention, and we have proved, from personal experience of a Montgomery sidecar attached to a Triumph, that the makers' efforts have not been in vain. With a fairly light sidecar and a 3½ h.p. machine, it would surprise many the wide field that may be traversed, provided a fairly low gear be used, say in the neighbourhood of 5½ to 1.

When the ZENITH-GRADUA ... is NOT BARRED. ...

In the M.C.C. Hill Climb at Sundon,
on Saturday, Sept. 9th, five firsts,
one second, and two third places
were secured by

The Victorious

Zenith- Gradua

Class I.—

F. W. Barnes on Zenith-Gradua .. 1st on Time.
" " " .. 1st on Formula.

Class III.—

F. W. Barnes on Zenith-Gradua .. 1st on Time.
" " " .. 2nd on Formula.

Class IV.—

F. W. Barnes on Zenith-Gradua .. 1st on Time.
" " " .. 1st on Formula.

Class II.—

G. Griffiths on Zenith-Gradua .. 3rd on Formula.

Class V.—

F. W. Barnes on Zenith-Gradua .. 3rd on Time.

The Zenith-Gradua also tied for fastest time of the day.

Particulars of these Machines sent on request.

ZENITH MOTORS, LTD.,
WEYBRIDGE.

1 **ONE UPON** **1**
ANOTHER **ANOTHER** **ANOTHER**

—success upon success—win after win—falls to the credit of the British Built

THE LATEST **BAT** **THE LATEST**
EST FTER ESTS

Torbay and District M.C.C. Open Hill Climb—Passenger Class—

BAT & SIDECAR FASTEST TIME.

North-West London M.C.C. Gymkhana, Stadium, Race for Passenger Machine—

BAT, SECOND AND THIRD.

Three-Laps Scratch Race—

BAT, FIRST AND SECOND.

M.C.C. Hill Climb—

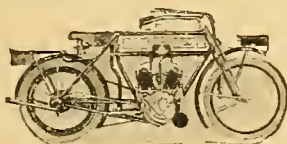
BAT, FIRST ON FORMULA.

Four-Lap Handicap for Multi-cylinder—BAT, FIRST AND SECOND.

3½-4 h.p. £48 10s.

5-6 h.p. £58

7-8 h.p. £68



Booklet Free.

THE BAT MOTOR
MANFG. CO., PENGE,
LONDON, S.E. :: ::

1 **ANOTHER** **ANOTHER** **1**
ANOTHER **ANOTHER** **ANOTHER**

In answering this advertisement it is desirable to mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



Northumberland, Cumberland, Durham, and Westmoreland.

York and Lancashire.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

Norfolk, Suffolk, Cambridgeshire, Huntingdon, and Bedford.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants. Channel Islands.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

Somerset, Devon, Dorset, and Cornwall.

Scotland.

Ireland and Isle of Man.

THE EXPERIENCE OF THOUSANDS
JUSTIFIES CONFIDENCE IN

WAUCHOPES

THE SPOT
FOR BARGAINS
AND SQUARE
DEALS.

Off Fleet Street
near Ludgate

The place where every Motor Cycle Buyer gets Bargains, and where the most advantageous exchanges are carried out of 1910 or 1911 machines for the improved 1912 models of all best makes. Details free.

WRITE FOR OUR TO-DAY'S LIST OF
BARGAINS, WHICH INCLUDES—

4407.	3 1/2 h.p. 1911 TRIUMPH, Mabon	£50 0
	variable gear	
4412.	2 1/2 h.p. 1908 DOUGLAS	£15 0
4415.	3 1/2 h.p. 1911 BRADBURY	£40 0
4416.	3 h.p. ARIEL	£10 10
4417.	2 1/2 h.p. KERRY	£10 0
4418.	2 1/2 h.p. 1911 MOTOSACOCHE	£32 10
4420.	3 1/2 h.p. 1911 Free-engine PREMIER	£42 10
4380.	4 h.p. 1910 SCOTT	£45 0
4383.	3 1/2 h.p. 1907 TRIUMPH	£26 10
4381.	3 1/2 h.p. 1910 Two-speed HUMBER	£35 0
4377.	3 1/2 h.p. 1911 ZENITH GRADUA	£45 0
4357.	2 1/2 h.p. 1910 ROYAL ENFIELD	£25 0
4359.	3 1/2 h.p. 1910 Twin PREMIER	£25 0
4361.	3 1/2 h.p. 1911 Free-engine	
	BRADBURY	£42 0
4364.	2 1/2 h.p. 1910 Standard DOUGLAS	£28 0
4367.	2 1/2 h.p. 1911 Standard DOUGLAS	£32 10
4370.	2 1/2 h.p. 1911 Standard DOUGLAS	£34 0
4374.	5 h.p. Two-speed V.S. and Sidecar	£35 0
4377.	2 1/2 h.p. M.M.C.	£10 10
4379.	3 1/2 h.p. 1907 TRIUMPH	£25 0
4392.	3 1/2 h.p. REX	£8 10
4393.	3 1/2 h.p. 1911 CHASE	£35 0
4394.	2 1/2 h.p. 1911 Standard DOUGLAS	£34 0
4396.	3 1/2 h.p. 1909 Free-engine TRIUMPH	£38 0
4402.	2 1/2 h.p. F.N.	£9 9
4403.	5 1/2 h.p. Twin N.S.U.	£24 0
4404.	3 h.p. WANDERER and Sidecar	£25 0
4406.	3 1/2 h.p. 1911 Standard BRADBURY	£36 10
4360.	5 h.p. 1911 INDIAN, F.E. model	£45 0
4387.	3 1/2 h.p. 1911 Two-speed HUMBER	£15 0
4340.	3 h.p. Magneto FAFAIR	£20 0
4350.	2 h.p. 1911 Lightweight HUMBER	£22 10
4322.	3 1/2 h.p. 1911 Two-speed N.S.U.	£37 10
4284.	1 1/2 h.p. 1910 MOTOSACOCHE	£20 Gns
4298.	7 h.p. 1910 REX DE LUXE and sidecar	£47 10
4299.	3 1/2 h.p. 1908 Two-speed N.S.U.	£22 10
4309.	3 1/2 h.p. 1909 Two-speed P. and M.	£36 10
4238.	6 h.p. 1909 Twin MATCHLESS	£30 Gns.
4249.	3 1/2 h.p. 1911 BAT	£40 Gns.
4250.	3 1/2 h.p. 1910 SCOTT	£45 0
4260.	2 1/2 h.p. BRADBURY	£10 Gns.

Send brief particulars of your present mount, and receive our liberal allowance offer for same in purchase of a new 1911-12 model of any best make.

WAUCHOPES

THE ONLY MOTOR
EXCHANGE IN
THE HEART OF
THE CITY.

OFF FLEET STREET,
NEAR LUDGATE.

Phone: 5777 Holborn.
Wires: "Opificer, London."



NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or it "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

MINERVA, 3 1/2 h.p. b.b.e., spring forks, tyres good; £8.—Lodge, 40, Robinson St., Houghton-le-Spring.

TWIN REX, 5 1/2 h.p., free engine, just re-enamelled, plated, and overhauled; £25.—Muir, Yarn Lane, Stockton.

PHELON and Moores, new 1911 models, unsratched, ready for immediate delivery.—Walkers, Fishburn, Ferryhill.

TRIUMPH, 1909, free engine model, speedometer, etc., new tyres, moderately used, and in splendid condition; £34.—Chadwick, 2, Harold St., Egreton.

3 h.p. 1906 Triumph, good order, 1911 Brown-Barlow, new Lyso belt Rom combination back; £20.—Young, Glenbrook, Craig Walk, Bowdness-on-Windermere.

1909 Triumph, new tyres and belt, 1911 piston, plating unsratched, splendid condition, £32; also sidecar, £3/10.—W. Walker, The Gables, Hurworth, Darlington.

4 h.p. Roc, magneto, Chater-Lea frame, 26x2 1/2 tyres, B. and B. carburettor, footboards, very fast, perfect order; £27.—Box 8,264, The Motor Cycle Office, Coventry.

3 h.p. Fafair, Chater-Lea, accumulator, torpedo tank, lamp, and spares, good tyres, very powerful and fast; £21.—Box 8,265, The Motor Cycle Office, Coventry. Photos on application.

3 1/2 h.p. Fafair Motor Cycle, h.b.c., No. 6 Chater-Lea 32 frame, 2 1/2 in. tyres, not ridden 800 miles, £16; also Humber, 2 1/2 h.p., 2010. frame. 28 in. wheels, 9 gas.—Dawson, 1, John St., Stockton-on-Tees.

TRIUMPHS, Hambers, B.S.A., Royal Enfield motor cycles, lightweights, 2 speeds, free engines; write, wire, or phone for immediate deliveries.—Turvey and Co., The Motor House, Sunderland. Tel.: No. 626.

SECTION II.

York and Lancashire.

1908 N.S.U., magneto; first cheque for £16 secures.—Burnell, Ferrybridge.

1911 Bradbury, in new condition; £37.—Cross, Triumph agent, Rotherham.

1911 2 h.p. Moto-Reve, as new; what offers?—Marshall, The Elms, Heckmondwike.

1911 Scott, in excellent condition, purchased April: £50.—Seal, Neville St., Southport.

1907 Triumph, h.b.c., new engine 1909, good non-skid tyres; bargain, £24.—Mackwell, Masham.

1908 Rex Lightweight, 2 1/2 h.p., magneto, excellent condition; £18.—or offer.—3, Severn St., Hull.

TRIUMPH, 1909, excellent running order, spares; £28.—Silkstone, 5, Priory Glen, Pouterfract.

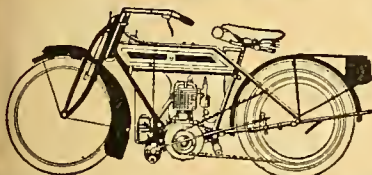
F.N., 1908, 4-cyl., magneto, spring forks, tools; £15; no offers.—1, Chatham St., Colne, Lancashire.

BARGAINS

in New Solo and Sidecar machines.

Maker's Price, £48. OUR PRICE, 34 Gns.

BRAND NEW 1910 3½ h.p. TOURIST REX.



PECIFICATION.—84 bore, 89 stroke, spring forks, very low dropped frame, cantilever seat, ball bearings to engine-shaft, Bosch magneto, handle-bar control, foot and hand brakes, ¾ in. Lycett's Lyso belt, 26×2½ in. Continental rubber non-skid tyres, footrests, number-plate, tools, tool-bag, stand, and carrier.

Sold under maker's catalogue guarantee.

OTE.—Reduced Price, 34 gns. Two speeds, £5 15s. extra.

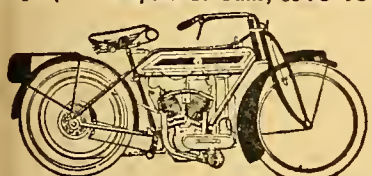
NEW 1911 MACHINES IN STOCK.

1911 3 h.p. Tourist Rex	43 Gns.
1911 5 h.p. Two-speed Rex de Luxe	60 Gns.
1911 7 h.p. Sidette	80 Gns.
1911 3 h.p. Bradbury	£48 0
1911 3 h.p. Two-speed Bradbury	£55 0
1911 3 h.p. Rudge-Whitworth	£48 15

BRAND NEW 1910 5 h.p. TWO-SPEED TWIN REX DE LUXE,

1911 cylinders, mechanical overhead inlet valves, Bosch magneto ignition, cantilever seat, spring forks, extra large capacity tanks and filler caps, special sidecar fittings, handle starting and other 1911 fittings fully guaranteed, 26×2½ in. non-skids £53 10s.

3½ h.p. Two-Speed de Luxe, £49 10s.



These machines are 1911 manufacture, and in general design and appearance the only material difference between this machine and the 1911 model at £63 is the position of the magneto, and footboards are not fitted. As a successful passenger machine it will bear the searching criticism and tests.

liberal exchange allowances against 1911 New Machines.

Let us quote you for your old mount against a 1911 Bradbury or Rudge-Whitworth.

second-hand Motor Cycles from £3 15s.; list free.

The Halifax Motor Exchange

LARGEST REX DEALERS,

6, Westgate, Halifax.

'Phone, 766. Telegrams, "Perfection."
Business hours, 9 a.m. to 6 p.m.

Australian Agent: Allen, 6, Westbourne St., Petersham, N.S.W.

MOTOR BICYCLES FOR SALE.

SCOTT, 1911 model, brand new from makers 6 weeks ago, unscratched, only run 200 miles, guaranteed absolutely perfect throughout, several extras and spares: £59: owner buying lightweight.—Moss, Wem.

PHELON and Moore, brand new, 1911 model, actually in stock; no waiting.—Moss, Wem.

MOTOR Cycle, complete, less engine, studded tyres, nice and low, loop frame, modern, neat, not a creak, suit a 2h.p., bargain, £4: Brooks £2 pan seat, bargain, 17/6.—W. Jones, 64, Rhosddu Rd., Wrexham.

GENUINE Bargain.—3½h.p. Rex, guaranteed perfect running order, and trial here, complete, accept £7; 3½h.p. Lincoln Elk April 1911, very fast, take sidecar, accept £22; money urgently wanted.—Bon Marche, Chesterfield.

THE North Wales Motor Exchange, Rhosddu, Wrexham. Tel.: 283.—1911 free engine Rudge in stock, your old machine taken in part: 1911 Huaber light weight, like new, £30: 1909 ball bearing Rex, 3½h.p. finished French grey, splendid machine, £25: 3½h.p. Peugeot, magneto, footboards, adjustable pulley, rubber belt, tyres, mount, climb anything, bargain, £17/10: N.S.U. lightweight (modern) magneto, Whittle, spring forks, little beauty, £20: 1908 Triumph, 2-speed, handle starting, engine just been overhauled, splendid gear, £31: He Luxe sidecars, to fit any machine, £5/5, no better value on earth; send for illustration.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

HUMBER 2h.p. Lightweight, used few times only: £30.—Main, 36, Parade, Leamington.

BRADBURY, 1911, standard model, new, slightly shop-soiled; £40.—Main, 36, Parade, Leamington.

SINGER Lady's Lightweight, new, slightly soiled: 30 guineas.—Main, 36, Parade, Leamington.

ZENITH-GRADUAS, 3½h.p., in stock for immediate delivery.—Sole district agents, Paskell's, Ltd., 62, High St., Leicester.

DOUGLAS, Model D, in stock for immediate delivery.—Sole district agents Paskell's, Ltd., 62, High St., Leicester.

3½h.p. 1908 Rex, Bosch, B. and B. h.b.c., new cover, running order; £20.—Hall, Caister, Lincs.

3½h.p. De Dion, Chater, h.b.c., splendid condition: £2 £10/15.—Gatch, Chesham House, Kettering.

1910 Douglas, just overhauled makers, lamp, horn, valves, overalls; £25.—Whitaker, Wilford, Notts.

1910 Premier Twin, in good condition, tyres as new: £30.—Evans, 9, Heath Terrace, Leamington.

PREMIER, 3½h.p., late 1909, little used, very fast and powerful; £27, bargain.—Kelham, Bourne.

REX, 1911, free engine, as new, perfect running order: nearest £40.—North, 51, Catherine Rd., Lincoln.

F.A.C., 4-cyl., grey finish, new May last, for sale, or exchange for 1911 2-cyl. machine.—Turner, Streetly, Birmingham.

TRIUMPH, clutch, 12 months old, full equipment, guaranteed; 38 guineas, no offers.—Robertson, Oadby, Leicestershire.

TRIUMPH, late 1909, in splendid condition throughout, complete, lamp, horn, tools, etc.; £35.—61, Wellowgate, Grimsby.

TRIUMPH, free engine, 1911, tyres and parts as new; any trial; £46/10.—W. Brandish, Triumph agent, Foleshill Rd., Coventry.

7 h.p. Indian, 1911, enamelled blue, 2 carburettors, 2 speeds; cost £80; good as new; sell £50.—W. Brandish, Triumph agent, Coventry.

QUADRANT, 3½h.p., powerful, magneto, spring forks, Dual p. etc., £16; also sidecar for sale.—Ingram, 215, Trinity Rd., Aston, Birmingham.

3½h.p. Rex de Luxe, 1909, 2 speeds, free engine, Lucas lamp, quantity spares, excellent condition: £32.—Copley, St. Catherine's, Lincoln.

TRIUMPH, 1909, perfect condition throughout, new piston and pulley, exhaust whistle, new Dunlop belt; £30.—Ivy Dece Attenborough, Nottingham.

DOUGLAS 2½h.p. Twin (1910), good condition, lamp, and everything complete for the road; £27, or nearest offer.—Apply, Guzzwell, 45, Duke St., Grimsby.

BRADBURY 3½h.p., August, 1910, Albion plate clutch, new headlight, would take sidecar, lamp, horn, etc.; £36.—Edge Meadow Rd., Edgbaston.

RUDGE 1911 Clutch Model, standard equipment, excellent condition, lamp, generator, horn, tools, and spares; £42/10.—No. 8, 325, The Motor Cycle Offices, Coventry.

ROVER, 3½h.p., free engine, new May, condition as new; bought car lamp, speedometer, etc.; cost over £60, accept £45.—Frank Young, Seacroft, Four Oaks, Warwick.

3½h.p. Quadrant, low, fast, good climber, perfect order, tyres good, 2 accumulators, grey, all spares, forbidden riding; £12.—90, Parliament St., Nottingham.

5 h.p. T.T. Bat, 1911 model, perfect condition throughout, extras and spares, speedometer.—Pulley particulars and photo, apply, Claude Truman, Ebury Rd., Nottingham.



THAT CONTINUAL STRAIN

to which the back is subjected during Motor Cycling has now received its antidote in the production of the

"CHEMICO" Motor - Bike Back Rest.

¶ The "Chemico" Motor Bike Back Rest is simple in construction, yet effective.

¶ The Belt fastened round the waist is connected to a specially designed hook on handle-bar pillar, and is held in position by the tension on this connecting strap produced by the body.

¶ The mere removal of this tension being sufficient to release the rider, it is impossible to become a prisoner.

¶ Two spiral springs attached to the connecting strap absorb all shocks and greatly add to the help and pleasure to be derived from this ingenious device.

INDISPENSABLE TO THE DISTANCE RIDER.

Price 7/6 complete.

E.D.A.

The County Chemical Co., Ltd.,
Bradford St., Birmingham.

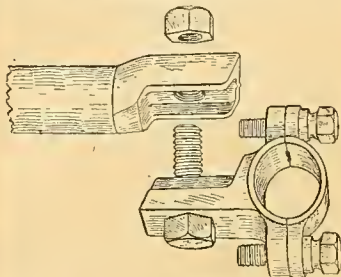
London—	48, Great Eastern Street.
Manchester—	235, Deansgate.
Glasgow—	124, Renfield Street.
Dublin—	39-40, Golden Lane.
Cardiff—	Womanby Street.

SIMPLY ENORMOUS!!!

The quantity of Sidecars we have made and sold this season has been simply enormous. **THE VALUE IS THERE**—that accounts for it. By working day and night we can still deliver from stock. All models are fitted with

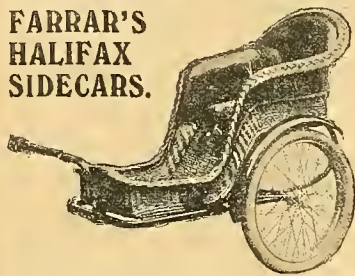
Quick DETACHABLE JOINTS

as illustrated below.



This is our Model de Luxe. Complete £5 : 5 : 0 Complete

FARRAR'S HALIFAX SIDECARS.



Absolutely the finest value on the market.

LESS POWER.

It is admitted by experts that, owing to the unique design, far less power is required to propel Farrar's Sidecars than any other style on the market. NOTE OUR front arm which grips the Sidecar CENTRE. Nothing lopsided about this attachment.

All our Sidecars are now fitted with Farrar's quick detachable joints and cranked back axles, refinements found on very few other makes.

MODEL "DE LUXE" £5 5
MODEL "C" with cane body £6 0
MODEL "D" with coach-built body £7 0
MODEL "E" with reversible child's seat £6 10
ALL COMPLETE with MUDGUARD AND TYRES.

Discount to the Trade.

Delivery from stock to suit TRIUMPHS, REXES, P. & M.'s, N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE.

SPRING LIKE A CAR.

Sole Agent for Australia and New Zealand:

Mr. T. HARRIS, Hunter Street, SYDNEY, N.S.W.

ENGINES.

Brand New 4 h.p. N.S.U. & Bosch magneto £11 11
6-7 h.p. Twin ANTOINE, fine puller £6 10
3 1/2 h.p. Water-cooled Auto-moto £4 10
1 1/2 h.p. DE DION, air-cooled £1 15
Phelon and Moore Engine and Frame £5 10
4 1/2 h.p. HUMBER, water-cooled £6 10
2 h.p. SIMMS Engine (vertical) and Frame £2 10
Other engines accepted in part payment.

MISCELLANEOUS BARGAINS.

Powell and Hammer Lamp and Generator 12/6
New 1911 B. & B. Carburettors, h.b. control 25/-
5/- allowed for old carburetter.
Longuemare, B. & B. F.N., & others from 5/- each
Powell and Hammer Generator 7/6
Special Heavy 26x2 1/2 Tubes, guaranteed 7/6

FARRAR'S
MOTOR EXCHANGE,
19, 21, 23, 25, Hopwood Lane,
HALIFAX (Two minutes from G.P.O.)

Telephone 919.

MOTOR BICYCLES FOR SALE.

1911 Triumph, standard, not ridden 50 miles, guaranteed as new; sacrifice £45.—Clifford, Eastwood. Book your orders with us for your 1912 Triumphs, Bradburys, etc.

MOTOREVE, 2h.p. twin, 1910, as new, not ridden; owner gone abroad: market price over £30, accept £25 immediately: a good example of the best light-weight—78, Parade, Birmingham.

MOTOR Cycle, 4h.p. Roc, free engine, 2-speed, Bosch magneto, h.b.c., splendid sidecar or solo machine, condition as new; accept £24, no offers entertained.—174, Grange Rd., Small Heath, Birmingham.

5-6h.p. Twin Clyde, 1910 model, in perfect condition, only little used; expert examination if required; guaranteed perfect, condition as new; £39, or nearest cash offers.—Wills, Rosedene, Raunds, Northamptonshire.

TRIUMPH, 1910, 3 1/2h.p. standard, condition absolutely perfect, Kempshall tyre on back, only done 250 miles, spare belt, complete kit of tools, belt punch, horn, etc.: expert examination invited; £36.—Johnson, Arden Villa, Berkswell.

1911 B.S.A., run only 400 miles, Albion free engine, spare valve, Whittle, Lucas's horn, lamp and generator, take two anywhere, everything new, unscratched: nearest £42.—6, Holder Rd., Sparkbrook, Birmingham. Good reason for selling.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

IN Stock:—3 1/2h.p. Rover, 3-speed gear; 3 1/2h.p. Zenith-Gradua; 2 1/2h.p. Motosacoche.—Below.

SECOND-HAND BARGAINS.—1910 2h.p. Motosacoche, free engine, £22; 1909 Motosacoche, magneto, perfect condition, £17; 3 1/2h.p. Twin Peugeot, magneto, £16; 2 1/2h.p. Kerry, £8.—29, Greco St., Cambridge.

1910 4h.p. Quadrant Motor Cycle, splendid condition: £35.—Parker, printer, St. Ives, Hunts.

J.A.P., 1910, 2 1/2h.p., magneto, Palmer cords, splendid order; £15, exceptional bargain. — Gilling, 96, Crown St., Ipswich.

2 1/2h.p. Minerva-Endie, just overhauled, re-enamelled, runs like new; bargain, £6; photo, stamp.—Rookwood, Acton, Sudbury, Suffolk.

3 h.p. Clyde, magneto, excellent order, spare cover, never used; must sell by 22nd; £11, or nearest cheque.—Hammond, Swan, Woburn Sands.

BARGAIN:—3 1/2h.p. Brown Palmer cord, spring fork, magneto, h.b.c., recently overhauled, splendid condition: £20.—Foster, Deben Rd., Woodbridge.

1910 Singer Magoet Lightweight, brand new few weeks ago, been little used, fast, climb anything, tyres and all parts guaranteed good as new; cash £21.—Wallis, grocer, Hills Rd., Cambridge.

1911 Motosacoche, 2 1/2h.p., free engine, Whittle, Palmers, adjustable pulley, as new, ridden 900: cost over £41 with extras, sell £32, or exchange Triumph or sidecar combination.—Dell, South Pickenham Rectory, Swaffham.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

2 1/2h.p. Hobart, 1911, only done 1,000 miles, as new; £22/10.—Blunt, Bull Ring, Kidderminster.

1910 Free Engine Triumph, guaranteed perfect, run 1,200 miles; £41.—Evans, Jeweller, Abertillery, Mon.

TRIUMPH (1909), excellent running order, exhaust whistle; £28, lowest.—Passey and Hall, Ross, Herefordshire.

1910 3 1/2h.p. Model de Luxe N.S.U., splendid condition, very powerful, reliable; £30.—Drew, Battenhall Rd., Worcester.

1911 Triumph, in excellent condition, P. and H. lamp, Cowey, exhaust whistle, spares; £45.—Pailthorpe, Evesham.

1910 Bradbury, perfect condition, accessories, spares; inspection invited; £33.—Griffiths, National Provincial Bank, Worcester.

1911 Singer, 2h.p., only ridden 500 miles, never on wet roads, splendid condition; £26/10.—E. Hawthorn, Woodville, Llandrindod Wells.

NEW Hudson, 2 1/2h.p., Armstrong 3-speed gear, only ridden 300 miles, absolutely perfect; cost 47 guineas, accept £42.—Passey and Hall, Ross, Herefordshire.

MOTOR Cycle (6h.p. N.S.U.), purchased 1910, 2-speed, Palmer cord, Whittle, Bosch, perfect condition; nearest £29/10.—Phillips, Tram Terminus, King's Norton.

CASH Offers wanted for 1911 3 1/2h.p. Premier, free engine model, not yet out of crate; advertiser having bought car.—Box 14,348, The Motor Cycle Offices, 20, Tudor St., E.C.

1911 2 1/2h.p. Brown, Precision engine, nearly new, not ridden 300 miles, Brown and Barlow, Druid forks, studded Dunlops: genuine bargain, £29/10.—Roberts, Brynauon, Llandrindod Wells.

FOR GREASY ROADS

These are the mounts.

IDEAL MOUNTS.

POWERFUL but LIGHT.

1910 2 1/2 h.p. Twin, brand new	£24 0
1910 2 1/2 h.p. Twin, fine order	£24 0
1910 2 1/2 h.p. Twin, soiled only	£26 10
1910-11 2 1/2 h.p. Twin, done 100 miles	£26 0
1911 Single-cylinder, record machine	£22 0
1908 2 h.p., fine value	£18 0
1909 Twin, very fine order	£20 0
1911 2 1/2 h.p. Twin, three-speed gear	£38 0
1911 3 h.p. Twin, M.O.V., three-speed gear	£42 0
1911 Special Single-cyl., done 200 miles	£22 0

SINGLE-CYLINDER REXES.

3 1/2 h.p., 1908, Bosch, B. & B. carb., M.O.V.	£24 0
3 1/2 h.p., 1910, with 1911 spring forks	£35 0
3 1/2 h.p., 1910, black finish	£32 0
3 1/2 h.p., 1910, grey finish	£32 0
3 1/2 h.p., 1909, Tourist, very good	£28 0
3 h.p., 1908, Featherweight magneto	£18 0

TWIN-CYLINDER REXES.

7 h.p. de Luxe, two speeds, M.O.V.	£48 0
5-6 h.p., 1908, two-speed, and sidecar	£32 0
5-6 h.p., special model, 1909, magneto	£27 10
5-6 h.p., de Luxe, clutch model	£24 0
5-6 h.p., two speeds and free engine, Bosch	£28 0
5-6 h.p., de Luxe, 1908, two-speed model	£28 0
5-6 h.p., de Luxe, 1908, two speeds, special, good	£29 10

5-6 h.p., 1908, two-speed de Luxe, 1909 engine	£32 0
5-6 h.p., 1907, Tourist, Bosch magneto	£21 0
5-6 h.p., 1907, Lloyd's variable gear, Bosch	£23 0

N.S.U.'s N.S.U.'s N.S.U.'s

5 1/2 h.p., two speeds, Bosch, B. & B. carb.	£25 0
Or with sidecar complete	£28 0
5 h.p. Twin, Bosch magneto	£19 0
1908 Lightweight, Bosch magneto	£17 0

OTHER MAKES. OTHER MAKES.

3 1/2 h.p. 1910 Clutch Triumph, very fine ..	£45 0
1911 New Hudson, three speeds	£47 0
3 h.p. Triumph, M.O.V., very good	£18 0
3 1/2 h.p. Fafnir, M.O.V., grand goer	£12 0
3 h.p. Singer, Bosch, V belt drive, B. & B.	£16 0
3 1/2 h.p. Minerva, M.O.V., B. & B. carb.	£14 0

SIDECAR COMBINATIONS.

5-6 h.p. Clutch Model Rex and new sidecar ..	£29 0
5-6 h.p. Two-speed 1908 Rex and Sidecar ..	£33 0
One ditto	£32 0
7-9 h.p. Two-speed Rex and Sidecar	£53 0
All fitted with Magneto and Spring Forks.	

TYRES. TYRES. TYRES.

26 x 2 and 26 x 2 1/2 in. wired-edge covers ..	12/6
Continental, rubber non-skids, 26 x 2 1/2 or 2 1/4 ..	30/-
Hutchinson, ribbed tread, 26 x 2 1/2 in.	18/6
Continental, beaded, 26 x 2	18/6
Tubes, all sizes, guaranteed	9/6

£4 DOWN SECURES ANY OF THESE.

BALANCE 6/- WEEKLY	
3 1/2 h.p. Brown Bicar, 26 in. wheels	£12 0
3 1/2 h.p. Fafnir, M.O.V.	£12 0
3 1/2 h.p. Minerva, M.O.V., B. & B. carb.	£14 0

£6 DOWN SECURES ANY OF THESE.

BALANCE 7/6 WEEKLY	
3 h.p. Singer, Bosch magneto, h.b. control ..	£16 0
4-5 1/2 h.p. N.S.U., Bosch	£19 0
1908 N.S.U. Lightweight, Bosch magneto ..	£17 0
3 h.p. Triumph, M.O.V., 26 in. wheels	£18 0
1908 Magneto Rex, low and smart	£18 0
5-6 h.p. Twin Rex, Bosch magneto	£21 0

CARS AND TRICARS.

5 h.p. Humber Car, two-seater, good goer ..	£22 0
6 1/2 h.p. Peugeot Car, two-seater	£35 0
5 1/2 h.p. Rexette, two speeds, a beauty	£24 0
6 h.p. Rover Tricar, good goer	£17 0

MISCELLANEOUS BARGAINS.

Rigid Sidecar, 26 in. wheel	51/-
Farrar's Sidecar, 26 in. wheel	£4 0
Coronet Sidecar, coach-built	£4 17 6
F.R.S. Lamp, mirror bar	12/6
Bosch Magneto for V twin	£3 15
Bosch Magneto for 3 1/2 h.p. single	£3 5
Vertical Frame, with 26 in. back wheel, etc.	£1 15
Prested Accumulators, new, 15 amp.	9/6
Tricar Frame, suit 6 h.p. engine	35/-
Lycett's Tubular Carriers, new	4/11
New Lycett's Saddle coil springs, L/109 ..	15/-
New Frame for vertical engine	30/-
New Prested Midget Trembler Coils	15/6

Farrar's Motor Exchange
19, 21, 23, 25, Hopwood Lane,

Telephone 919. **HALIFAX** (Two minutes from G.P.O.)

MOTOR BICYCLES FOR SALE.

- 1911** 3½-h.p. Rover, free engine, perfect in every respect; £42.—Noble, 63, Cromwell Av., Highgate London.
- SCOTT**, late 1910, perfect condition, very little used; best offer accepted.—Drake, St. Loo Mansions Chelsea.
- 4** h.p. Chater, new, Dunlop, Brown and Barlow, splen did condition; £18.—117, Shackwell Lane Dalston.
- 32** h.p. Triumph, in first-class condition; £25, first cash.—At Wauchope's, 9, Shoe Lane, Fleet St. London, E.O.
- F.N.**, 4 cyls., 4½-h.p., magneto, recently overhauled; £16/10, or near offer.—31, Morington Rd., Leytonstone.
- GRIFFIN**, Clement, 1½-h.p., weight 70lbs., average 15 miles, runs easy; £13.—Milton, High Pavement, Lewisham.
- 12** h.p. Motosacoche, equal new, Druids, lamp, horn, 2 belts, spares; accept £16/10.—1, Besley St., Streatham.
- 24** h.p. Noble, magneto, Chater frame, very low and fast. painted French grey, ready for the road; £12.—Below.
- 14** h.p. 1909 Motosacoche, magneto, free engine, all spares; £16.—Below.
- 41** h.p. Noble Tricar, 4 speeds, handle starting, painted French grey, coach-built rear, 1911 Brown and Barlow carburettor, exactly like a car; £18.—Below.
- 1910** Rex (lot), free engine clutch model, only ridden 500 miles; a bargain, £38.—Below.
- 24** h.p. Kilecoun, tyres good, engine sound, lamp, horn, etc.; £5, cash or exchange.—Metropolitan District Garage, 181, Gt. Portland St., W.
- 1911** Standard Triumph, 3½-h.p., nearly new; sacrifice £39, or nearest offer.—See, Central Hotel, Percy St., W.
- 32** h.p. 2-speed Brown, new condition, 2 new tyres, paint good, will take sidecar; £15.—Grace, White House, Tring.
- 3** h.p. Humber, m.o.v., 1911 model, condition as new; price £28/10.—At Wauchope's, 9, Shoe Lane, Fleet St., London.
- TRIUMPH**, 3½-h.p., 1909 Dunlop tyre, belt, with all accessories; £29.—White, 234, Blackstock Rd., Highbury, N.
- 1911** Bradbury, free engine model, new, not been ridden; best offer over £45.—Smith, 52, High Street, Southend.
- FAIRY**, 1909, Douglas pattern, 2½-h.p., twin, magneto, spring forks, perfect; £15/10.—7, Trewint St., Earsfield.
- 3** h.p. Griffon-Zedel throughout, m.o.v., very low, perfect; sell or exchange.—33, Cadogan Terr., Victoria Park, E.
- SELL** £28 (or exchange for 3½-h.p.), nearly new twin Vindex Special, 5½-h.p.—Montrose, Melbourne Rd., Eastbourne.
- 5** h.p. Twin N.S.U., 2-speed gear, free engine, excellent order, complete with sidecar; £35.—Poxon, Castle St., Canterbury.
- REX**, 3½-h.p., grand condition, low machine, little used, good tyres, new belt; £15, nearest.—15, Dockley Rd., Bermondsey.
- 1908** 3½-h.p. Brown and sidecar, spring forks, Palmers, grand condition; £17/10.—66, Mackenzie Rd., Beckenham, Kent.
- CHATER-LEA-PEUGEOT**, 3½-h.p., 1910, magneto Amoc, footboards; £20.—70, Evering Rd., Stoke Newington.
- 5** h.p. Rex, 1911 model, free engine, handle starting, as new; £35.—At Wauchope's, 9, Shoe Lane, Fleet St., London.
- 5** h.p. Twin N.S.U., 2-speed gear, free engine, excellent sidecar machine; any trial; £30.—Hilton, Blean Canterbury.
- BRADBURY**, 3½-h.p., standard model, £48; 2-speed, £55.—Agents: Bright and Hayes, 73, Church St., Camberwell Green.
- BRADBURY**, 3½-h.p., 1910 model, perfect order; £29/10.—73, Church St., Camberwell.
- N.S.U.**, 3½-h.p., spring forks, magneto, fitted with free engine clutch; bargain, £23/10.—73, Church St., Camberwell.
- 1911** Bradbury, all accessories, been 250 miles; £44, exchanges entertained.—Wadden, Broadway, Weybridge.
- CLYNO**—Place your orders now for 1912.—Sole agents London, S.W., Wilton Cycle Co., Victoria Station, S.W.
- 5** h.p. Twin Rex, h.b.c., B104 new saddle, cantilever, splendid machine; £18, or offer.—32, Wyndcliff Rd., Charlton, S.E.
- 21** h.p. Peugeot 26in. Michelin tyres, h.b.c., perfect going order; £7/10.—Motorist, 38, Carlisle St., Edgware Rd., N.W.
- 31** h.p. Rex, new accumulator and belt, Palmer tyres, splendid condition; £10.—Puckeridge, 47, Liberty Hall Rd., Addlestone.



You pay too much
for accumulator
ignition—

put an end to it—

—and not only cut down unnecessary expense, but also relieve yourself of all worry and trouble of this unsatisfactory means of ignition.

Employ Hellesen Dry Batteries: the initial cost is practically half that of accumulators—subsequent upkeep is absolutely nil—they never get out of order, and are always ready for use—dry and clean.

The price of a Hellesen Battery is only from 6/6, and for this figure it is possible to run upwards of 2,000 miles—156d. per mile—with perfect security against the semblance of ignition troubles.

This is not all, mark you—when its capacity has dropped too low for ignition purposes, it can be used in the Hand Lamps as well as for bells, etc., and as such will last for years—a quality which affords much satisfaction to practical motor cyclists.

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Write to-day for our interesting booklet, which fully describes Hellesen Batteries—it is post free; also ask for particulars of our famous coils, and other useful accessories.

A. H. HUNT,
115-117, CANNON STREET,
LONDON, E.C.

**MOTOR BICYCLES FOR SALE.**

- 5** h.p. Rex, coach-built sidecar, h.b.c., Palmer tyres; £12: illness cause of sale.—Snaw, 29, Brunswick St., South Hackney.
- 5** h.p. Indian Motor Cycle, free engine, with rigid sidecar; must sell; £35, or offer.—9a, Trevelyan Rd., Tooting, London, S.W.
- 1911** Rex, 5-7½-h.p., twin, footboards, Lucas lamp, Jones speedometer, good as new; £40.—Baker, Warborough, Wallingford.
- TRIUMPH**, 3½-h.p. in new condition, thoroughly overhauled; a bargain, £18 cash.—Mr. Clemow, 16, College St., Brighton.
- TRIUMPH**, 1910, delivered February, 1911, absolutely perfect, lamp, etc.; £40.—23, Kennet Terrace, Willesden Junction.
- 6** h.p. Sarolen, B. and B., h.b.c., Druids, adjustable pulley, low saddle position; £16/15, bargain.—85, Church Rd., Willesden.
- MOTOR** Cycle, 3½-h.p. Rex, £26/10, good condition; also sidecar, £2/15; no dealers.—Higgs, 97, Gordon Rd., Peckham.
- F.N.**, latest 1911 model, 5-6½-h.p., 4 cyls., magneto, automatic carburettor, like new; £38.—68, Elmleigh Rd., Wandsworth.
- INDIAN**, 5½-h.p., 1910, red, just overhauled by Hendee Co. with all accessories; £35 cash.—Hastings, 21, Highbury Quadrant, N.
- 31** h.p. Minerva with Sidecar, free engine, 2-speed, 32 new cylinder, perfect order; £18.—Batty, Lewes Rd., Newhaven, Sussex.
- MOTOSACOCHE**, 1909, magneto, Druids, free engine splendid condition; £16.—Good, 11, Canning Crescent, Wood Green.
- 24** h.p. F.N., spring forks, magneto, 1911, B. and B., 4 footboards, splendid order; trial; £18/10.—125, St. Asaph Rd., Brockley.
- 4** CYL. F.N., 1909, 4½-h.p., B. and B. carburettor, Michelin tyres, footboards, any trial; £16.—J.P.P., 12, Mowbray Rd. N.W.
- 1911** 3½-h.p. Rex, 3 months old, absolutely as new, all accessories; £32, great bargain.—Treby, 156, Windsor Rd., Forest Gate.
- TRIUMPH** Standard 1908 Model, perfect, special finish; £26; after 8.30.—W., 71, Fox Lane, Pinner's Green, London, N.
- QUANTITY** of Motosacoche Motor Cycles, light weights, from £12/10.—At Wauchope's, 9, Shoe Lane, Fleet St., London.
- HUMBER** 2-speed Model, late 1910, in splendid condition; lowest price, £36.—F. Manning, 5a, Wisleria Rd., Lewisham S.E.
- 5** h.p. Indian (red), late 1910, very little used, tools and spares, splendid condition; £34.—Chamfear, 41, Leonard St., Silvertown.
- ADVANCE**, 3½-h.p., magneto, low, nearly new bark tyre, splendid order; bargain, £18, or offer.—W., Aera, York Rd., Guildford.
- 1911** Indian, 5½-h.p. twin (blue), free engine, been 100 miles, new; £48; exchanges entertained.—Edmunds, Malvern Weybridge.
- TRIUMPH** and Sidecar, Bosch, 1911 B. and B., everything perfect; £28, without sidecar £25.—Fordham, 28, Dalston Lane.
- BRADBURY**, 1911 (June 15th), Dunlop studded, perfect; £37/10.—Stephens, High St., Woodford Green, 'Phone Woodford 169.
- 31** h.p. 1911 Free Engine Bradbury, almost new; splendid bargain, price £42.—Seen at Wauchope's, 9, Shoe Lane, Fleet St., London.
- QUADRANT** Engine, 3½-h.p. in good order; can be seen running any evening; £35.—W. Horae, 133, Felixstowe Rd., Lower Edmonton.
- EAGLES**—N.S.U. 1½-h.p. lightweight, only ridden 250 miles, brand new condition, Bosch magneto, 2-speed gear, free engine; £28/10.
- EAGLES**—N.S.U., 3½-h.p., late 1909, standard model, ridden 800 miles, 2-speed gear, free engine, as new; £30.
- EAGLES**—Douglas 2½-h.p. Twin, late 1910, had little use, nearly new; £27/10.
- EAGLES**—N.S.U., 3½-h.p., 1908, magneto, spring forks, B. and B. carburettor, fine condition; £17/10.
- EAGLES**—Motosacoche Lightweight, Hellesen ignition, Whittle belt, fine condition; £11/10.
- EAGLES**—Minerva, B.S.A., 2½-h.p., m.o.v., spring forks, adjustable pulley, h.b.c.; £10/10.
- EAGLES**—We have a few brand new single-cyl. N.S.U.'s, just delivered, magneto ignition, m.o.v., improved carburettor, h.b.c., Shamrock belts, 1911 spring forks, and other improvements, complete tool case, full set of tools, stand, etc.; 3½-h.p. £27, 3½-h.p. £31, net cash; deferred payments arranged.
- EAGLES** and Co., High St., Acton, N.S.U. West London district agency.—Immediate delivery of 1911 models; liberal allowances for machines in part payment. Tel.: 556 Chiswick.
- 31** h.p. Zenith Gradua, variable gear, 1911 model, in 2 first-class condition; price £45.—At Wauchope's, 9, Shoe Lane, Fleet St., W.

MOTOR BICYCLES FOR SALE.

DOUGLAS, late 1910, practically new, lamp, horn, spares, extra tyre; expert examination; £26.—Lunt, Borcham Wood, Herts.

1911 Hobart, 2½hp., new May, spring forks, magneto, Bosch, h.b.c.; £25; splendid condition.—78, Lower Addiscombe Rd., Croydon.

J.A.P.-CHATER, 4hp., No. 6 (1908), Bosch, Whittle, Davidson's tank, very low, really excellent condition; £22/10.—27, Melbourn Rd., Ilford.

1909 Ariel, 2½hp., lightweight, magneto, all spares, thoroughly guaranteed, want tancar; £19/10.—Stone Wharf, Gipsy Hill Station, S.E.

42hp., F.N., 4 cyls., magneto, excellent running order, accessories; £16.—Alain Smith, Bloomsbury Club, Cartwright Gardens, W.C.

2½hp. Motor Bicycle, low, light, good; sacrifice. £28/10, must sell; seen any time, trial.—Thomson, 77, Handcroft Rd., West Croydon.

1908 Twin Moto-Reve, magneto, spring forks, all h.b.c., all accessories, wants engine overhauling; £11.—12, Market Sq., Herts., Sussex.

KERRY, 5hp. twin, Bosch, B. and B. h.b.c., tyres almost new; £26; seen by appointment.—Gane, 6, Caroline Place, Mecklenburgh Sq., W.C.

5hp. Rex Twin Whittle belt, all accessories and spares, perfect order, trial; £32; owner going abroad.—R.H., Havering, Tunbridge Wells.

B.S.A.—Early deliveries of these splendid mounts from the Cripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

3½hp. M.M.C., Chater No. 7, spring forks, Palmers, 2nd belt, and nearly new engine, £14/10; frame, 1st.—P. Wright, 94, High St., West Norwood.

3½hp. Triumph, perfect order, new cylinder, piston, Palmer cord tyres, as new, all accessories; £15/10, or offer.—Missenden, 128, High St., Harlesden.

A 3½hp. Brown, bought 1910, guaranteed in good condition, seen London, Sutton, or Ewell; cash only.—Charles Odell, Court Farm, Ewell, Surrey.

M. NERVA, 3½hp., 1911 B. and B. spring forks, Chater frame, like new, and sidecar (trailer converted); offers.—Anstey, Fire Station, Southwark.

LIGHTWEIGHT Motor Bicycle, Wolf, 1½hp., first-class condition, set run 1,000 miles, magneto ignition, £19.—Townsend, Stamford Lodge, Sevenoaks.

M. CHATLASS, 1911, twin, belt drive, Vindex 2-speed, Chater-Lea sidecar, lamp, horn, spare valves, etc.; 70 guineas.—Swales, Ingram House, Stockwell, S.W.

3½hp. Humber Vertical, 1911 B. and B., spring forks, good tyres, enamel and plating as new; bargain. £14.—F.F. S., Octavius St., Deptford, S.E.

2½hp. P. and M. 1911 Amac, new, trembler and accumulator; any trial; must sell; £5; no rubbish.—Hargreaves, 31, Howley Place, Paddington.

MOTOREVE, 2hp. twin, 1910, new Kempshall, 1911 magneto, Lucas lamp, spares, excellent condition. £20.—Clegg, 15, Trinity Rd., Wimbledon.

2½hp. Minerva, with spring forks, tyres good, in running order, £5/10; also Ariel motor cycle, minus cylinder and piston, £4.—Quick, Hurstpierpoint, Sussex.

1910 5.6hp. F.N., 2-speed, free engine, new condition, 2½in. steel studded back tyre, ideal sidecar machine; nearest £40.—111, Grove Lane, Camberwell.

3½hp. 1911 Premier, F.E. model, like new, sound and perfect everywhere; £42/10, splendid bargain.—At Wauchope's, 9, Shoe Lane, Fleet St., London, E.C.

3½hp. Brown, very fast, splendid condition, spring forks, tyres nearly new, Triumph bars, 1911 B.B. carburetter; £15.—113, Loughborough Rd., Brixton.

1910 V.S., 5hp., 2-speed, excellent condition, any trial, splendid sidecar machine; accept £40.—Seen at Haynes Bros. Ltd., 18, Gabriel's Hill, Maidstone.

3½hp. 1911 Free Engine Bradbury, almost new; splendid speed gear and free engine; a sound bargain, price £49/10.—Seen at Wauchope's, 9, Shoe Lane, London, E.C.

3½hp. N.S.U., magneto, new belt and tyres, horn, lamp, tools, spares, perfect condition, just overhauled, going abroad; £20.—St. John's Vicarage, Hendon, N.W.

N.S.U., 6hp., 1908, thoroughly good condition, just re-bushed, two-speed gear, lamp, horn, and accessories.—Apply, Sheppard, 62, Primrose Mansions, Battersea Park.

IF You Want Bargains in second-hand motor cycles, you can get them at Wauchope's.—Wauchope's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

2½hp. F.N., 1911 machine, Chater-Lea frame, h.b.c., 1911 Amac, tyres almost new, modera, fast, good puller; bargain; £15; photo.—E. Barlow, 183, Maidstone Rd., Rochester.

MATCHLESS J.A.P., Amac semi-automatic carburetter, new covers, lamp, and good kit of tools; engines in price £45, or near offer.—Sorrell, Clarnico, London.

1910 Triumph, T.T. Roadster, complete with tools and spare handle-bars, has been carefully ridden; owner purchased 1911 Triumph; £37 cash.—Wells, Lawaside, Buckhurst Hill.

There never has been

since the birth of the motor cycle better value than is being offered to-day by manufacturers, but

: The Best of All :

is the opportunity we are now giving you of obtaining a brand new 1911 Motor Cycle at a bargain price. We are offering a different machine each week, in every case one of the highest grade 1911 models and carrying maker's full guarantee.

There are now on the market various so-called "1910½ models" fitted with engines or frames of an obsolete pattern—it will pay you to keep clear of all such rubbish and buy only

: THE VERY BEST. :

This Week's Special Offer:

3½ h.p. 1911

B.S.A., £43

(Slightly Soiled).

List Price, £50.

— ALSO —

One latest model water-cooled two-stroke

1911 SCOTT

for immediate delivery at list price or best offer.

We can give immediate delivery from stock of latest 1911 models TRIUMPH (Standard; Free Engine; T.T. Roadster; and T.T. Racer), REX, ARIEL, HUMBER, B.S.A. & INDIAN Motor Cycles.

Exchanges or Instalments arranged.

We have many bargains in high-class overhauled and guaranteed Motor Cycles. Write for full second-hand list.

THE PREMIER MOTOR Co., Ltd.,
Aston Road, Birmingham.

Telegrams: "Primus, Birmingham."

Telephone: Central, 4310.

MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—Only house for great bargains and quick delivery of new 1911 machines you cannot get elsewhere; agents for all makes, and makers of the famous Rev's sidecar and exhaust whistle.—Only address, 5, Heath St. Tel.: 2678 P.O., Hampstead.

HAMPSTEAD.—Douglas, 1911, model D, almost new, all accessories, run about 200 miles; £35.

HAMPSTEAD.—1911 Rex, 3½hp., brand new, clutch model, handle starting; £39, special bargain.

HAMPSTEAD.—1911 free engine Triumph, almost new, run about 300 miles; great bargain, £48.

HAMPSTEAD.—1911 2½hp. Royal Enfield, latest model, chain drive, new condition; £36, a bargain.

HAMPSTEAD.—3hp. Centaur B. and B., all accessories, good tyres; bargain, £8.

HAMPSTEAD.—3½hp. 1910 Premier, splendid condition, with all accessories; a bargain, only £26.

HAMPSTEAD.—1911 Triumphs, free engine, T.T. roadster, or standard for immediate delivery from stock.

HAMPSTEAD.—1911 6hp. racing Bat, almost new, set run 100 miles; only £48.

HAMPSTEAD.—1911 Rudge, almost new, with all accessories, a fine machine; only £42.

ZENITH, 8hp., 1911, brand new, for immediate delivery, no waiting; 68gas; and 3½hp.

HAMPSTEAD.—1909 Moto-Reve twin, with 1910 engine, all accessories; £14, special bargain.

HAMPSTEAD.—1911 standard Triumph, 3 weeks old, condition almost new; £39, special bargain.

HAMPSTEAD.—3hp. B.S.A., condition and tyres like new, requires cylinder only; bargain, £7.

HAMPSTEAD.—1911 3½hp. Premier, almost new condition, with all accessories; special bargain, £34.

HAMPSTEAD.—1911 Bradbury, like new condition, with accessories; a sidecar machine; £35, bargain.

HAMPSTEAD.—3½hp. 1911 two-speed Humber, almost new, with accessories; £45.

REY, Hampstead.—Great Bargains.—5, Heath St., Hampstead. Tel.: 2678 P.O.

SCOTT, 1911, brand new, for immediate delivery, and P. and M.—Rey, 5, Heath St., Hampstead.

REY, 5, Heath St., Hampstead, can give immediate delivery of the following 1911 machines:

P. and M. 1911, in stock, 6hp. Zenith, and 3½hp. Zenith.

BRADBURY'S, standard, free engine or 2-speed; immediate delivery; no extra for extended payments.

DOUGLAS, 1911 models, in stock; 2-speed and standard; no waiting; 5% extra for E.P.

HUMBER, 1911, 3½hp., 2-speed and free engine model; immediate delivery.

BAT, 7-8hp., 1911, new, for immediate delivery; £60.

LINCOLN Elk, 3½hp., 1911, £34; or 2½hp., £28/10; no waiting.

HANDY Hobart, 3½hp. twin, 1911, or 2½hp.; no waiting.

SCOTTS, 1911, 3½hp., 2-speed gear, for immediate delivery, no waiting; £60.

RUDGE T.T. Standard and free engine, now in stock; no waiting.

B.S.A., 1911, 3½hp., for immediate delivery; no waiting; £50.

HAMPSTEAD.—6hp. Bat, 1911 model, splendid condition; only £45.

HAMPSTEAD.—1911 3hp. Lincoln Elk, shop-soiled condition only; special bargain, £26; all accessories.

TRIUMPH, 3½hp., 1909, splendid order; only £28, with all accessories.

ALL the Above for immediate delivery; terms, cash, exchange, or extended payments.—Only address, Rev. 5, Heath St., Hampstead. Tel.: 2678 P.O.

BARGAIN.—3hp. Minerva, m.o.v. B.J. carburetter, h.b.c., magneto ignition, Palmer tyres, Lyso belt, etc., new, not ridden 200 miles.—H. Napier, 62, Thornbury Rd., Isleworth.

3½hp. Rex, 1909 late, T.T. or touring, 1910 spring forks, very fast indeed, accessories and tools complete, no rubbish; see any time; £25.—Picken, 21, High St., East Ham.

ZENITH Gradus, 1911 model, 3½hp. J.A.P. engine, as new, and in the rough order, speedometer, clock, lamp; what offers?—Thackthwaite, Upton Lodge, Victoria Rd., Twickenham.

HUMBERS, New Hudsons, Quadrants, Moto-Reves, James, Grandex-Japs, Calthorpes, immediately from stock; easy payments at an extra charge of 2 per cent. only.—William Whiteley, Ltd., Queen's Rd., London.

10 Secures Delivery, carriage paid, of any motor cycle on the market; 2 per cent. only is charged for 12 months' credit. Humbers, New Hudsons, Quadrants, Moto-Reves, James, Grandex-Japs, Calthorpes, in stock.—William Whiteley, Ltd., Queen's Rd., London.

MOTOR BICYCLES FOR SALE.

1 3h.p. Pafnir Lightweight, re-hushed and overhauled
July, thorough order; £8/10; buying sidecar machine.—Glenmore, Langley Park, Mill Hill, N.W.
4 u.p. Twin, only £18, very comfortable, low built, spring forks, excellent tyres B. and B. carburettor, h.b.c., just overhauled, in splendid order.—Call at once, Roper, 210, Bath Rd., Hounslow.

2 4h.p. Douglas, magneto ignition, first-class machine, £24 in excellent running order; price £15; end of season; grand opportunity.—At Wauchope's, 9, Shoe Lane, Fleet St., London, E.C.

3 2h.p. Minerva, low position, magneto, new tyres. £2 Amac, h.b.c., spare belt, horn, toolbag, lamp, reliable mount, £13; also nearly new sidecar, £3/15.—Cooper, 34, Croft St., Deptford.

3 2h.p. Lagonda Cycle, good running order, £14; tri-
cor, 4h.p. Pafnir, w.c., 3-speed Oppermann gear, new tyres on front, steel studded tyres on back, £18/10.—Seen any time at 321, Kentish Town Rd.

LIGHTWEIGHT 1910 F.N. 2 1/2h.p., shaft driven, 2-speed, completely equipped, all accessories, tyres almost new; accept £23/10 cash, immediate sale.—Smith, 12, Marler Rd., Forest Hill, S.E.

BAT-J.A.P. 7-8h.p., Bat sidecar, J.A.P. carburettor, Cowey speedometer, 2 lamps, (Bosch magneto), Whittle belt, adjustable pulleys, 1 oil roll, spares, etc., very fast; £50, no offers.—Haines, 187, Goswell Rd., E.C.

MOTOSACOCHE, 1911 model, free engine, 2 1/2h.p., absolutely new, will sacrifice for £34 cash; also immediate delivery of standard "Jel B.S.A." £50 cash.—B. Carey, 16, Crescent Rd., Tunbridge Wells.

WIN-PRECISION Motor Cycles: immediate delivery of 1911 model, gradual payments, £2 monthly, cash, £45/10; particulars on application.—De Nevers Automobile Agency, Empire House, Piccadilly, W.

TRIUMPH, free engine (May, 1911), Rom steel-studded tyres, Brooks carrier and pannier bags, and Montgomery 12-guinea sidecar, fitted with cycle saddle; £40.—The Glen, Old Heath, Colchester.

2 4h.p. F.N. Motor Cycle accumulator, perfect order, £24 15s; 2 1/2h.p. Chase, splendid condition, £8/8; 9h.p. J.A.P. tricar, w.c., 3 speeds and reverse, dual ignition, £45, bargain.—Leppard and Carver, Upminster.

19 10 and 1911 Second-hand Motor Cycles of great variety on offer; call and inspect our large and varied stock; motor cycles from £5; all the very latest on show; exchanges arranged.—At Wauchope's, 9, Shoe Lane, Fleet St., London.

19 10 Moto-Rex Lightweight, 1 1/2h.p., single-cyl., magneto, fitted rectifier and special h.b.c., many spares, including complete exhaust and inlet valves, guaranteed splendid condition, and perfect running order; owner buying latest model; 19 guineas.—56, Kingston Rd., Teddington.

WIN-PRECISION Motor Cycles.—Immediate delivery of 1911 model, Druid forks, Bosch magneto, B and B carburettor, Duoip tyres, £45/10; cash, gradual payments, £2 monthly; trial by appointment any reasonable distance.—Jeonings, 268, Hornsey Rd near Public Bath, Holloway, London.

A FIFTY Pound 2-speed Humber, absolutely as new, beautifully tuned, enamel under-bed, powerful, fine sidecar machine, with over 24 worth of spares, including 2 new tyres; £12/10, only 2 months old; expert examination invited and desired; seen any time.—Write, "Two-speed," 245, Gray's Inn Rd., W.C.

7 h.p. 2-speed Blue Indian, 1911, nearly new, Palmer cord and 6 and 1 1/2 tyres, complete with Mills-Fulford rigid sidecar, fitted with luggage board, Lucas Projector lamp, Cowey speed indicator, Brooks B104 saddle with back rest; complete ready for the road; £65.—Pond, 349, West End Lane, Hampstead.

TRIUMPH 1909's, everything in perfect condition, new inner tubes, and nearly new outer covers; splendid opportunity for anyone wishing to acquire a really good reliable machine; owner going abroad; can be seen and tried any time; £32.—Verdon, Bohun Lodge, East Barnet, Herts.

HAZEL Lightweight Motors.—We are now in a position to give early delivery of our 2 1/2h.p. model the lowest, shortest, and bestest machine of its power on the market, fitted with Jap engine; price 35 guineas.—Second-hand machines in part payment; many good second-hand machines in stock at De-Quatre 1118-1119, Grays Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London E.

19 11 Free Engine Triumph, just delivered, £55; standard 1910 Triumph, in fine condition, tyres retreaded, £35; 1911 T.T. roadster Triumph, in perfect condition throughout, will do over 60, £43; 1911 shop-sold B.S.A. offers: 1911 Mills-Fulford 12 guineas motor wheel sidecar in new condition, tyre unpunctured, £8/10.—L. R. Tippins and Son, Triumph Agents Mistle, Manningtree.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

19 11 Rudge-Whitworth, 3 1/2h.p., fixed engine, in stock £48/15.—Moffat, Yeovil.

DOUGLAS splendid condition, excellent clincher spares; £29.—Stucker, Jesu St., Ottery St. Mary.

19 09 2 1/2h.p. Twin N.S.U., undergeared pulley, excellent condition; £21.—Stanley House, Beechen Cliff, Bath.

3 1/2h.p. Lincoln Elk, new 3 weeks ago, guaranteed perfect test throughout, sell £32, or near offer.—Coffin, Bolwell, Sherborne, Dorset.

GENUINE SALE MOTOR CYCLE CLOTHING.

The end of the season is approaching, and we are determined to clear our surplus stock at a reasonable reduction of 10%.



Looks neat and feels comfortable.

ALBANY "STANDARD" SUIT.

In grey-green or fawn double-texture cloth. Guaranteed absolutely waterproof.

JACKETS ONLY.

Double-breasted, deep storm collar, inside and outside wind cuffs, &c., 18/-, less 10% **16/3**

LEGGINGS ONLY.

Leather adjustable boot straps. V shaped gussets and patent done fasteners to keep out wind, rain, and dust, 8/-, less 10% **7/3**

Complete suit, 25/-, less 10% **22/6**

It will be your loss if you miss this opportunity.

Albany "Special" Leggings.

In grey-green or fawn double-texture cloth. Guaranteed absolutely waterproof. All latest improvements, and specially designed to protect the stomach from the cold. Without seat 13/11, less 10% **12/6**

With seat, including fly and special convenience, 15/11, less 10% **14/6**

If you are riding in winter, these specials are indispensable. Buy now while the prices are reduced.

Albany "All-Season" Jacket.

In grey-green double texture cloth. Guaranteed absolutely waterproof.

Fitted with Best Dita h.b.c. Fly e Lininr. This is the Coat for Autumn and Winter riding, and so great is the demand, and the value so good, that **NO REDUCTION** is possible.
Price .. **25/-**
Don't start winter riding without an "All-season."

Keeps out the cold wind, absorbs the moisture, and feels very warm and comfortable.



ALBANY "GUINEA" SUIT, 19/-

in double-texture cloth, 21/-, less 10% ..

Advice to Pur. hasers.—Send at once—your size may not be in next week. We guarantee every garment absolutely waterproof, and should you not be satisfied we will refund amount paid, if goods returned undamaged in three days.

Terms:—Nett Cash with order. Send chest measurement and length desired for Jackets, and inside leg measurement only for Leggings.

Send for Catalogue and Patterns to—

G. HAWES & SONS,
Clothing Specialists,
The Albany, Oldhall Street, LIVERPOOL.

MOTOR BICYCLES FOR SALE

19 11 Triumph, standard, done 2,000, excellent condition, lamp, horn, spares; 39 guineas, or near offer.—Spark, 23, Grenville Rd., Plymouth.

T.A.C., 1911, not ridden 300 miles, absolutely as new, naval officer's property, going abroad; cash offers.—D. H. Scott, c/o Dan Gay, Weymouth.

DAN GUY, Weymouth.—1908 Triumph, guaranteed and any trial or examination allowed, £28; free clutch Sinter, 1911 demonstration model, few runs only, £50; also offer: 1910 4-cyl. F.N., splendid machine, £30, close offer; 1910 Motosacoché, free engine, Whittle belt, £18/18.

DAN GUY, Weymouth.—1910 2-speed Humber, very little used, appearance and tyres as new; any trial or examination; £35.

TRIUMPH, 1910 just overhauled at Triumph works at a cost of £8, Cowey, new belt, electric lamp, horn, done 1,000 miles; offers.—Apply, Singleton, Bude.

TRIUMPH, 1906, accumulator, recently overhauled, rebushed, new piston, new tyres, in splendid condition; price £20.—Dale, Chemist, Weston-super-Mare.

2 1/2h.p. Quadraht Lightweight Motor Cycle, guaranteed perfect order, splendid hill-climber; any approval if required; bargain, £8/10.—Harrison, 90, Park St., Yeovil.

4 h.p. V.A.F. Taring Machine, very powerful, footboards, low, French grey, fully equipped, and in splendid condition; 18 guineas.—G. H. Raynor, 6, Trehaven Terrace, Truro.

F.N., 4-cyl., 5-h.p., just overhauled, central induction, automatic carburettor, nearly new Rom tyres, lamp, and horn, good hill-climber; quick sale, £25.—Newman 2, Portland St., Macclesfield.

Rex de Luxe, 3 1/2h.p., 1908-9, Palmer cord back, Clincher front, 1911 B and B. Roc clutch, Bosch, new main ball bearings and races, good condition; £19.—Hodges, 3, Priory Terrace, Dawlish.

SECTION X.

Scotland.

3 1/2h.p. N.S.U., spring forks, h.b.c., condition as new. £32.—Black, 115, Stirling St., Denny.

3 1/2h.p. Hobart, good running order; bargain, £6/10.—Bowers, 32 Queen's Drive, Crosshill, Glasgow.

RUDGE-WHITWORTH, 3 1/2h.p., 1911, new condition, very little used; £39.—Duff, 179, High St., Dumfries.

3 1/2h.p. Minerva, first-class condition, good tyres, all accessories; £9, great bargain.—Hamilton, 46, High St., Paisley.

3 h.p. Motor Cycle, De Dion engine, Bosch magneto, Chater-Lea frame, very powerful, 1910 machine; £16.—Hamilton, 46, High St., Paisley.

NEW 1911 3 1/2h.p. Premier, everything perfect, run 270 miles; £58, no offers.—No. 8, 476, The Motor Cycle Office, Coventry.

19 10 Rex Speed King, fitted 2 1/2h.p. J.A.P. engine, magneto, 1911 B and B. carburettor, all splendid order; £25.—Cairns, Silverton, Trinity, Edinburgh.

19 10 Humber, 2-speed, free engine, in perfect condition, carefully kept, any trial; also £10/10 Mills-Fulford rigid sidecar for above.—Walker, Barnclith Rd., Hamilton.

19 11 Premier, 3 1/2h.p., auxiliary exhaust, Lucas King's Own lamp and generator, machine only done 200 miles, perfect; price £39.—Irving, 54, Market Place, Annan, Scotland.

6 h.p. Late 1909 N.S.U. and sidecar, with 2-speed gear and free engine, in perfect order, having just been returned after a thorough overhaul by makers; price £33; free on rail Edinburgh.—Ardoch, Wilton Rd., Edinburgh.

BARGAINS.—Douglas demonstration machine, absolutely as new, £34; 4 h.p. twin Aleyon, fast and reliable, £18; 2 1/2h.p. Ariel lightweight, good order, £10; send for lists; any make supplied.—Dundee Motor and Cycle Co., Nethergate, Dundee.

SCOTLAND'S Largest Motor Cycle and Firm.—Don't wait for months on your new mount. We can give immediate delivery of Indian, Premier, Douglas, Zenith, B.S.A., Rex, N.S.U., and Lincoln Elk. Besides these, we stock P. and M., Roc, and Norton, and can supply any other make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

TRICARS FOR SALE.

8 h.p. Twin w.c. Antoine Tricar, handle starting, car clutch, and tyre; £30.—29, Cornhill, Banbury.

REX Tricar, 10-12h.p. twin, w.c., open frame, coach-built, like new; £29-1; Ebner St., Wandsworth.

4 1/2h.p. Hobart Tricar, w.c., 2 speeds, free engine, chain drive, excellent order.—P., 14, Quarry Rd., Swindon.

MORGAN Runabout, 8 h.p., single-seater, as new, not done 300 miles; £65.—Reynolds, Broadway, Dorset.

4 h.p. Chater-Lea Tricar, variable speed, Whittle belt, h.b.c., good condition; £16.—Wooler, St. Alban's Av., Chiswick.

TRICARS FOR SALE.

4 1/2 h.p. Humber, water-cooled, 2 speeds and clutch, chain drive, new basket, any trial; £14/10.—J.P., 12, Mowbray Rd., N.W.

5-6 h.p. Twin Brown Tricar, dual ignition, machine like new; accept push-bike and cash. — F. C. Pass, Antrobus St., Congleton.

REXETTE, 6 h.p., carriage body, good running order; offers wanted: must sell.—Jones, Son, and Wrench, engineers, Rickmansworth.

TRICAR, 3 1/2 h.p. Minerva, cylinder rebored, new piston, Clair, B. and B. accumulator, belt; £15.—Fallick, Aldingbourne.

6 h.p. Riley Tricar, 3 speeds and reverse, car tyres, lamps, and tools, everything perfect; £35.—Chambers, Mildenhall, Suffolk.

3 1/2 h.p. Humber Tricar, free engine, Dunlop tyres, £2 equal to new, perfect working order; £12/10, or offer.—Coxon, Draycott, Derby.

6 h.p. w.c. Phoenix Tricar, 2-speed, wheel steering, new car back tyre, splendid condition; £26; exchange entertained.—Cocks, 45, Sankey St., Warrington.

5 1/2 h.p. Water-cooled Rexette Tricar, good running order; what offers?—Photo and particulars on application to Pitchers, Heathercote, Milford, Surrey.

4 1/2 h.p. Stevens, water-cooled, magneto, 3-speed gear box, chain drive, all accessories; £22, or exchange motor cycle; after 6.30 o'clock.—28, Grove Lane, Stamford Hill.

REX Tricar, 4 1/2 h.p., w.c., 3 speeds, free engine, 1911 B. and B., climb anything, does 30, cylinder just rebored and new piston fitted; £20.—Corder, Northfields, Bridgewater.

6 h.p. Twin Chater Lea, w.c., magneto, 2 speeds, wheel steering, open frame, 1910 B. and B., in splendid condition; £25, or exchange good magneto cycle.—Hart, Bury St., Stowmarket.

5-6 h.p. Humber Tricar, water-cooled, 2 speeds and free engine, coach-built, wheel steering, splendid condition; or would consider exchange motor cycle.—Lowe, Naylands, Balcombe, Sussex.

1911 5-7 h.p. Auto-Carrier Sociable, French grey, hood, screen, dual ignition, with many spares; cost £120, as new, perfect condition; accept £80.—Taylor, Oreston, Hesketh Rd., Kirkstall, Leeds.

6 h.p. Twin N.S.U. Tricar, 2 speeds and free engine, magneto, new Whittle belt, B. and B. carburettor, 2 1/2 Palmer cord and Peter-Union, spares: any trial; £28.—9, Clacton Rd., Boundary Rd., East Ham.

3 1/2 h.p. Abingdon Tricar, 2 speeds, handle starting, h.b.c., fan-cooled, two new P. and H. lamps, all in splendid condition; £26, or take motor bike in part exchange.—C. Jones, Brereton, Holmes Chapel.

6 h.p. Riley Tricar, coach-built, wheel steering, water-cooled, 3 speeds and reverse, Dunlop car tyres, perfect order; best offer; would take good make motor cycle part payment.—Chappelle, The Elms, West Bromwich.

3 1/2 h.p. Minerva Tricar, magneto, B. and B., and new cylinder, and re-bushed, overhauled this month by Minerva Co., good tyres, re-enamelled; trial; bargain, £20, first cheque secure.—Merlin, Ironmonger, Cambridge.

A.C. Sociable, 1911, new July, hood, screen, non-skid on road wheel, head lamp, side and tail lamps, speedometer, horn, jack, etc.; owner bought car; trial; cost £125, bargain, £95, or near offer.—Rigby, Fowler St., South Shields.

A.C. Sociable, 5-6 h.p., in new condition, with hood, wind screen, two 7 in. Dietz headlights and generator, tail lamp, Python horn, pump, jack, spare tube, etc., new November last; total cost £115, accept £85 no offers.—Williams, builder, Dovercourt Rd., East Dulwich.

TRADESMAN'S Riley Tricar, 5 h.p., 1909 model, water-cooled, wheel steering, with car control, 2 speeds, accumulator ignition, coach-built throughout, in splendid running order, and complete with all accessories; £25 for cash offer.—Mackay, 36, Waverley Rd., Plumstead, S.E.

SIDECARS AND FORECARS.

SIDECARS, brand new, beautifully upholstered, any make; £3/10.—Rev. 5, Heath St., Hampstead.

MILLFORD Castor Sidecar, cane, apron, 26 in. wheel; £6/10.—J. Norris, Little Pagehurst, Staplehurst.

10 guinea Sidecar, Chater Lea rigid type, this year's; £5/18.—34, Monteford St., Battersea, London, S.W.

SIDECAR for Sale, quick detachable, Continental de Course tyre; £3.—Binns, 132, Ferme Park Rd., Hornsey.

8 GUINEA model sidecar, Chater-Lea detachable fittings, brand new; £5/5.—Matthewe, pawnbroker, West Croydon.

MILLS-FULFORD 1909 Rigid Sidecar, Reflex-Clipper 26x24, good condition and apron; £4.—9, Acre Lane, Brixton.

CHATER-LEA Sidecar, as new, 26x24 Palmer cord tyre; £3/10.—W. Lewis, 82, Golborne Rd., Westbourne Park, London.

MONTGOMERY Flexible Sidecar, 26 in. armoured tyre, fair condition; accept 35/—Turner, Church Rd., Altofts, Normanton.



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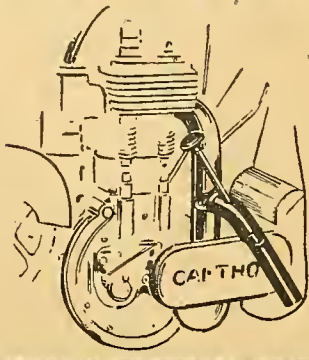
Telegrams—
"Dependable, Moseley."
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Birmingham Showrooms:

Humber Cycle Depot, 78, New St
London Stockists—

THE SERVICE CO., LTD.,
292 & 293, High Holborn, W.C.

BRANSOM, KENT & CO., LTD.,
40, Great Eastern Street, E.C.



SIDECARS AND FORECARS.

WICKER Sidecars direct from makers, upholstered any colour; from 20/-; immediate delivery.—City Basket Works, Jersey St., Gt. Ancoats, Manchester.

MIDDLETON'S, wholesale, retail, export, sidecar manufacturers; 12 models, 2-seaters, commercial, narrow doorways, etc.—Watson St., Newington Green, London, N. Phone, 2126.

MONTGOMERY Sidecar, plated C. springs, lunch basket, apron, £5/15/6, cost £12/12.—Henderson's All-Automatic back rest, new, 20/-, cost 30/-—Davidson, 10, Park Terrace, South Shields.

SIDECARS; largest stock; best value in England; all built of Chater-Lea fittings; prices, £6/10, £5/10, £4/15; second-hands from £3/15, fitted free while you wait.—C. A. Edgar, 123, Holloway Rd., N.

SIDECARS.—A postcard will bring you illustrated list of the best, cheapest, and most up-to-date sidecars on the market, delivery from stock, trade supplied.—Jack Cairns, sidecar and fittings manufacturer, Grimshaw St. Works, Preston.

SIDECARS, latest models, £4/19/6, less tyre; new Michelin covers, beaded, 26x2 14/8, 26x2 17/-, 26x2 21/-, tubes 8/6; Crown adjustable pulleys, 9/-; Lyso rubber belts from 1/3 foot; everything for motorists.—Miller and Co., 16, Narrow Wine St., Bristol.

PHOENIX Sidecars.—The makers of the famous Phoenix motor bicycles beg to advise that they are making Phoenix sidecars of high grade from £5/5 nett, complete with tyres; fitted free; sidecars on hire, exchange made.—Phoenix Motors, Ltd., Motor Cycle Depot, 756, Holloway Rd., London, N.

WE Cannot Command Success, but we can deserve it. Oakleigh sidecars have obtained success. Thousands of users are testifying to their merits. Will you not be amongst the number. We have never lowered our price, and we never intend to. We will only use the best goods obtainable, viz., Chater Lea fittings throughout. Price £5; delivery from stock.—Oakleigh Sidecars, Ltd., 65a, Rosendale Rd., West Dulwich.

SIDECAR COMBINATIONS.

5 h.p. Rex and sidecar; seen evenings; £27.—49, Manor Rd., Richmond, Surrey.

3 1/2 h.p. Premier and Sidecar, splendid order, 30 guineas.—W. England, 38, Shirock Rd., N.W.

1911 Bradbury, 2-speed, free engine, sidecar, spares, etc., fine condition; offers.—Zanoni, Palace, Bath.

7 h.p. Twin, 1910, red, sidecar; exchange Triumph, Douglas; sell £35; sidecar, £4.—262, Hornsey Rd., N.

6 h.p. Twin Peugeot and Sidecar, B. and B. h.b.c., excellent condition; £25.—Wright, 11, Frankie Rd., Harrogate.

WILTON Cycle Co., Victoria, S.W., have several combinations; Clyno, Chater-Lea, Sarolea, Kerry-Abingdon, etc.; from £20.

WILTON.—8 h.p. Minerva, twin-cylinder, Mabon clutch, Whittle belt, Millford castor sidecar, cane body; £25.

5-6 h.p. Twin Rex, cantilever, free engine, new tyres, cane sidecar; £20; after 6.30 o'clock.—28, Grove Lane, Stamford Hill.

TRIUMPH, December, 1910, standard model, Chater-Lea sidecar, all fittings and spares; £42/10.—13, Blenheim Crescent, S. Croydon.

5 h.p. nearly new Chater-Minerva, sparking machine, very fast, upholstered sidecar, 21 h.p. F.N.; lot £30.—395, Strone Rd., Manor Park.

F.N., 2-speed, 2 1/2 Palmer cord, special sidecar, electric lamp, spares, splendid condition; £35.—Write, 111, Mount View Rd., Stroud Green, N.

3 1/2 h.p. Kerry, 2 speeds, free, chain drive, B.B., Chater 32 sidecar, coach body, 24 worth spares; £20; trial.—J. Cotton, 27, Station Rd., Hanwell.

8 h.p. Twin Minerva, Bosch magneto, h.b.c., spring forks, free engine (in back hub), and Montgomery sidecar; £32.—Hough, Theatre, Walsall.

1910 Roc, 4 h.p., single-cylinder, 2-speed, free, Whittle lamp, h.b. tools, new torpedo sidecar; £36.—Burrows, Clothier, Cudworth.

5-6 h.p. Twin Peugeot, Millford castor, Roc 2 speeds, free, Bosch magneto, Amac, new Rom non-skid; bargain, £50.—73, High St., Bexley, Kent.

1909 Triumph, and nearly new sidecar, new Rom and tubes, belt, overalls, etc.; 36 guineas.—Aldridge, 127, Wimborne Rd., Bournemouth.

ROC Twin, 6 h.p., 2-speed, Bosch, Amac, adjustable spring forks, 650x65 Dunlops, and Oakleigh sidecar; £25.—Ives, 44, Mill Lane, Brixton Hill.

SCOTT, 1910 1/2, excellent order, Millford sidecar; dealer offer £42; best higher offer obtains.—Scott, Elmhurst Farm, Matfield, Paddock Wood, Kent.

1907 5 1/2 h.p. Twin Rex, sidecar, Whittle belt, Continental tyres; £24; exchange 3 1/2 h.p. magnet machine.—Brain, 11, Broadway, Wimbledon.

PHOLON and Moore, 1911, and sidecar, many extra fittings, speedometer, etc.; cost £71, £52.—Phelon and Moore, 5, Percy St., Tottenham Court Rd.

MATCHLESS 7 h.p. J.A.P., 1910, in new condition J.A.P. clutch, new Palmer cord back, all spares £41; any trial.—Tassell, Anglesea Rd., Woolwich.

THE MOTOR CYCLE

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The Future of the Quarterly Trials.

THE last Quarterly Trial of the year, which will be held on October 14th in the Midlands, is the last of a series decided upon at the meeting of the A.C.U. Council which took place at Nottingham in the autumn of 1910. Over eighteen months ago the Motor Cycle Manufacturers' Union, resenting the number of competitions the trade had to support, chose the Quarterly Trials as the scapegoat, and attempted to withdraw its support entirely. The Manufacturers' Union was only partially successful, as unanimity among the members did not prevail. Naturally the younger firms wished to give their products all the publicity they could, hence the absence of universal agreement, and it is these younger firms who have our full sympathy. No one would pretend that a one day run can be as good a test as a six days' trial, but no one, on the other hand, can deny it is a better test of a machine—if the course be stiff enough—than a local hill-climb, and to the latter the Manufacturers' Union, strange to say, does not object in the slightest. Both bodies should reconsider the question, as it would be a pity to drop the Quarterly Trials altogether. The winter trial undoubtedly proves the weather-resisting qualities of the machines, the spring trial gives a chance for the new models to gain their laurels early in the season, the autumn trial is an opportunity for kudos to be gained by next year's machines at a time which is most valuable to their makers, namely, just before the Show. The summer event could quite well be dispensed with, especially as it was not well supported this year. An A.C.U. council meeting will shortly be held, and we hope the question will then be re-opened and settled in a satisfactory manner.

1912 Models.

THOUGH it is yet too early to describe in detail next year's design of motor cycles, we have lately discussed new models with a number of leading designers, and, having also been privileged a private peep at new designs in their chrysalis stage, we may outline briefly some changes and innovations to look for at the November show. First and foremost, the change speed geared mount is to loom more largely in the public's eye than ever before. All kinds of speed gears are being tried by practically all the leading makers, and we ourselves know of five different designs of three-speed gears undergoing tests on the road. As regards the two-speeder, recent descriptive articles in these pages have made it clear that the counter-shaft type of gear is gaining popularity, and there is a great deal to be said in its favour. Gears infinitely variable between two limits are engaging the attention of at least six firms, but whether they will ultimately be adopted remains to be seen. Still lower frames will be in vogue next year, dropped top tubes will be more in evidence, and every reader will be glad to hear that more makers are concentrating their attention on the comfort of the rider. Spring seat-pillars promise to be quite common by show time. A device which is undergoing test on two or three makes of engines is a half compression device enabling a walking start. Engine design is undergoing a change. A large firm who have hitherto fitted overhead mechanical inlet valves will resort to the side by side valve arrangement next year, and a further modification to be noted is the offset cylinder. Two leading firms at least, we are told, will standardise this form of engine for 1912.



THE Edinburgh and District Motor Club held a very satisfactory hill-climb on that notorious gradient Amulree on Monday of last week (a general holiday in Edinburgh). The competition attracted fifty-three entries for the eight classes, and of these forty-eight duly started. The classes are tabulated hereunder:

- Class 1.—Novice class (handicap).
- Class 2.—Handicap (under 400 c.c.)
- Class 3.—Handicap (400 to 600 c.c.)
- Class 4.—Handicap (over 600 c.c.)
- Class 5.—Tyro class (handicap).
- Class 6.—Scratch class (up to 600 c.c.)
- Class 7.—Unlimited scratch class.
- Class 8.—Passenger class (handicap).

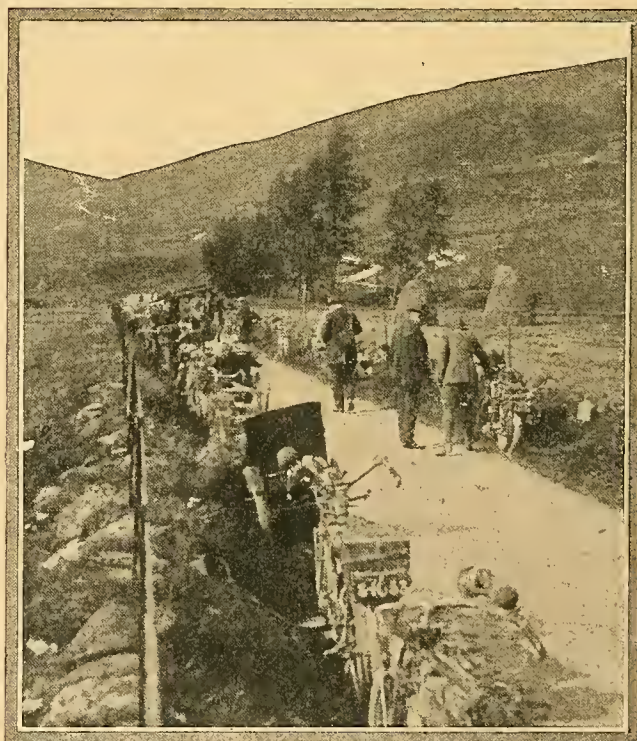
The hill, as most motorists know, is a long stiff one, having for its *pièce de résistance* a double hairpin bend, both bends occurring within a few yards of each other and the road being very narrow. All or most of the riders were private owners, but this did not detract from the quality of the sport, and some very fine exhibitions of riding and corner work were seen during the afternoon. Starting within a few minutes of the schedule time (1 p.m.), the whole competition was run through without a hitch or accident to mar the occasion, finishing a few minutes before four o'clock.

The timing was to have been by telephone, but the apparatus did not materialise in time, so flagging was resorted to, and as the top of the hill could be clearly seen from the bottom, this method proved very effective, and the progress of the competitors up the hill was marked by the change from white to red of the flags held at different points on the hill by officials.

Specially fine corner work was shown by J. W. Adamson on a $3\frac{1}{2}$ h.p. Triumph, J. Gerard on a $3\frac{1}{2}$ h.p. Bradbury, and A. H. Alexander on a 7 h.p. Indian.

Fastest times for the day were: Single-cylinder, J. W. Adamson ($3\frac{1}{2}$ h.p. Triumph). Twin-cylinder, A. H. Alexander (7 h.p. Indian).

Out of the forty-eight starters only eleven failed to reach the top, which, considering the gradients and



Scene at the starting point. Amulree Hill may be seen winding upwards in the distance.

Open Hill-climb on Amulree.—



Weighing J. Cumming's two-speed Douglas before the start.

the corners, shows a very good average. The Scott machine ridden by Colin Macmillan made the cleanest work of the corners, going round with no fuss and arousing a cheer from the crowd of spectators assembled here. Macmillan also secured second place on formula in Class 3.

How the Passenger Machines ascended the Hill.

The passenger class aroused considerable interest in view of the tremendous head wind, and doubts were expressed of their even reaching the corners, but both Macallum on a 7 h.p. Chater-Lea and sidecar and J. R. Alexander on a 7 h.p. Indian and sidecar succeeded in reaching the top in good time, though both were penalised forty-five seconds for assisting the machines on the corner.

On the first bend it seemed as if Macallum would never get his machine clear of the bank, but owing to his sidecar (which is of special design) having the wheel under the seat, he just managed to do it and got up with slight assistance, making fastest time after a splendid exhibition, and winning on formula.



J. R. Alexander (7 h.p. Indian and sidecar) safely round the first bend. Both driver and passenger had to jump out and run alongside a few yards higher up the hill.

Alexander on the Indian and his passenger both had to dismount on the corners and assist the machine, but got up. The passenger gave a remarkable display of agility in the way he hopped out and then hurled himself in again after rounding the second bend.

P. Tolfree (the secretary) on a 3 h.p. (431 c.c) Matchless and A. F. Downie on a 3½ h.p. Ariel both had spills through taking the first corner too fast, but no damage was done.

Results on Handicap.

CLASS 1.		Time	Fig. of
		in secs.	merit.
1.	Nicholson (5 h.p. Indian) ...	124½	6918

CLASS 2.			
1.	D. L. Rankine (2½ h.p. Singer) ...	209	6401
2.	Cumming (2½ h.p. Douglas) ...	271	3376
Both penalised 45s. for pedalling.			

CLASS 3.			
1.	J. Gerard (3½ h.p. Bradbury) ..	121	7977
2.	C. H. Macmillan (3½ h.p. Scott) ...	174	5896
J. W. Adamson was disqualified for riding his machine without a tool-kit.			



A. J. C. Lindsay (5 h.p. Matchless-Jap) at the first bend. A moment after the photograph was taken the machine skidded.

CLASS 4.			
1.	A. H. Alexander (7 h.p. Indian) ...	102	7741
2.	J. W. Adamson (7 h.p. Indian) ...	112	6984
3.	J. R. Alexander (7 h.p. Indian) ...	110½	6934
4.	C. McGregor (5 h.p. Bat) ...	116	6491

CLASS 5.			
1.	Nicholson (5 h.p. Indian)...		
2.	A. F. Downie (3½ h.p. Ariel) ...		
} Got farthest up the hill.			

CLASS 6.			
1.	J. W. Adamson (3½ h.p. Triumph) ...	115	
2.	J. Gerrard (3½ h.p. Bradbury) ...	121½	
3.	C. H. Macmillan (3½ h.p. Scott) ...	214	

CLASS 7.			
1.	A. H. Alexander (7 h.p. Indian) ...	98½	
2.	A. J. C. Lindsay (5 h.p. Matchless, single gear) ...	106	
3.	J. R. Alexander (7 h.p. Indian) ...	106½	
4.	J. W. Adamson (3½ h.p. Triumph) ...	114	
5.	J. Gerrard (3½ h.p. Bradbury) ...	118	
6.	C. H. Macmillan (3½ h.p. Scott) ...	167	
7.	R. A. Macmillan (3½ h.p. Scott) ...	172	

The entries numbered fifty-six, and fifteen different makes were represented.

CLASS 8.			
1.	J. G. Macallum (7 h.p. Chater-Lea & sc.)	234	4639
2.	J. R. Alexander (7 h.p. Indian) ...	250	4080
Both penalised 45s. for assisting.			

MORE MARRIED COUPLES WHO MOTOR CYCLE.

The photograph reproduced depicts Mr. and Mrs. Townsend, of Ballyshannon, County Donegal. Mrs. Townsend has now completed over 2,000 miles on her 2 h.p. Motosacoche, and finds the machine especially suitable for her needs. It climbs most hills satisfactorily, but needs light pedal assistance on occasion, though not the laborious kind necessary with a heavyweight. Mr. Townsend, who rides a $2\frac{1}{2}$ h.p. two-speed A.J.S., is likewise very satisfied with his mount, and has yet to find a hill in any ordinary day's running which cannot be surmounted; even after running nearly 2,000 miles without attention the machine devoured the steep gradient of Sutton Bank with ease. The couple have lately been enjoying their vacation in Yorkshire, after having ridden from Ireland on their machines. One day's run was a trip of 130 odd miles, this being the longest distance ridden by Mrs. Townsend in one day. The tourists find our roads far superior to those in Ireland, but they are rather surprised at the number of reasonable hills which can be found in one day.



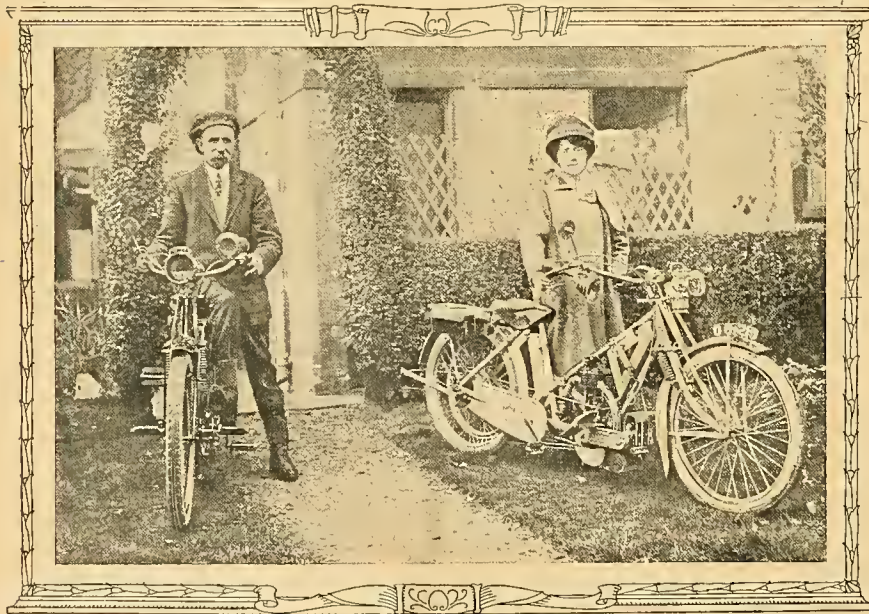
Mr. and Mrs. Townsend, of Ballyshannon, County Donegal. The machines are a two-speed A.J.S. and Motosacoche.

AN ENDLESS BELT DILEMMA.

A reader signing himself "Faust" writes: I have for years been an admirer of "Ixion" and his "Occasional Comments," and have endeavoured humbly to follow his advice when possible, but he has at last led me into a regular tangle. I may say that I am an obstinate man, and when I set out to do a thing I like to carry it out. Now I was charmed with the idea of an endless belt and determined to experiment, so I took off my Whittle and fixed it up apart from the machine, and then, having noted the time, set to work to fix it in position. First of all I

detached the back wheel and foot brake fittings as advised and slipped the belt in. As I found this fairly easy I was quite jubilant; so I put the wheel in place and refitted the brake, carefully adjusting everything. Then I looked at my watch, and found that I had only been twenty-seven minutes on the job. Concluding that it would only be necessary occasionally, and that with practice the time taken by the operation could be lessened, I called my wife to look at the result of my labours and went to dinner.

After dinner, having a few calls to make, I slipped the belt in position, or at least tried to do so, but somehow it would not go right. So thinking I had made a mistake, I took off the back wheel again; then I found the mudguard stay in the way and removed that, next the stand barred my progress and that had to come off too, the machine being supported on two kitchen chairs and a broom handle (46 mins.) About this time my wife came out to know what all the noise was about, and insisted upon taking the children out of hearing. "Ixion," I said, "says that an endless belt can be fitted to a motor cycle, and 'Ixion' is an honourable man, and I am going to do it or be—!" Rash words! However, as I said, I am an obstinate man, so I carefully re-read the paragraph, and found that in some cases the rear stays need springing out. But how can the stays be sprung out when they are brazed up with the frame? It does not seem right to use a hack-saw. More thinking (time 73 mins.) The belt is now inside the stand, mudguard, and carrier stays, but outside the frame, and I now notice that it could have been placed in this position without removing the back wheel at all, which in my trusting innocence I have already done twice. More reflection! (94 mins.) Is "Ixion" pulling my leg, or is the whole thing a problem story with the moral not "Look before you leap," but "Think before you speak"? I have, as I said, sworn to fix the belt or be—. The former I cannot do, and the latter I would rather not. What is to be done? It seems to me that in some cases the endless belt would have to be put in before the machine was brazed up, in which case what would happen to it during the enamelling and stoving processes? Like Brutus, whom I seem to have in my mind, "I pause for a reply."



Mr. and Mrs. Davis, of Sparkbrook, Birmingham, whose mounts are respectively a $3\frac{1}{2}$ h.p. Singer and a 3 h.p. Brough.

In Wales and the West.

Seventh Day.—Porlock to Dunster and Ilfracombe, 48 Miles.

In the morning we cleaned some of the accumulated mud off our machines, adjusted the brakes, and then set out to climb the hill. My engine was somewhat out of tune and had a good weight to carry, and so stopped twice on the hill, but after a brief rest each time started again quite easily from a standstill on the steepest part and went right up to the top, and this with absolutely no adjustment to the engine or gear. It just did it in the day's run, so to speak; the high gear was $4\frac{5}{8}$ to 1. A got up all right, though he had some stops with the low gear band slipping, as it did not provide enough gripping surface for the heavy work it had to do.

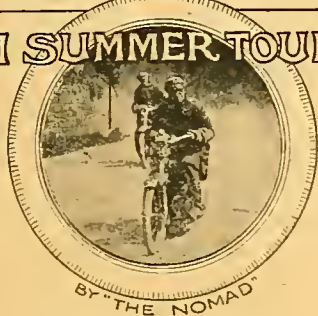
In the afternoon we left for Minehead and Dunster. The road to Minehead is fairly level, but exceedingly curly and full of cross roads. We here bought food supplies, and amongst other things got a fair-sized melon. It was too big for any of our boxes, so the only way we could think of to carry it was to tie it on to A's handle-bar toolbox, and this we did with the aid of some string. But the melon soon became lively and tried to get loose from the string, and knocked a hole in itself against the speedometer and made various unsuccessful attempts to roll on to the road, but by careful dint of keeping one eye on the melon and the other on the road A managed to pull through till we found a suitable place for "lunch." We just finished the melon!

Soon after we left Dunster it began to rain, and the next part of our ride was almost a nightmare. If anyone has driven that way on a wet day with smooth tyres and brakes on the back wheel only I am sure he will agree with me. Exmoor is the home of the wild red deer—it is also the place where roads are made of red earth, and this seems to turn to clay when wet! The road is narrow, curly, and hilly, and there are numerous gates to be opened *en route*. In order to go down some of the hills slowly enough I had to keep the brakes on, and ever and anon the back wheel would come sliding round to the front and send the front wheel into the bank. A, who had a front wheel brake, experienced no great inconvenience. Moral: Have a front wheel brake and studded tyres if you want to ride in that part of the world in wet weather, and take no notice of some writers' contempt of front wheel brakes. Our low gears were comforting, too. I know I drove for some miles on mine, and would not like to attempt that ride without it.

I have no doubt if we had had time to admire the views they were very fine from an impressionist point of view—the moors and the mist, the mountain ash and the softened outlines. The low rolling hills were wreathed in mist, and everything was dank, dripping, and deserted.

At last we reached a main road which was dry, and we *did* just make up for past misfortunes—in fact, I was dry when we got to Ilfracombe. The last few

A SUMMER TOUR.



(Concluded from page 975.)

miles into the town were superb as we curved and wound along the road through the woods and the pretty village of Combe Martin, and at last slid down into Ilfracombe itself. The cloud effects after the rain, the cliffs and sea lighted by the after-glow of sunset, accorded well with my feelings of relief, and enabled me to forget the unpleasantness of Exmoor.

We spent the next two days at Ilfracombe, and had a lazy time on the beach in the sun as we watched

the little fisher children picking "winkles," and then we helped them make a fire and boil them, but politely declined the invitation to join in eating them. We admired the views and the people—in fact, A remarked that Ilfracombe seemed to be all girls. The number certainly was remarkable.

The second day of our stay was one of continuous rain until evening, when I took photographs of a genuine Ilfracombe sunset.

Tenth Day.—Ilfracombe to Tintagel, 67 Miles.

As it was still raining I went out and bought a large pair of sailor's yellow oilskin trousers. When I turned up with them at the hotel I gave A a fright and spread consternation amongst the hotel people. But they kept out the rain and only cost 4s. 6d.

After some difficulty in starting my engine we were on our way to Barnstaple and Bideford, and soon the sun began to shine. Our next stopping place was Clovelly, and here I had to wait about half an hour, as A had had a patch blow off the puncture he got at Porlock.

We explored Clovelly, which is the quaintest place imaginable, the houses being all perched one above another on the hill side. The High Street consists largely of steps, and all packages have to be carried up and down by donkeys. It is necessary to go through houses in some parts to get along the street at all. The whole of the surrounding coast is thickly covered with trees. On resuming our way we found the roads dry and the sun shining, but we had to face a hurricane. We left Bude on our right, following the newly-cut road, and soon turned off the main road to Boscastle, and thence to Tintagel. Here we found "digs" and dinner (for which A *would* shave as there were some ladies). We went down and explored King Arthur's Castle, and as we stood on that barren headland with the wide Atlantic rolling in and dashing with fury on the rocks a few hundred feet below, the sun was rapidly sinking in an almost cloudless sky and the whistle of the gale and the roar of the sea gave us a most eerie sensation. After watching the sun set we retraced our steps along the steep and slippery path to the shore, and then went into the famous natural tunnel in the rocks through which the sea runs at high tide. The far end of the tunnel was practically in darkness, just a glimmer of misty green light filtering through to us, and ever and anon there was the roar and thunder of the waves reverberating in the darkness.

In Wales and the West.—

To anyone who is fond of wild and rocky coast scenery let me recommend this part and of all places Tintagel. It has, in my opinion, very few rivals on our coasts and I speak from considerable experience.

Eleventh Day.—Tintagel to Redruth, 48 Miles.

We left Tintagel about noon, having been very well treated at "Camelot." We soon struck the main road through Wadebridge, and made fairly good time. An idiot driving a cart pulled to the wrong side of the road and sent me into the gutter, so I stopped and *gently* explained the rule of the road to him. Leaving Wadebridge we were warned of a "trap," and so drove

After a few miles my tyre went down, and I spent forty minutes over it and concluded A would be many miles away, but when I turned the next corner I met him just starting his engine; *his* tyre had been down, too.

In half an hour bang! went mine again, and I found a large piece of iron in it. I mended the two holes caused thereby and resumed, but within three miles down it went again. This time it

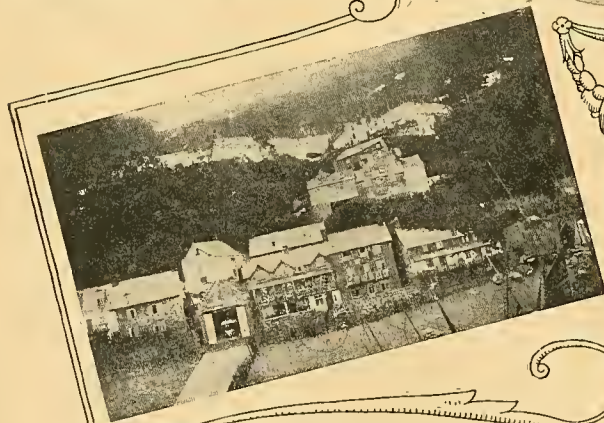
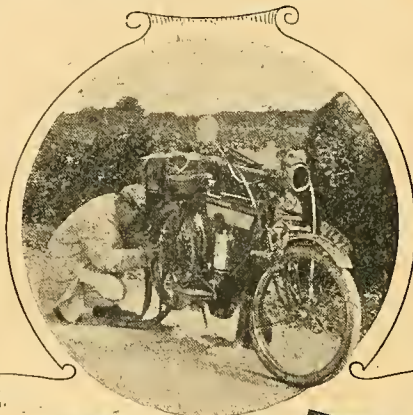
I walked on the rocks, bought postcards, took photographs, and got a man to photograph us with "The End" in the background.

We now turned "homewards" and were soon back in Penzance, where I bought a new butt-ended tube. Of course, my tyre kept up for about two days afterwards!

Near Hayle we met four motor cyclists, two of them being ladies, and I must say they looked really charming! I am sure girls need not be afraid that they will look "guys" on motor cycles with two such examples. Since then I have taught my sister to ride my machine, and she certainly picked it up as quickly as most of

the other sex I have taught—just a short free-wheel with the engine "out," then a lesson in manipulating the levers, a push, and away she went as steadily as an old hand.

By-and-by we got on to Goss Moor and went speeding along at a rare bat for a few miles till my engine suddenly struck work with a chinking sound. I said "Hullo, broken connecting rod." A stopped, and when we took the cylinder off we found it *was* a broken connecting rod. We fastened a strap to A's



(1) A favourite occupation—A has tyre trouble at Clovelly.

(2) Clovelly from the harbour. High Street consists mostly of steps.

(3) Porlock, main street.

proved to be one of the somewhat jagged holes which had "run" from under the patch and made a slit in the tube. My longest patch would only just cover the hole, and did not keep the tyre up at all. There was nothing for it but to push up to the top of the hill and free-wheel down into Redruth, where I found a repairer who had a patch big enough.

As it was now dark, I decided to stay here, wondering somewhat where A had got to and what he would be thinking.

Twelfth Day.—Redruth to Land's End and Bodmin, 85 Miles.

I had more deflations and inflations of my tyre before I got to Land's End, but reached there about twelve noon. Here I found A strolling about on the headland and, naturally, wondering what had become of me.

machine, took the belt off mine, got two yokels to give us a push as A put his low gear in, and away we went, one engine pulling the whole 8 cwt. along at a steady 18 m.p.h. We had 4½ miles to go into Bodmin.

I put my motor up at Jane's Garage, and wired for a new connecting rod.

Thirteenth Day.—Bodmin.

I spent the morning in taking down my engine, and as it rained all day we were not sorry to be under cover.

There was great excitement in the town when the two ladies already mentioned came in on their motor cycles. I think *they* would have found clutches and gears an advantage.

Fourteenth Day.—Bodmin to Exeter, 64 Miles.

I had nearly got the old connecting rod repaired when the new one turned up. I put the engine

in Wales and the West.—

together and had it running in two hours. Quite a crowd came to see us off.

My engine soon got into its stride, and except for a patch of unrolled stones, Exeter was reached without incident—sixty-four miles in less than three hours. The road over Bodmin Moors is certainly hilly, passing, as it does, near Brown Willy, the highest hill in Cornwall, but the surface is good on the whole. Between Launceston and Exeter there is much climbing.

Fifteenth Day.—Exeter to Wincanton, 58 Miles.

On leaving Exeter we were stopped by the police and asked for our licences—the first time in our experience. Fortunately, I had one! I met a man soon after who had not, and he ruefully asked if I thought he could sell his machine for enough to pay the fine!

We made good running through Honiton and Chard—whereabouts we had some pretty stiff hill-climbing to do—to Ilminster and Ilchester. The weather and scenery were both glorious. Near Wincanton we were riding along side by side when suddenly a loud explosion came from A's back wheel and a cloud of dust flew up. He pulled up safely, although travelling at 30 m.p.h., and we found that it was a legacy of Porlock. The stone which punctured the tyre there had cut the canvas inside the cover, and now the tube had blown through and made a hole I could put my fist in! A went into Wincanton on my machine and wired for a cover to be sent from Bristol. We therefore spent the night at Wincanton. In the morning A found a 26in. by 2in. cover, so I put it and him on my carrier and motored back to the farm where we had left his motor.

Sixteenth Day.—Wincanton to Banbury, 120 Miles.

We changed the front cover to the back wheel and put the small cover on the front wheel, and were off in an hour.

We now began to make up time. We crossed the southern part of Salisbury Plain, with its long straight roads and rolling hills, our next stop being at Stonehenge. We inspected the triliths, which I need hardly describe, and I exposed my last film. We also met here a car owner-driver and his wife, and they unfolded a sad tale of the iniquities of garages.

We had been warned of a trap hereabouts, so went very slowly till we reached Andover, where we turned off the much frequented road, and, passing through much fine country, soon reached Newbury, famous for its battles, and then Oxford. Here we stayed a short time and had a look round.

An easy and pleasant road took us into Banbury, which we reached without incident about seven o'clock; our only stop (involuntary) during the day had been to tighten A's belt—or rather the motor's belt!

Seventeenth Day.—Banbury to Sheffield, 120 Miles.

This was the last day of our holidays, and we started on the last 120 miles with great reluctance.

We called at Warwick and admired the castle and the lovely river, on which were many boats, and then reached Coventry with its interminable tramlines.

On restarting I heard something rattling on my machine, but could not locate it. At Derby it seemed to come from inside the engine, so we stopped by the wayside and I took off the cylinder and there found

the trouble—the gudgeon pin set screw had come out and dropped into the crank case. This seemed a bit hopeless, but A remembered having read of a man who turned his machine upside down and shook the pieces out. Without more ado we turned mine over, pulled the piston round, and—out came the bits! In thirty-five minutes the whole business was done, and away we went

once more. The last thirty-five miles is somewhat intricate, but we arrived home without incident and just before lighting up time.

Thus ended our holiday, and work and dullness claimed us once more.

Epilogue.

Our chief troubles were with our tyres, and had it not been for these we should have saved on the average about an hour a day. I had three punctures in spite of a thorn catcher.

Until leaving Land's End we only saw about eight motor cyclists, but after that we saw literally hundreds.

We covered some 1,050 miles and used thirteen gallons of petrol each, this working out at eighty miles to the gallon all through.

I had altered my oil pump to give only one-third of a full charge, and this I gave every ten miles (by mileage recorder). This lubricated the engine perfectly; one quart of Price's A lasted 1,000 miles.

Our plans and equipment excited almost universal interest wherever we went. The absolute freedom of going or staying when and where we liked and being independent of all trains and other abominations must be experienced to be properly appreciated. I only hope these lines may be the means of encouraging others to go forth and see the country and get experience of mankind such as can be obtained in no other way comparable to motor cycle touring. If our misfortunes are a lesson to others, so much the better.



The tourists with their Rex and Humber machines on the cliffs at Land's End.

LETTERS TO THE EDITOR

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

The State of our Roads.

[5903.]—Under the heading of "Current Chat" of your most useful paper you remark about the state of the Warwickshire roads, and suggest that the local authorities should adopt "the tar and stone-filling method for pot holes" more fully. If you are really fond of riding on roads repaired in this way I advise you to try a spin from Nottingham to Doncaster *via* Mansfield and Worksop, and I am under the impression that before your arrival in Doncaster you will change your mind.

Wishing your excellent paper (of which I am a regular reader) every success,
ARTHUR E. BALL.

In Favour of the Open Frame.

[5904.]—I was much pleased with your article respecting the design of the new model "Enfield" drop frame suitable for lady or gentleman.

May I point out some further advantages of this type of "drop frame" motor bicycle if it could be used in connection with the popular basket sidecar attachment. In the first place, those ladies who are naturally somewhat diffident in adopting the motor bicycle would have the advantage of accustoming themselves to riding and driving it under the guidance of an experienced friend accompanying them in the sidecar attachment; and in the second place, though most gentlemen would prefer to undertake the main part of driving through towns, and on frequented roads, yet in the country even the most ardent motorist would be glad of a rest and a pipe occasionally, seated in the chair and relieved of all responsibility; whilst to many lady cyclists this opportunity of driving themselves, and giving pleasure to others, would lend an additional charm and interest to the ride.

A. SMITH.

The Quality of Modern Tyres.

[5905.]—Your correspondent Mr. G. C. Pohlmann seems to have been very unlucky with his tyres. Recently I had a $3\frac{1}{2}$ h.p. Triumph which I used to use frequently with a sidecar. I had a rubber-stud Clincher cover on my back wheel which had done 3,000 miles solo before I started sidecar work, and I then got another 800 miles out of it with the sidecar, and it was not absolutely done then. I also used a R.O.M. cover on my back wheel; this after about 1,500 miles, mainly with the sidecar, showed very few signs of wear and was unpunctured.

I now run an 8 h.p. Matchless and sidecar, and on this I also fitted a R.O.M. cover, which, after riding over 1,000 miles nearly all on Devon roads and a great deal of that not on main roads, though showing signs of wear, will, I think, last me for another 1,000 miles. I do not mean to say that I am satisfied with this, as I am looking out for a cover which will wear better, but one would naturally expect an 8 h.p. machine to be more severe on tyres than a $3\frac{1}{2}$ h.p.

F. A. CLIFFORD.

The Margin of Safety in Sidecars.

[5906.]—As an old sidecar user I should be pleased to state my experience on the above. I have had special axles made that have appeared strong enough for a small car. These have overcome the broken axle, but not the bent axle. I have now found by experience that the only way to get over the difficulty is to have the wheel sprung apart from the motor cycle and sidecar.

You advise special sprung forks, and say, were it possible, a sprung frame. After getting this luxurious combination, fit a sidecar with solid axle and it will set up a side vibra-

tion more pronounced than the old-fashioned solid forks as used in 1900. I may say that I can thank *The Motor Cycle* for my conversion to the sprung wheel. I purchased a Garrard-Maxfield sprung wheel sidecar which I saw illustrated in *The Motor Cycle* of August 10th. This quite proved to me that the sprung wheel is as great a necessity (leaving out the question of luxury) as a spring fork on a motor bicycle.

I found that I could drive faster over a rough road, and could climb hills much better (no doubt caused by the greater speed) where previously with a solid axle I had to assist with the pedals. I also found it much easier steering, but cannot say if this is through the fact that the sidecar, wheel spindle, and the cycle back spindle are in complete line. I am a thoroughly satisfied spring wheel user, and am only surprised at anyone using a solid axle. Who would think of purchasing a solid fork motor bicycle?

H. FRANKLIN.

A Danger Spot in Leamington Spa.

[5907.]—I send herewith photograph of a danger spot in Royal Leamington Spa which, in the interests of motor cyclists, I hope you will reproduce.

My friend, Mr. F. C. Wood, the well-known rider, met with a serious accident here, crashing into the gate shown



The dangerous unlighted and dark coloured iron gates leading into the Victoria Park at the end of Avenue Road, Leamington Spa.

in the photograph three weeks ago at one o'clock in the morning. An iron spike penetrated his skull about three inches and lacerated the brain. There is a slight hope of his recovery, which I am sure all your readers earnestly hope for.

DOUGLAS O. KNIGHT.

Is a Larger Douglas Wanted?

[5908.]—Allow me to pen you a line in appreciation of your correspondent's letter [No. 5640] *re* Douglas lightweight. Being a rider of this splendid little lightweight, I would, for one, gladly welcome a, say, $3\frac{1}{2}$ h.p. or 4 h.p. model of this machine.

I have gone 2,000 miles over "colonial" roads on the Douglas without any trouble, but after travelling a long journey and having to finish up with several stiff hills, one then wishes one had a larger powered engine fitted. Of course, it would mean a large and perhaps risky step for Douglas Bros. to bring out a larger machine, and



Miss Myrtle and her Singer Moto Velo.

I would say that a larger Douglas would get over a lot of the difficulties a colonial rider has to contend with here.

For instance, some of the standard $3\frac{1}{2}$ h.p. with the magneto in front of the engine invariably get water into their magnetos, which, as motorists know, is no joke when twenty miles from the nearest depot.

Finally, if the makers of the Douglas do place on the market a larger type, and respond to colonial cries, let them strengthen the wheel rims and spokes, as a motor cycle here is useless unless it can stand rough and hard work. Wishing your splendid weekly ever the success it now attains.

Timaru, N.Z.

B.H.G.

The Lady Motor Cyclist.

[5909].—For a considerable period I had been feeling very seedy, and as my health did not seem to improve, I took a doctor's advice, viz., to let Nature work her own cure in the pure air of the seaside.

After considering the various fashionable watering places and finding them not to my taste, I eventually decided to

visit the little village of Lancing, midway between Brighton and Worthing.

I did not regret my choice, for after a week in the open air I felt fit to fight for a kingdom or a vote.

I explored all the show places in the vicinity, and wishing to visit further afield my thoughts flew to a bicycle, and I remembered that on my way to the front I passed a cycle store, in the window of which was the advertisement "Cycles: try one, buy one, see how they run!" The ridiculous ditty of "Three blind mice" ran into my head, and I always hummed it to the words of "Try one, buy one, see how they run," and I determined that I would try one. I entered

the shop and on explaining that I wanted a cycle was asked what kind I required. The Lancing air had evidently taken hold of me, for I answered with a laugh, "Oh, one that runs by itself." What was my surprise when my frivolity was met with a serious face and a "Certainly, madam," and in less time than it takes to tell the counter was strewn with catalogues of motor cycles, and I found myself, against my will, becoming interested in the art. Why should I wear myself out on a push cycle when for a few extra pounds I could enjoy all the pleasures of aeroplaning without its dangers? Anyhow that was how it was put to me, and to cut a long story short I soon found myself the possessor of a Singer Model 6.

Well that was some months ago, and I have not yet regretted the transaction, for I am the possessor of a comfortable, safe, and in every way reliable mount. I do my seventy or eighty miles in comfort, and the hills no longer are a bugbear. My regret is that I did not take to the motor cycle years ago. (Miss) H. MYRTLE.

[5910].—The photograph herewith was taken last Easter, and I thought it might be of interest to lady motor cyclists. The machine is a $2\frac{1}{2}$ h.p. Hulbert-Bramley, Minerva engine. At the time the photograph was taken it was running on an accumulator, though lately I have had a French magneto fixed. With this machine I have taken a friend to Southwold and back—sixty-eight miles—she on an ordinary cycle and I on my motor with just my hand on her back. We both like this method, as it enables us to separate quickly when cars come round corners almost on top of us. We had one or two stops, which I easily remedied. I have only been stranded once, the cause a worn out sparking plug. As I



Miss C. Bunn and her $2\frac{1}{2}$ h.p. Hulbert-Bramley.

had never bought one before, this is not bad. Of course, accidents will happen, but I am up to removing my tyres and mending my own punctures, fixing belt fasteners in my Shamrock-Gloria, and noticing whether shortage of petrol or the current cut off is the cause of a stop.

(Miss) C. BUNN.

Replies to the Hypoborean Protest.

[5911].—"Experto Crede's letter [No. 5876] comes, I think, as a timely warning. There must be many of you readers, who, like myself, are considering the purchase of a sidecar machine for next season, and the numerous advertisements of $3\frac{1}{2}$ h.p. sidecar models for 1912, combined with the



"I do my journeys of 70 or 80 miles in comfort, and the hills no longer are a bugbear."

recent excellent End-to-end record run, would make one believe that only a speed merchant or road hog may yearn after a higher powered machine. I quite agree with your correspondent that for a comfortable, reliable, and lasting go anywhere sidecar machine $3\frac{1}{2}$ h.p. is not sufficient, but I would go further and discard belt-drive in favour of chain. I have come to this conclusion after only some 2,000 miles with a certain $3\frac{1}{2}$ h.p. of 499 c.c. with Roc two-speed gear—the combined weight of passenger and self is about nineteen stone. On easy roads the combination is ideal, but it is a painful business if I have to encounter a few sharp hills (which can hardly be avoided in a run of any length in Scotland). In addition to insufficient engine power, I find that my frame is not strong enough—two of the back stays buckled the other day—and I know another sidecarist with the same make of machine whose frame broke through at the part where the sidecar is fixed on. I wish to get a machine that will take me and my passenger comfortably at a moderate pace, and that may be expected with care to last some time, and I fear I cannot get that in anything less than a 5-6 h.p. Unfortunately, however, I have been told, the running costs with the higher power will be very much increased, and the twin-cylinder engine is more likely to give trouble than the single. It would surely be of great interest to many of your readers to hear the experiences of some other private sidecar owners. It certainly would be to

PERPLEXED.

[5912].—I can heartily endorse all your correspondent "Experto Crede" says in his letter [No. 5876] of the 14th inst. Through lack of experience I was persuaded to purchase a low-powered machine to take a passenger, and I fondly dreamed it would accomplish all that was promised.

Our first long journey completely put the machine *hors-de-combat*, notwithstanding that we completely exhausted ourselves with vigorous pedalling to assist it up the very steep hills in these two northern counties.

From that time we could never go out even on a short run with any degree of pleasure knowing that at every hill it would fail us. During this season we have become the happy possessors of a 5-6 h.p. Bat-Jap with a two-speed gear which has given us a season of unalloyed pleasure, and the machine has never failed to take us up any hill.

After our experience of both classes of machines we are fully persuaded that for a sidecar combination we have no more than sufficient power. I would like to make the usual disclaimer, being no more than a satisfied rider.

Gateshead.

NOVICE.

[5913].—May I be allowed to reply briefly to your correspondent "Experto Crede," who places all singles in one category and condemns the lot as being unsatisfactory for sidecar work.



EDINBURGH M.C. HILL-CLIMB ON AMULREE.

J. Gerrard rounds the second hairpin bend at the limit speed, grazing the grass bank at the roadside. (See pages 998-999.)

"Experto Crede" is evidently unaware of the capabilities of a hefty single and two (or three) speed gear, and if an opportunity arises, I shall endeavour to prove that a big single (I have the Bradbury in my mind as I write this) is quite capable of taking sidecar and two persons of average weight (twenty stone) upon any journey that can be successfully tackled by a 5-6 h.p. twin.

"Experto Crede" lives in rather an isolated district, that abounds with hills, the like of which not one rider in a hundred ever sees in a season's touring.

In England, I should say that quite 75% of the sidecar machines met with on the road are propelled by single-cylinder engines. The simplicity, freedom from trouble, and low cost of upkeep, are all points that tend to make the single-cylinder the most popular type of machine.

Before very long (if I am not vastly mistaken) most of the worst hills in the kingdom will be conquered by the single-cylinder machine with sidecar attached. Given a fair average route in Scotland, I will undertake to prove to "Experto Crede" that he has been rather too hasty in his wholesale condemnation of the single-cylinder machine for sidecar work.

HUGH GIBSON.

P.S.—Wray and myself weighed just over twenty stone on the record ride. Eastwood and I weigh twenty-one stone.

The Stiffest Reliability Trial.

[5914].—I have read Mr. W. Pratt's letter with considerable interest, and I am indeed pleased that this gentleman has taken this matter up. Nobody would be more pleased than myself to see the trials for the future run off under the conditions Mr. Pratt suggests.

I am also pleased to see that Mr. Pratt states as well as "Ixion," that the 1911 Scottish Trials were the most severe that have ever been held.

J. S. HOLROYD.

The Terrors of Sutton Bank—Are they Exaggerated?

[5915].—To those familiar with the hills mentioned in "EC 513's" letter, his statements are somewhat surprising. I climbed Sutton Bank and Kirkstone Pass from Ambleside on successive days three years ago, and although the surface of Kirkstone Pass was at that time much worse than Sutton Bank, I climbed it quite easily, although I had to run alongside my machine on the 1 in 3.9 portion of Sutton Bank.

There is no portion of Kirkstone with a gradient such as this, nor is there any bend on Kirkstone worse than the hairpin on Sutton Bank. "EC 513" seems to regard Sutton Bank with a good deal of contempt, but he would not climb it in the course of a hundred mile non-stop with a $4\frac{1}{2}$ to 1 gear.

B. MARIANS.

Will Hill-climbs Survive?

[5916].—I answer your question in the negative if we are to see motor cycles being taken to and from the hill on a car as was the case with a certain make of $3\frac{1}{2}$ h.p. machine at the Coventry Club's hill-climb at Newnham.

No doubt the compression is most important in the case of a hill-climb, but this sort of thing done so openly will choke any amateur from entering ere long. If those machines are incapable of keeping their best tune in a run of forty miles, then I don't want one.

OBSERVANT.

[5917].—I was much interested in your leading article in the issue of September 14th, on the subject of hill-climbing competitions and their place in sport.

In the obvious desire to obtain for the class of competition under consideration a permanent and sporting character I entirely agree. I am sorry, however, that I cannot express as much admiration for the method suggested to attain this result. If, as I understand it, you are desirous of obtaining various views as to methods which might be adopted to obtain the result desired, I would like to suggest the following:

1. That competitions for touring machines involve a slow ascent in addition to a fast ascent, the greatest difference obtaining the highest awards.

2. That an endeavour should be made to avoid having engines of widely varying capacities competing in the same class. That instead, events should be for, say, maximums of 300, 500, 600, 750, and 1,000 c.c. capacities. That all formulae

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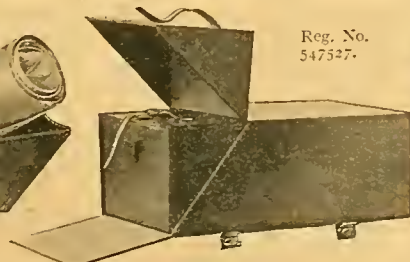
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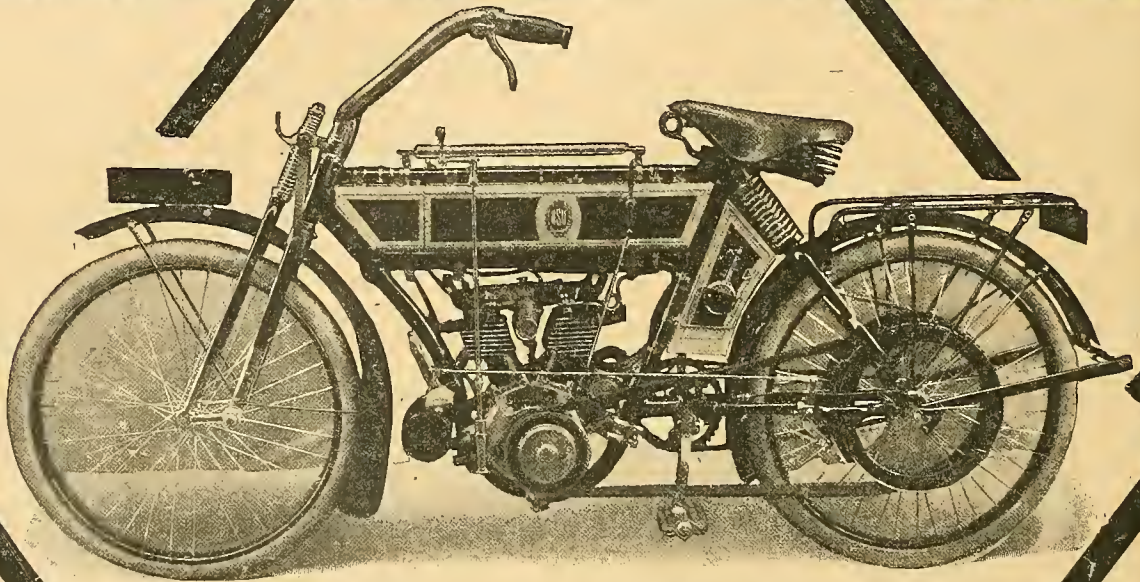
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Twin-cylinder engine, 496 C.C.M., 58 x 75 mm., M.O.I.V., gear driven, H.T. Bosch magneto, new pattern carburettor, drive by 1/2 in. V Belt, spring frame, new type spring forks, new type petrol and oil tanks, divided mudguards, automatic spring stand, two brakes, 26 in. wheels fitted with 2 in. tyres, engine clearance 6 in., gear ratio 6-1. Delivered as standard with under-geared pulley of improved design.



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A. J. W.

should be abolished, and the handicapping should be on weight alone.

5. That in handicaps prizes for fastest time be avoided.

An analysis of the above suggestions affords the following reasons:

In the touring class the engine would have to comply more nearly with the ordinary touring types of engines, and the clubman who does not own a purely racing machine would be provided with a contest in which he would have an equal chance of obtaining wins with the trade rider.

If each class is kept to itself as regards engine capacity a sporting competition will be provided possessing undetracted interest for each event.

The handicapping by weight has been amply justified with its permanent association with horse-racing, and the actual effect of weight on speed can be easily determined by quite a simple experiment and standardised by the ruling body.

As regards the second suggestion for the purely speed contests, I take it that there is no desire on the part of the trade or the public to make an infinite variety of sizes for engines over and above such a definite scale, as is suggested above, and which conforms broadly to existing commercial practice.

At this point, I would like to suggest that a great deal of unnecessary importance is attached to the so-called "factory timing." Speaking for myself, I do not know anything that a trade rider does in regard to the improvement of his engine for speed and hill-climbing that could not be equally well done by an owner. I take it that the essential difference between the engine used by the trade rider and the ordinary amateur is that the former uses an engine with camming and compression ratios adapted for racing purposes. The amateur, if sufficiently enthusiastic, and, of course, wealthy, can provide himself with the same type of machine, and, further, if the competition partakes of the nature of a race, in any shape or form, it is, of course, impossible to expect to win on a machine intended for other purposes. The racing cyclist is not expected to ride a bicycle with gear case, mudguards, and the equipment of a touring bicycle, and the same analogy must with ever increasing force apply to motor cycle competitions.

I have no doubt that many other suggestions will be forthcoming, and I would add that I sincerely hope there will be a resulting movement that will add materially to what is undoubtedly a form of competition that possesses unique and sporting qualities which can be used with distinct advantage both for the users and makers of motor cycles.

FRANK E. BAKER.

Chain Adjustment.

[5917].—We note in your "Queries and Replies" one of your readers asking if it is safe to run his chain with a considerable amount of sag, and in your reply you advise that the ideal adjustment is to set it so that there is no appreciable tightness, and yet it links up so that it imposes no strain upon the bearings.

We fully endorse your reply, and would impress upon your readers to keep their chains tight and not allow them to get too slack, as this is a frequent cause of broken rollers.

In the case of roller chains running at high speed, roller breakage is mainly the result of two causes—(1) the chain being slack and so allowing sudden shock on the rollers at each explosion of the engine; (2) insufficient lubrication. Careful attention to these two points will ensure satisfactory working of the chain under the very arduous conditions present in the high speed drive between motor and counter-shaft.

A convenient method of lubricating this chain is by arranging for the crank chamber air release valve to discharge on to the chain, thereby ensuring a plentiful supply of oil. This ensures the rollers turning freely on their bushes, and reduces the shock of impact on engagement with the wheel as the oil film deadens the blow.

For HANS RENOLD LTD.,
D. H. SIMPSON.

The End-to-end Record.

[5918].—As an amateur motor cyclist, I have been especially interested in the several articles and letters which have recently appeared in *The Motor Cycle* concerning official trials and tests?

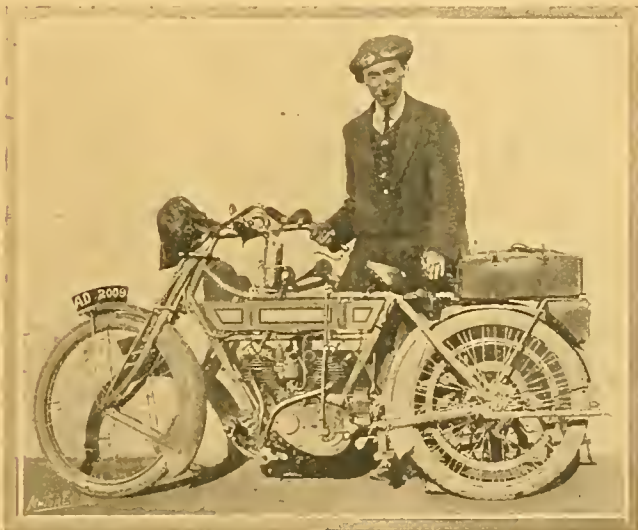
As no doubt you are already aware I recently attempted to lower the existing lightweight End-to-end record, and although unsuccessful, I have every confidence in the machine (2½ h.p. Enfield) and in myself as to the ultimate result of a further trial.

Without wishing to find an excuse at the expense of the professional riders, I do maintain that the machines they ride are, not really "standard" machines, and, furthermore, their hair-raising speeds and freak performances during competitions are not furthering the sale of the respective manufacturers interested.

The average buyer of a motor cycle does not take sufficient interest in these professional tests to be guided by their results; if he did, then I am sure he would never be able to decide which of the manufacturers really held the advantage.

One thing is patent to everyone, and that is no two drivers drive alike; where one man would fail another would be successful, even though the same machine were used, and both riders supposed experts.

Many men whom I know are quite prepared to buy a motor



C. W. Allen, holder of the 1,000 and 2,000 miles walking records. He has recently taken to motor cycling and purchased an Enfield.

cycle, but will not simply because they honestly believe that it requires an engineer to manage it, and when asked their reason for so thinking they quickly answer, "Well, look at such and such firm, they are bound to get one of their mechanics to ride in these competitions; if their machines are so reliable, why employ men whose daily work is fitting these very machines together?" We have more than sufficient speed, what we private owners require above all is reliability and cheapness; we want a machine which will take us for reasonable distances without trouble of a mechanical nature, and above all we want cheapness, but not shoddy.

Whether the A.C.U. ban me from its competitions (should I ever choose to enter) will not worry me so long as the machine I ride carries me at my limit and my formula.

Apologising for taking up so much of your valuable space,

CHARLES W. ALLEN.

SCORCHING.—We withhold a letter received from Mr. Hugh Gibson on this subject on account of the personalities it contains.—ED.

NOTICE.

The Editor disclaims all legal responsibility in any way for loss of copy in the form of manuscript, drawings, or photographs submitted to him. Rejected manuscript, drawings, and photographs will only be returned provided a stamped addressed envelope is enclosed for the purpose.



Some Accessories.

I desire to return thanks for a batch of samples, which include a new adjustment valve for the Best and Lloyd drip-feed oil pump, enabling a complete charge to be pushed straight into the engine without disturbing the drip adjustment; this is achieved by a simple bypass, and was suggested by a criticism of mine some months ago. I naturally regard it as a great improvement. I have also received a Kingston carbon remover brush (sold by A. H. Walker, 32, Vane Street, Spring Bank, Hull). It consists of a most formidable brush armed with stiff metal bristles; the head is 3in. in diameter, and the squared shank can be mounted in a brace for rotation, if desired; it greatly assists the process of removing carbon deposits from a cylinder head, though a little preliminary chipping is still advisable when the deposits are extra hard. Mr. Surridge has also sent me a selection of his famous Holdtite patches, which possess the advantage that the edges do not curl.

Second-hand Machines.

Now is the season for the would-be rider with a shallow pocket to pick up a 1911 mount in practically new condition at wholesale price or less. Thousands of men purchase new machines every spring, and the majority of them do no winter riding, and are open to unload their 1911 machines in the months of September or October. It is ridiculous to suppose that a first-class 1911 machine is any the worse for 3,000 miles riding in the hands of a careful owner. The plating will be a trifle dimmed, and the enamel barked here and there, but what do such surface blemishes matter? The canny buyer with from £30 to £40 to invest may discover many real bargains at this period of the year.

The Flexibility Hill-climb.

I am surprised that so few clubs have listed flexibility hill-climbs on their competition programmes this year, for few events are so calculated to test the technical skill of the owners, or to bring out the genuine roadworthiness of the machines. Several clubs have held members' events of the kind, but I think no big club has organised an open climb on these lines. The usual plan is to hold two separate classes. In one, nothing is allowed in the way of attention or adjustment to the machines between the fast and slow climbs; in the other, riders are permitted to spend, say, half an hour altering their adjustments. As a rule the use of variable gears and free engine clutches is barred, for to throw such fittings in would create a third class. The slow climbs take time, but it is possible (and very sporting) to send the riders up in three for the slow climb. Very close observation is, of course, essential for the fast class. I wish one of the crack clubs, such as the M.C.C. or the Coventry, would organise a big open climb confined to these skilled riding tests for next year, with perhaps the addition of a restarting class. It would provide a far more interesting and instructive afternoon than the average devil-take-the-hindmost sprint.

A False Paradise in the Lamp World.

For several years past I have remained faithful to a very antique head lamp indeed. I bought it in 1907, and found that it gave a very satisfactory illumination, and did not fall to pieces. I fancy that one new hinge wire and one new glass represent all the replacements it has needed in four years, while the two small and cheap German generators I fed with have proved equally reliable. Early this year my old lamp came to an untimely end in a small spill, and I conquered my Scotch thriftiness sufficiently to invest the price of three belts in one of the enormous modern head lamps, of which I have heard such golden encomiums from men who ought to know. I must admit that my new investment is perfect from several points of view. Nothing about it ever breaks or vibrates loose, and its colossal generator provides good gas for four or five hours. Its one fault is that it does not give any light. The alleged long-distance beams, of which the catalogue boasts so proudly, are non-existent. The short-distance light is good enough both in intensity and in range, but is disfigured by a jumping black shadow. Regarded as a whole, the lamp is distinctly inferior to my ancient purchase. It weighs twice as much, costs three times as much, is no more reliable, and does not give half so good a light, which is not exactly as it should be.

The C.A.P. Carburetter.

I am busy testing a sample of Mr. Harold Cox's carburetter, the new C.A.P., and while up to the present it seems to me as efficient as any other I have tried, it possesses another merit which should enable it to "make good." Readers may remember that two years ago I asserted that the average ultra-sensitive vaporiser of to-day does not suit the un-mechanical type of rider; he resents the need to be constantly twiddling at his air lever, and mismanagement of this delicate item causes him frequently to fail upon hills of which a cleverer jockey could make clean ascents. Consciously or unconsciously, this type of rider bankers after the "single lever" control which helped to make the early Quadrant machines so popular. Now one of the peculiarities of the C.A.P. carburetter is that in driving there are only two positions of the air lever. You open it one-third of its travel to start, and as soon as you are in the saddle you fling it as wide open as it will go, and leave it wide open till your next stoppage. This is just exactly what thousands of inexpert amateurs want; and if the new vaporiser simultaneously affords reasonable efficiency and reasonable economy, as I have no cause to doubt it does, it should very distinctly fill the bill. One of our contributors showed the other week that a sensitive type of carburetter could be automatised by a special adjustment; but unless a carburetter is specially designed for single lever control, this special adjustment leads to heavy petrol consumption, heating of the engine, carbonisation of the cylinder, and pitting of the valves.

Variable Gears and Motor Cycles.

II.—CLUTCHES.

BY variable gears I mean the power of varying, from the saddle and while the machine is in motion, the ratio of engine to road speed, and these can be divided first into two main divisions:

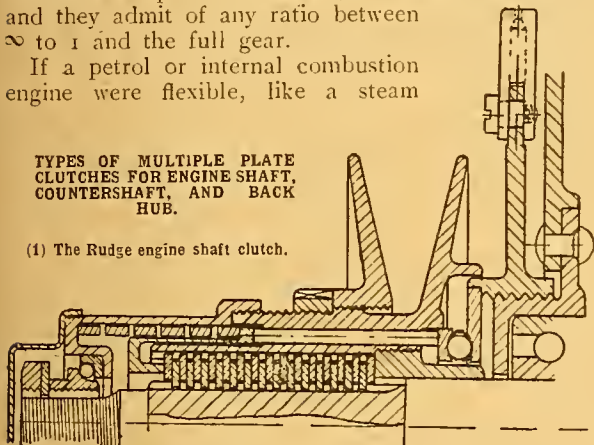
1. Clutches and friction devices.
2. Variable gears (properly so-called).

1. Clutches are not variable gears in the true sense of the term, but, as they answer my requirement of altering the ratio of engine to road speed, they come within the scope of this article, and must be included; and they admit of any ratio between ∞ to 1 and the full gear.

If a petrol or internal combustion engine were flexible, like a steam

TYPES OF MULTIPLE PLATE CLUTCHES FOR ENGINE SHAFT, COUNTERSHAFT, AND BACK HUB.

(1) The Rudge engine shaft clutch.



engine is, and capable of exerting its full power at low speeds, clutches would be ruled out of court at once as variable gears, and would be of use only for starting purposes.

The Conservation of Energy.

As a matter of fact, some such friction device was tried on pedal cycles some years ago, but was, of course, useless; as the inventor would have known had he known anything about the "conservation of energy." All the force put into it that was not used to propel the machine was, of course, wasted as heat energy.

Now with a motor cycle the case is different, not because there is no loss of energy in heat—for that must of necessity take place in spite of the improvement of clutches—but because a slipping clutch enables an engine to keep up its normal speed of, say, 1,500 revolutions per minute; and, although some of its power is dissipated as heat energy, yet more arrives at the road wheel than if the engine were allowed to slow down with constantly diminishing horse-power.

If this were not the case a clutch would be useless also for starting purposes.

In support of my contention, I can refer to a letter in *The Motor Cycle*, the writer of which stated that he could slip the clutch of his Indian almost indefinitely in traffic, and use it as a variable gear.

When a Clutch is an Advantage.

Another point is that slipping a clutch takes a large amount of the load off the engine in proportion to its speed, and that consequently there is less overheating, which is largely due to overloading, and the engine can be run light with plenty of air and the throttle partly closed. (Has no one noticed that, when one has to dismount on a hill owing to belt slip, the engine seems capable of anything?) This will often enable the last bit of a bad hill to be surmounted, which would otherwise call for l.p.a. or a dismount, especially when a sidecar is fitted. It is not, however, suggested that a clutch should be slipped more than is necessary.

Belt tension when operated from the saddle can be made to answer the same purpose as a clutch to some extent. This method is found on the Motosacoche (worked by means of a jockey pulley), on the Midget Bicar (on this machine the back wheel is made to slide backwards or forwards by pressure on the footrests, but it can be firmly locked in any position), on the N.S.U. and Wanderer lightweights (operated by undergeared pulley capable of describing an arc around the crank axle. This system was also found on the F.N. lightweights a few years back).

Notes on Existing Clutches.

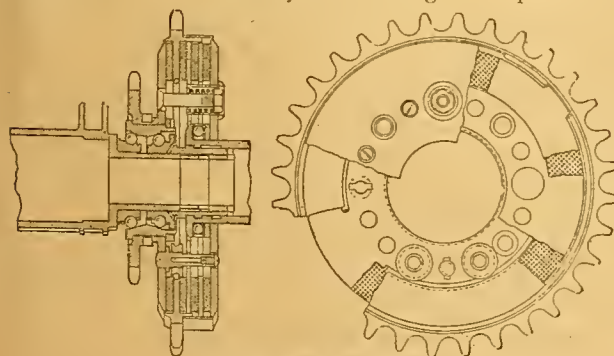
Excellent clutches are found on the Triumph, Premier, Singer, Indian, etc., and all two-speed machines, and for traffic riding these clutches are every bit as good as a two-speed gear, if not better, though they have not the same advantages in hill-climbing.

Like variable gears, clutches can be placed in any of the three positions mentioned previously. The Mabon and Albion clutches can be supplied to fit the crankshaft of any existing machine. The Indian and A.J.S. clutches are on the counter-shaft. The T.A.C. is in connection with the flywheel, as is usual in car practice; so also is the F.N. lightweight clutch.

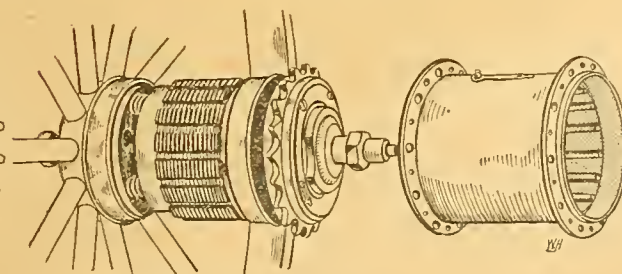
The clutches found on motor cycles are for the most part of the multiple plate pattern, others are made with raybestos, leather cones, and cork insets, all of which are very satisfactory.

AURIGA.

(To be continued.)



The Indian countershaft clutch.



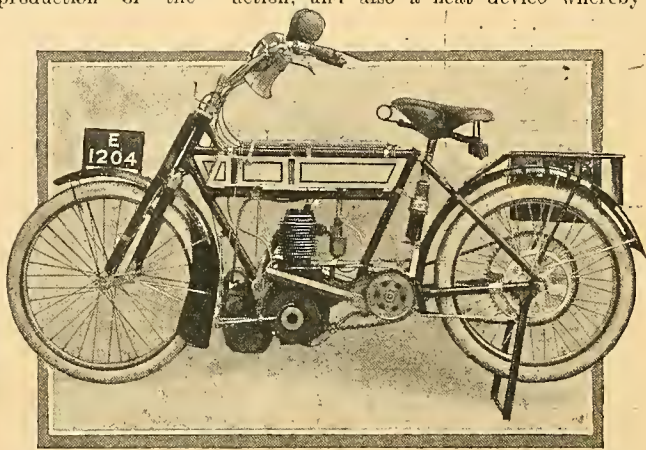
The Triumph hub plate clutch.

1912 MODELS.

Some Advance Details and Illustrations showing the trend of Design.

Gradior.

A new machine for the 1912 market is the Gradior, the production of the Gradior Machine Co., Stafford. This machine derives its power from a $3\frac{1}{2}$ h.p. J.A.P. engine, and has a plate clutch on the engine-shaft operated from the handle-bar by Bowden wire. Transmission is by Renold chains, the front adjuster being under the engine. One of the features on the Gradior is the two-speed gear box giving ratios of 9 and 5 to 1. This is on the car principle with a dog clutch operated by a lever on the right-hand side of the tank. The idle gears run on ball bearings, and the drivers on chilled bronze bearings. The seat pillar, as will be noticed, is supported on an A.S.L. air spring.

A new model, the $3\frac{1}{2}$ h.p. two-speed chain-driven Gradior.

incorporating an eccentric pedal chain adjustment with a very simple locking action, and also a neat device whereby

refinement which is worthy of notice is that the carrier is brazed into one piece, and is attached by pins to special lugs on the frame, there being no clips of any sort in the construction.

Altogether the cycle has been thoroughly well thought out, and from a short spin in the sidecar in thick traffic, we were convinced of the hill-climbing and braking powers and general handiness of the machine as a passenger mount.

A New Arno.

The Arno Co. will market a new T.T. model for 1912. They will retain their already well-known power unit, in which the engine, magneto, carburetter, and footrests can be detached by removing three bolts and uncoupling the petrol



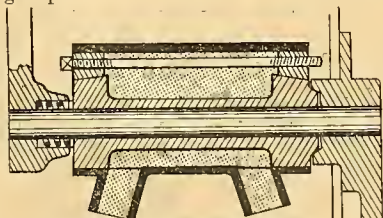
Arno special design of one-piece steering head and saddle pillar lugs.

 $3\frac{1}{2}$ h.p. Sidecar New Hudson.

The New Hudson Company have decided to market a $3\frac{1}{2}$ h.p. bicycle specially suitable for sidecar work.

At first sight the new model does not appear to differ greatly from this year's $3\frac{1}{2}$ h.p. type, but on examination one sees that the machine has been greatly strengthened in many parts, so as to withstand the severe strains imposed by passenger attachments.

The frame tubes and handle-bars are of large diameter, the spokes of heavier gauge and the rear wheel is fitted with the new sidecar model, Armstrong three-speed and clutch, the latter containing double the original number of plates. This clutch is now actuated through a simple form of compound leverage which enables one to de-clutch with quite a light pressure of the foot.



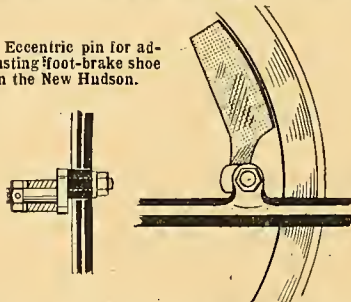
New Hudson bottom bracket, showing eccentric chain adjustment and friction clutch to prevent pedal cranks revolving.

Much attention has been paid to details, and one finds many of those small refinements which are so important in the manufacture of the ideal machine. For instance, by slacking one nut and turning a milled washer, the angle of the clutch pedal may be set to suit individual requirements. The bottom bracket also is a particularly neat piece of work,

the pedals are prevented from revolving when not in use by a small friction clutch actuated by a light enclosed spring.

The brake pedal is mounted on a special lug and is quite independent of the foot-

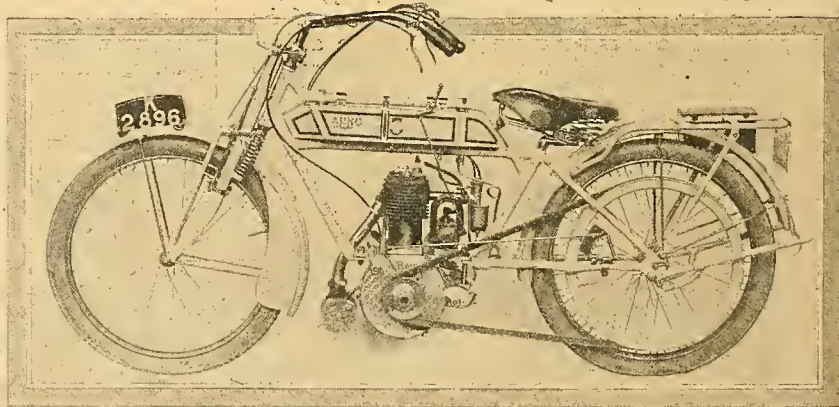
Eccentric pin for adjusting foot-brake shoe on the New Hudson.



rests, while the shoe itself is carried on an eccentric pin which passes through a lug brazed to the frame. By rotating this pin the shoe can be set nearer or further from the brake rim, thus obviating the undue wear on one corner of the shoe, which is so frequently found even on modern motor cycles. One other small

union. The chief alterations will be in the frame. The head lugs are cast in one piece, and the rear lug is of novel and neat appearance, as will be seen from the illustrations. This also is cast in one piece, and is designed to give great strength at the joints and a low saddle position.

The standard tourist machine will resemble the T.T. type in all respects, except that it will have a slightly longer frame, and can be fitted with pedals. The size of the engine will remain the same, viz., 84×89 mm. The firm will retain their medium weight machine, and will also list a new lightweight model of 65 bore and 68-stroke, rated at $2\frac{1}{2}$ h.p. We hope to give further details of this type in an early issue.



A new model T.T. Arno with dropped top tube.

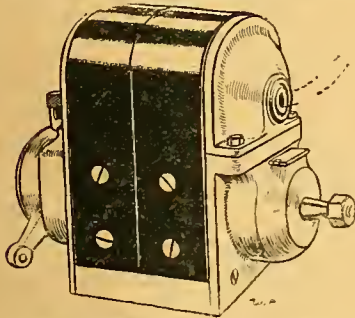
1912 Models.—

Rover.

The Rover motor bicycle for 1912 will be very little changed in outward appearance from the current year's model. Minor improvements are being made, but these alterations apply to the detail work only. The wheelbase will, however be shortened, and a consequent reduction in the weight will result. A sidecar combination is also on the tapis for next year.

The Bosch Magneto for 1912.

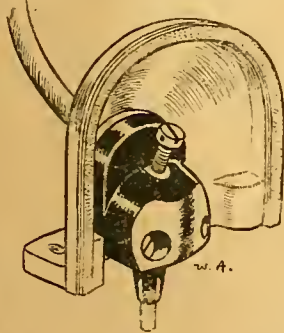
If there is one part of a motor cycle which goes wrong less than any other it is certainly the magneto, and hence it is



The 1912 pattern Bosch magneto with enclosed high tension terminal.

a somewhat difficult thing to see how, having arrived at its present high stage of reliability and efficiency, it can be improved. In spite of this, the 1912 type of Bosch magneto is certainly an advance, both in design and construction, on any machine that has yet appeared, and we have no doubt that motor cyclists will appreciate the practical and well-thought out improvements it contains.

The first and most obvious one is clear from our sketch, from which it will be seen that the whole of the magneto is now entirely enclosed: at the driving end by a separate detachable under-plate, and at the contact breaker end by an extension to the existing plate. The



The new Bosch high tension terminal and its casing.

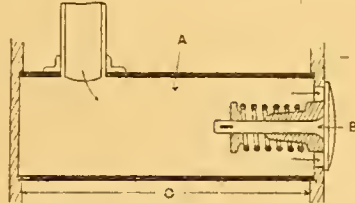
whole of the base and under-plates is of aluminium alloy, and as a result the weight of the machine has been increased only a negligible amount. The advantages, however, are by no means small, inasmuch as any separate water and dust-proof cover for the magneto is now rendered entirely unnecessary.

On the edges of the aluminium plates are sunk fillets of felt which make an

almost gas-tight joint between the plates and the edges of the magnets.

The attachment of the high-tension cable, which has hitherto proved a rather weak point where bad weather was concerned, is in the new machine carried out in a most ingenious way, which entirely overcomes the likelihood of any such troubles arising. The upper extension of the driving end cover plate carries, as shown in the drawing, a vulcanite bush through the hole in the centre of which the high-tension cable is thrust into a tubular extension of the vulcanite high-tension collector brush housing. The latter, together with the cover-plate to which it is fixed, is shown in more detail in the second sketch.

The high-tension cable is attached in a very simple yet thoroughly effective manner. When it is home in its tube, it is simply transixed with the set screw as shown. The terminal joint is thus rendered perfectly water-tight, as the cable makes a fairly tight fit with the holes of the bush through which it is thrust. The only external terminal is that for the earthing wire of the contact breaker, and in this case consists of a very neat vulcanite headed binding screw.



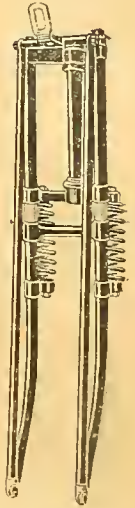
New design Quadrant silencer in which the outlet valve B is controlled by a light spring. A is the expansion chamber and C the engine plates.

which screws down into the vulcanite bush, in the side of which is cut a slot for the earthing wire to pass through. When once screwed down there is no possibility of the wire coming loose.

It is not often that practical improvement in motor cycle mechanism is accomplished by an enhancement in outward appearance, but in the case of the 1912 Bosch magneto this is certainly the case, as the cast aluminium cover-plates on each end give it a neat, workmanlike, thoroughly finished appearance, which is a desirable attribute to any machine.

The Pilot Spring Fork.

The Pilot spring fork, made by the Pilot Cycle and Motor Co., Soho Road and Farm St., Birmingham, which we illustrate herewith, is of very neat appearance. The forks slide through round tubes on either side of the head, and while the fork is able to give to road shocks the friction of the tubes prevents bouncing and oscillation. Another point is that in the unlikely event of a spring breaking the head cannot come into contact with the mud-guard or wheel. The fork should be very suitable for sidecar work where great strength is required. The firm is prepared to grant licences to manufacturers on favourable terms.



Two-speed Singer Lightweight.

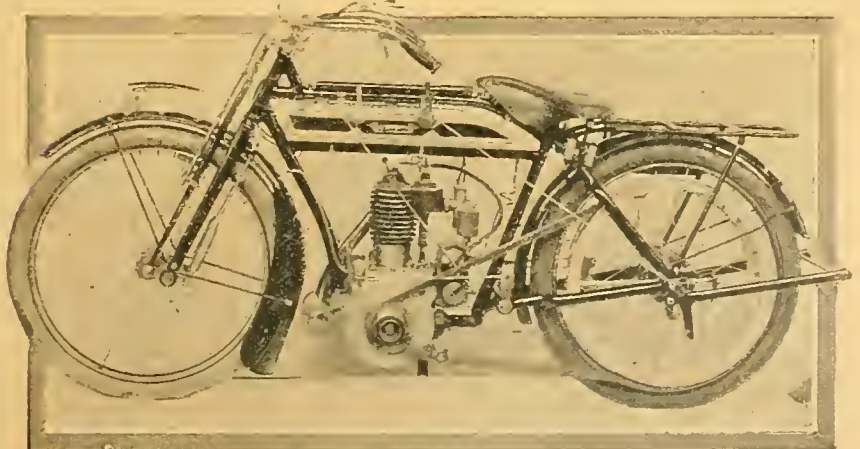
The two-speed 3½ h.p. bicycle which we recently described will be one of the leading Singer machines in 1912. The company has now decided to apply its counter-shaft gear to the 2½ h.p. lightweight model which has recently had such a remarkable run of successes. This smart little machine will also be supplied with the Armstrong three-speed gear, if desired in its original form with a single gear.

Quadrant

The Quadrant Co. will list four models for 1912—a clutch, three-speed, racing, and lady's model. In the first two cases, except, of course, for the rear hub, the machines will be identical, and will have a modification of this year's engine. The radiating fins have been removed from the inlet port and an improved adjustable pulley has been fitted.

The new racing type is fitted with an engine of 87 bore x 80 stroke, and the lady's machine, which we hope to illustrate shortly, will have an engine of 70 x 76 mm.

A very interesting silencer, illustrated on this page, is fitted to the 1912 Quadrants. It consists of a plain expan-



New model three-speed Quadrant.

1912 Models.—

sion chamber the exit from which is through a valve kept on its seat by a light spring. It is claimed that the action of this valve causes a partial vacuum in the expansion chamber after each explosion, thereby increasing the speed and power of the engine considerably.

The Norton in 1912.

We recently had the pleasure of a chat with Mr. Norton on the subject of his 1912 models. He told us that he would make no great changes in his present types, but that owing to prolonged experiments with air cooling there will be a considerable increase of efficiency in the 1912 machines. He also told us that he would list a novel type of miniature machine. The engine, which is rated at $2\frac{1}{2}$ h.p., is of the long stroke type with mechanically operated valves, placed one above the other. The cylinder is inclined with the ribs arranged so as to be parallel with the ground. The weight of the complete power unit, comprising engine, magneto carburetter, exhaust pipe, and engine clips, is stated to be only 28½ lbs.

A New F.N. Clutch.

The F.N. Motor Agency have just placed on the market a well designed and well made plate clutch, which may be easily fitted to all ancient and modern four-cylinder F.N. motor bicycles. The illustration accompanying this notice shows the clutch in pieces, and it will be seen that in design it follows standard practice. The whole device takes the place of the usual flywheel, A being the new flywheel which contains most of the mechanism, B is the ball thrust bearing and spring, and C is the small plate carrier connected to the driving mechanism E. The external ring D carries the larger plates and is screwed on to the flywheel. E is the driving and operating mechanism on which is attached the main driving pinion in the transmission, while the arm is for the attachment of a bowden wire which operates the clutch from the handlebar by means of the quick pitch screw to be seen clearly on E.

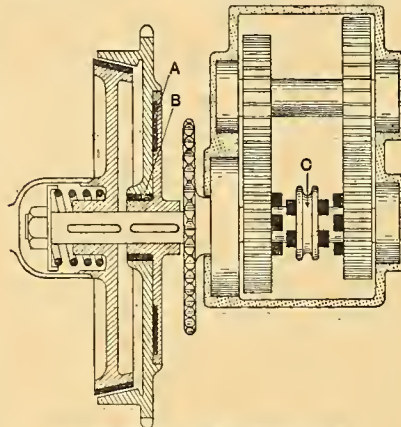
Sidecar Combinations.

Passenger enthusiasts are to be well catered for next year. Among the new firms who have variably-gearred motor cycle and sidecar combinations in course of manufacture for 1912 are: Rover, Enfield, James, Premier, Douglas, and New Hudson. In these machines the lugs for the sidecar fittings will be, in most cases, brazed to the frame.

A Two-speed James.

The 1912 James motor cycles will retain the same sized engines, that is to say, 86 bore by 96 stroke, but the combustion chamber and valve ports have been re-designed, and the diameter of the exhaust pipe increased, with beneficial results. The magneto also has been slightly raised to give greater belt clearance. The frame will remain the same, but with the addition of a front wheel stand, a neat spring fork on Druid lines with scimitar blade side members, and a carrier specially designed to allow of the saddle being in the lowest possible position, and to carry special pannier tool-bags.

A special model will be made for sidecar work, in which the sidecar attachment lugs will be built into the frame. The firm will also supply their own sidecar chassis to which any body may be fitted.

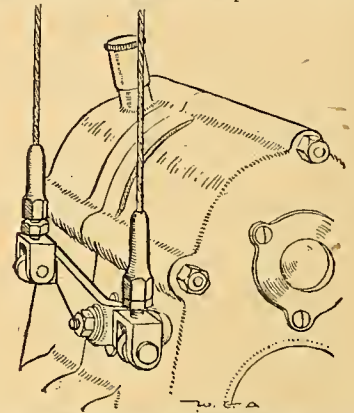


Interior mechanism of the James two-speed counter-shaft gear.

- A. Friction pads.
- B. Phosphor bronze bush.
- C. Sliding dog clutch engaging one or other of the gears.

The chief feature of this new model is a neatly designed two-speed gear box, combined with a composition lined cone clutch. The power is transmitted from engine to gear box by means of a short chain, the rear sprocket being mounted with a frictional device to prevent harshness in the drive. Thence it passes either directly (for the high gear) or through a geared counter-shaft for the low to a second sprocket mounted loosely on the outside of the primary gearshaft, thence to the rear wheel by a second chain. Both gearshafts are mounted on ball bearings, and the change of gear is effected by a lever attached to the top

tube in a convenient position. This lever works in a horizontal plane and actuates the usual type of dog clutch in the gear box. At present the gear box is situated just behind the saddle-pillar, but in



The James two-speed counter-shaft gear. The rocking gear-lever is controlled from a quadrant on the top tube.

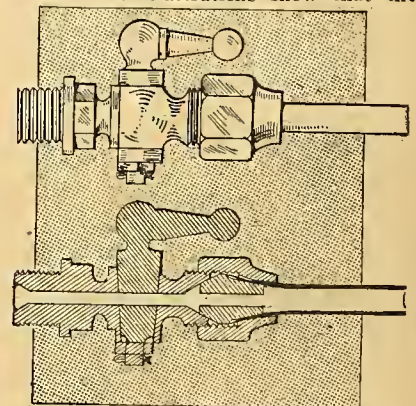
future it may take the place of the bottom bracket. We have been promised a run on this machine at an early date, and hope shortly to give our impressions of it on the road.

The Enfield Autorette.

The Enfield Autocar Co. are placing a new three-wheeled sociable on the market for 1912, with a single driving wheel. It is named the "Autorette," and will be driven by an 8 h.p. water-cooled V-type twin engine. The frame will be of pressed steel, and the transmission through chain and a two-speed epicyclic gear in the back hub.

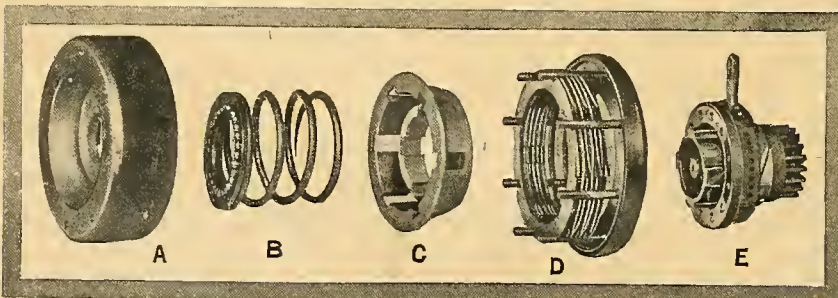
A Mechanical Petrol Pipe Joint.

The small fitment illustrated herewith has been patented by Mr. W. Starley, 11, St. Paul's Road, Coventry, and provides for a mechanical joint without any solder. The illustrations show that the



Elimination of soldered joints.

copper pipe is belled at the end, and in the bell mouth a conical junction piece is fitted, the usual coned end is provided on this piece for connecting to the body of the tap. When the union nut is screwed up it locks the belled end of the pipe against the junction piece and the tap. We understand that the joint is perfectly petrol and oil-tight, and that one or two manufacturers are prepared to fit it.



The new pattern F.N. multiple-plate clutch dissected to show the working parts.

Seventh 1911 Monthly Meeting of the B.M.C.R.C.

INTERESTING RACING. SEVERAL RECORDS BROKEN.



There was a much improved attendance at the B.M.C.R.C. meeting at Brooklands last Saturday.

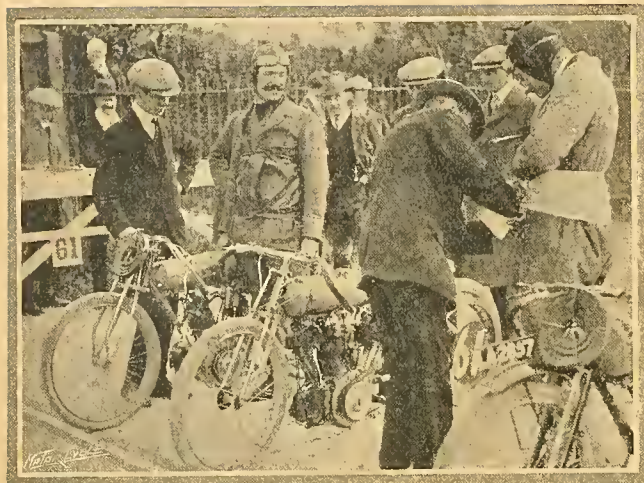
THE weather was cool, and early in the afternoon the attendance was poor, but later on quite a number of spectators arrived. The meeting was confined to two long distance events, first the Junior Hour Race, which started twenty-five minutes behind time, and then the 100 Miles Record Race, which took well over two hours.

The Junior Hour Race for Classes A 275 c.c. and B 350 c.c., was started by Major Lloyd. All got away in good form except Woodman, who had some trouble in getting his Humber to fire, but once started the machine travelled well. The order at the end of the first lap was, Colver, Martin, Wright, Weatherilt, Barnes, Wilberforce, and Slatter. This was

Barnes's first and last appearance, as a seized tappet rocker caused his retirement. Weatherilt now assumed the lead, and kept his position for eight consecutive laps. Then a sooted plug put him a lap behind. At half-time the order was Martin Weatherilt, Wright, Colver, Woodman, and Slatter. Wilberforce withdrew owing to a broken petrol pipe in the third lap, while Slatter had stops for a broken oil pipe. In the twelfth lap Wright took second place and Weatherilt dropped back into third place. The position did not change till the last lap but two, when Weatherilt began to force the pace and got into second place again. The results are given overleaf:



Start of the 100 Miles Race, in which J. R. Haswell (Triumph) beat J. Marshall's record of last year also on a Triumph.



Mr. T. W. Loughborough distributes the coloured sashes which denote the various classes. He is seen above helping Gordon Bell to pin his sash on, whilst H. A. Collier has been successful with his.

CLASS A.—Record.

	Mls.	yds.
1. H. Martin (1 Martin-Jap) 76×60 mm., 272 c.c.	54	310
Martin used accumulator and coil ignition.		
2. N. D. Slatter (1 Alcyon) 62×82, 247 ...	10	laps

CLASS B.

1. H. Martin (1 Martin-Jap) 76×60 mm., 272 c.c.	54	310
2. P. Weatherilt (1 Zenith-Gradua-Jap), 76×65.5, 299 ...	51	796
S. Wright (2 Humber), 60×60, 340 ...	18½	laps
H. V. Colver (2 Enfield) 54×75, 338 ...	17½	laps
A. Woodman (2 Humber), 60×60, 340 ...	14	laps

Martin's performance, in which he captured the record in Class A and won in Class B, is one of which he may be justly proud. Class B record is held by O. C. Godfrey (Zenith-Gradua)—one hour, 54 miles 726 yards.

The next and last event of this the last meeting of the year was the 100 Miles Record Race for Classes C, D, and E (not exceeding 500, 750, and 1,000 c.c.). The entry for this race was quite good. C. R. Collier did not after all ride his 499 c.c. Matchless, but chose to mount his red chain-driven record breaker, while H. A. Collier rode a similar belt-driven machine. Both brothers used oil pipes conducting the lubri-

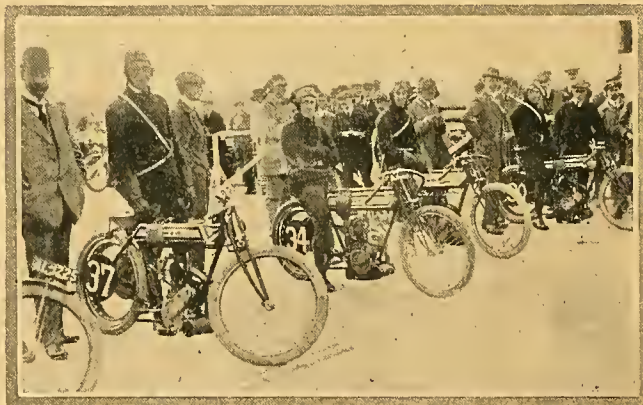


Three competitors in the Junior Race. Left: H. Martin (Martin-Jap), who beat record, V. Wilberforce (N.L.G.), and N. D. Slatter (Alcyon).

cant directly to the front cylinder. McNab was mounted on a new 3½ h.p. Trump-Jap, conspicuous for its sensible filler caps and excellent finish. H.H. ignition (coil and dry battery) was fitted, and a C.A.P. carburetter. McNab is most enthusiastic about the latter accessory. There was an impressive start, and then began the long tedious event. C. R. Collier at the end of the first lap was leading by streets, and, according to Major Lloyd's timing, covered the first lap from a standing start in 2m. 22½s. H. A. Collier came next, and then there followed Luce, Spencer, Tessier, Haswell, Elce, Rhys, Harrison-Watson, Godfrey, Martin, McNab, Quintin Smith, Howard Smith, Oldman, Stewart, Guiver, Ware, and C. W. Smith.

A Race full of Incidents.

The race was full of incidents. C. R. Collier let his brother go ahead in the fourth lap, but only on this occasion, then H. A. Collier stopped. After twelve laps C. R. Collier was visibly losing ground, and eventually he had to retire through a seized front piston. Later on his brother retired. Lieut. Stewart, the well-known Trump-Jap exponent, was early in trouble. Just after the race had started he attempted to tighten a plug on his carburetter with a spanner while travelling at about 50 m.p.h.; the spanner somehow tried conclusions with the spokes of the wheel, and Stewart's recollections of what happened afterwards are by no means clear. Fortunately he was thrown on the grass. At about fifteen-laps Haswell looked like distinguishing himself. H. A. Collier was leading, his brother was on the point of giving up, and Haswell was running second. Elce



The Rudge contingent in the 100 Miles Race. W. H. Elce, second from left, finished only 25 secs. behind J. R. Haswell.

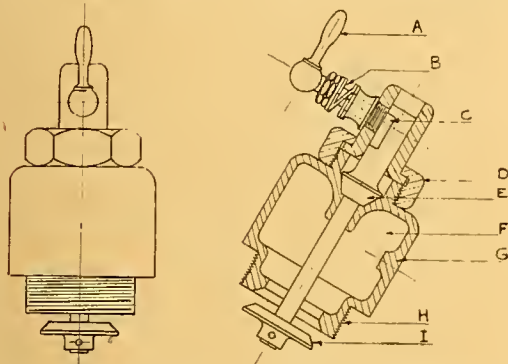
then led the field, Haswell was second, and the race developed into a Rudge and Triumph duel, resulting in Haswell finishing first on a flat tyre. Elce stopped to change his belt, which was getting oily, and as events proved lost the race thereby. Result: H. M. S.

1. J. R. Haswell, Class C. (1 Triumph), 85×88 mm., 499 c.c.	1	37	52½
being 100 mls record, and beating the performance of J. Marshall, who on a 3½ h.p. Triumph on June 22nd, 1910, covered the distance in 1h. 50m. 22s. In the hour Haswell covered 62 miles 1,169 yards. He used Dunlop tyres, Lyso belt, Bosch ignition and plug, Shell petrol, and Price's oil.			
2. W. H. Elce, C. (1 Rudge), 85×88, 499 ...	1	38	174
3. O. C. Godfrey, C. (1 Indian), 82.5×83, 497 ...	1	42	40
4. S. T. Tessier, D. (2 Bat-Jap), 85×65, 728 ...	1	46	30
5. S. Spencer, C. (1 Rudge), 85×88, 499 ...	1	59	25½
6. E. B. Ware, C. (1 Rudge), 85×88, 499 ...	2	5	18
W. T. L. Rhys, C. (1 Rudge), 85×88, 499 ...	34	laps.	
F. A. McNab, C. (1 Trump-Jap), 90×77.5, 482 ...	33	laps.	
W. F. Guiver, C. (1 Kerry), 85×88, 499 ...	23	laps.	
W. Oldman, C. (1 Zenith-Jap), 85.5×85, 488 ...	18	laps.	
H. Smith, C. (1 Triumph), 85×88, 499 ...	11	laps.	
R. N. Stewart, C. (1 Trump-Jap), 90×77.5, 492 ...	2	laps.	
J. Smith, C. (1 Triumph), 85×88, 499 ...	8	laps.	
J. Harrison-Watson, C. (1 Triumph), 85×88, 499 ...	5	laps.	
H. A. Collier, E. (2 Matchless-Jap) 90×77.5, 997 ...	24	laps.	
C. R. Collier, E. (2 Matchless-Jap), 90×77.5, 997 ...	12	laps.	

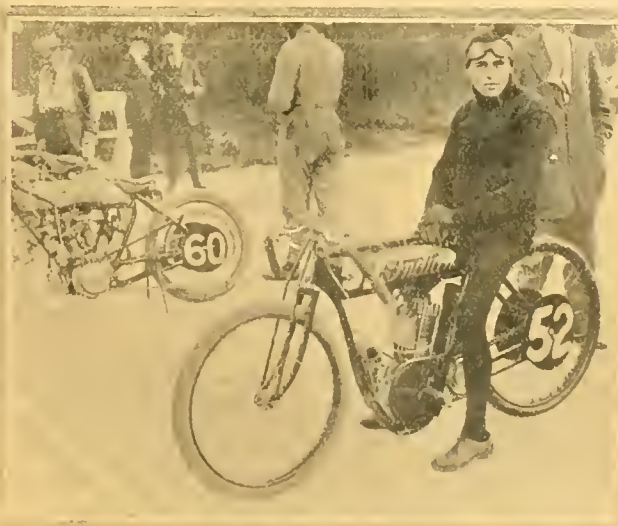
A VARIABLE COMPRESSION DEVICE.

Messrs. Packer, and Prentis, engineers, Roden Street, Ilford, have added another ingenious device to those recently dealt with in our pages. This consists of a chamber G screwed in the place of the valve cap over the exhaust valve of the machine. Inside the chamber are two valves E and I on a common spindle, which spindle is operated by means of an eccentric C attached to the spindle B and the lever A. When it is required to reduce the compression the handle is pulled up, with the result that the valve E is closed and the valve I is left open, so that the compression is reduced by the amount of the area of the space F. The

ing pace by dropping the valve. As this device can be fitted to any existing machine it should prove a boon to those who find their motor cycles difficult to start.



use of this device is obvious, and with the machine on which it was demonstrated to us the other day (an old $3\frac{1}{2}$ h.p. Brown with sidecar fitted), it is possible to start at a walk-



O. C. Godfrey (single cylinder Indian, in his up-to-date racing attire, which he wore at the B.M.C.R.C. meeting last Saturday.

MOTOR CYCLE HILL-CLIMBING IN SOUTH WALES.

A MOST successful competition took place at Ewenny, near Cowbridge, on September 20th, before a large company. Unfortunately, the weather conditions were not favourable for hill-climbing, a heavy thunderstorm falling just before starting. The meeting was arranged by Mr. A. S. Evans, The Bridge Garage, Cowbridge, who provided the prizes and entertained the competitors to supper in the evening. Great credit is due to him for his enterprise in providing a splendid afternoon's sport. Col. Homfray (Ruthin Castle) and Mr. Thurston Bassett kindly acted as judges. Mr. J. Thomas (Canton) gave his services as starter and handicapper. The events were run in heats. The results are as follow:

2 H.P. LIGHTWEIGHT CLASS.

1, C. Davis (2 h.p. Humber); 2, Wybert Thomas (2 h.p. Humber).

2 $\frac{3}{4}$ H.P. TWINS.

Dr. Templeton (2 $\frac{3}{4}$ h.p. two-speed Enfield) and H. Homfray (2 $\frac{3}{4}$ h.p. Enfield), dead heat. In the run off Dr. Templeton beat H. Homfray by a length

3 $\frac{1}{2}$ H.P. SINGLE-CYLINDER CLASS (Gold medal given by the Triumph Cycle Co.)

Hayton (T.T. Triumph) beat Bird (3 $\frac{1}{2}$ h.p. Triumph).

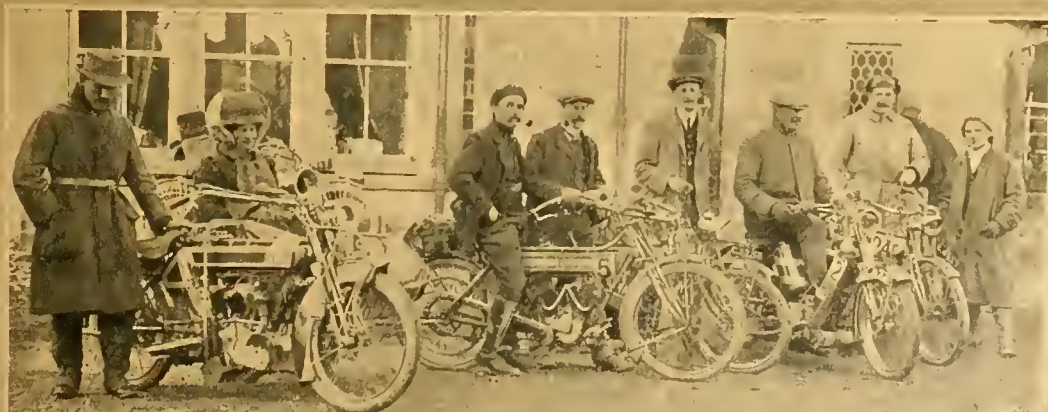
OPEN HANDICAP.

First Round.—D. J. Evans (2 $\frac{3}{4}$ h.p. two-speed Enfield) beat Jones (3 $\frac{1}{2}$ h.p. Rudge); A. S. Evans (2 $\frac{3}{4}$ h.p. Enfield) and H. Homfray (2 $\frac{3}{4}$ h.p. Enfield) dead heat; J. Croome (3 $\frac{1}{2}$ h.p. Premier) beat Bird (3 $\frac{1}{2}$ h.p. Triumph); Wybert Thomas (2 h.p. Humber) beat F. Sanders (3 $\frac{1}{2}$ h.p. Triumph); C. Davies (2 h.p. Humber) beat Richards (3 $\frac{1}{2}$ h.p. B.S.A.); Staine (3 $\frac{1}{2}$ h.p. James) beat E. W. Davies (3 $\frac{1}{2}$ h.p. Premier); Dr. Templeton (2 $\frac{3}{4}$ h.p. Enfield) beat S. Hayton (T.T. Triumph).

Second Round.—H. Homfray beat Staine; A. S. Evans beat C. Davies; D. J. Evans beat J. Croome; Dr. Templeton beat Thomas.

Third Round.—H. Homfray beat A. S. Evans; Dr. Templeton beat D. J. Evans.

Final.—H. Homfray (2 $\frac{3}{4}$ h.p. Enfield) beat Dr. Templeton (2 $\frac{3}{4}$ h.p. Enfield). Won by a length.



Pontefract and District M.C.C. 100 miles reliability trial. Group of remaining competitors at the tea interval.

TIME TO
LIGHT LAMPSCURRENT
CHATSPECIAL
FEATURES

Sept. 28th	...	6.43 p.m.
" 30th	...	6.38 p.m.
Oct. 2nd	...	6.35 p.m.
" 5th	...	6.28 p.m.



1912 MODELS
DESCRIBED AND ILLUSTRATED.
RECORDS AT BROOKLANDS.
MULTIPLE PLATE CLUTCHES.
CLUB COMPETITIONS.

Our Overseas Number.

The Motor Cycle Overseas Number will make its appearance on Thursday, October 12th.

Proposed Trial for Runabouts.

We have received several enquiries as to what has happened to the proposed reliability trial for light four wheeled quadcar type of vehicles in which the Hereford 100 guinea challenge vase was to be awarded. This event was much boomed in certain quarters a month or two ago.

Valve Troubles Disappearing.

In reading the description of Saturday's B.M.C.R.C. meeting at Brooklands one cannot help noticing the absence of continued references to valve troubles. Compare this with a report of a 100 miles race at Brooklands say twelve months ago, and the improvement in valves will at once be apparent.

Who are this year's Club Champions?

The Oxford M.C.C. are supposed to have gained the title of club champions by beating eight other teams in the A.C.U. inter-club championship. But what of the Derby and District M.C.C., which club's team of six came out on top in the M.C.C. Team Trial last June, vanquishing 120 other motor cyclists representing twenty different clubs.

Auto Cycle Union Notes.

The Auto Cycle Union has not seen fit to grant a permit to the Liverpool Auto Cycle Club to hold an open reliability trial on the 7th and 8th prox., as the ruling body has already refused permits to two clubs this year, and naturally a special exception could not be made. The Union, however, is anxious to help the Liverpool A.C.C., and has expressed its willingness to grant a special permit if the event is run off as an inter-club competition.

A.C.U. QUARTERLY TRIAL.—The route published in last week's issue has been approved by the Competitions Committee. Mr. Archibald Sharp has been appointed to act as judge in place of Mr. Cove, who resigned.

NOISY EXHAUSTS.—The Union has received a letter from a well-known chief constable complaining of the noise made by motor cyclists passing through towns and populous places. The A.C.U., which is well aware of the nuisance created by noisy machines, is endeavouring further to mitigate the source of complaint by giving more careful attention to the question of silence in future trials and competitions.

The Quarterly Trial Test Hills.

Farlow Bank, first unearthed by members of the Birmingham Motor Cycle Club about 1908, which organisation at that time offered a prize for the first ascent, is likely to be the scene of much practising between now and the next Quarterly Trial on the 14th October. For that reason, perhaps it would be wiser on the part of the A.C.U. in the future to keep all routes for reliability trials a secret. Birdlip, the second test-hill, has an excellent surface, the bends are gradual, but the gradient is very steep.

Speed Limits in West Riding of Yorks.

A ten miles an hour speed limit is now in force in the urban district of Burley-in-Wharfedale, on the main road from Skipton to Otley from its junction with Leather Bank to its junction with Station Road.

In the urban district of Ilkley, a ten miles an hour speed limit affects so much of the main road from Skipton to Otley (including Church Street and part of Leeds Road) as extends from its junction with Alexandra Crescent to a point in the road fifty yards north-east of the Infants' School.



THE ENTENTE CORDIALE CUP

Presented to the Motor Cycle Club de Lyon by the North-West London M.C.C. The cup was offered by the English club in a hill-climb on the Col de la Luere after the race for the Circuit du Rhone, and was won by the Lyon club.

Streatham and District M.C.C. Open Hill-climb.

The above event, which is down for Saturday next, has secured 120 entries. The venue of the hill will be posted in Messrs. Nye and Co.'s window, 130, Gray's Inn Road, W., to-morrow (Friday); also at the club's quarters, Crown and Sceptre, Streatham Hill, and the Craven Arms, Godstone.

A.C.U. Council Meeting.

A meeting of the Council of the Auto Cycle Union will be held at the Imperial Hotel, Birmingham, on Friday, 13th October next, at 7.30 p.m. Following the council meeting, the Midland Centre has arranged to hold a smoking concert, to which all delegates and also the competitors in the Quarterly Trial, which is to take place the following day, will be invited.

A Severe One Day Trial.

On Saturday last the Sheffield and Hallamshire M.C.C. held a 200 miles reliability trial embracing three of the Six Days' Trial test hills, viz., Wass Bank, Brownstay Ridge, and Keighley Gate. To add to the severity of the contest, rain fell heavily for eighty miles of the ride. The result will be found in our Club News pages.

A.C.U. Inter-club Championship.

Dr. Basil Fawcett writes pointing out that the A.C.U. was incorrect in announcing that he had to shed his passenger on Edge Hill in the last round of the above competition. Dr. Fawcett, as a matter of fact, made a non-stop run, and climbed the hill slowly (as required by the rules of the competition) on each circuit.

Result of an Action.

The Phelon and Moore action against James Horlick, of Cowley Manor, near Cheltenham, in which W. Pratt sought to recover £91 15s. damages, resulted in a verdict for defendant with costs. It will be remembered that the accident occurred during W. Pratt's attempt to cover 1,000 miles without using a tool, and at the 591st mile, when between Seven Springs and Allenwood, he was obliged to mount the grass to avoid a restive horse which was being "broken in" on the highway, and in so doing came into violent collision with a telegraph pole stay.

Speed Limit Application.

The Redcar Urban District Council have decided to apply to the North Riding (Yorkshire) County Council for an order to reduce the speed limit for motor cars and motor cycles within the urban district.

A Deserving Appeal.

A public testimonial has been opened at Beckenham on behalf of Sergt. Parker of that place, professor of physical culture at the Abbey School, Beckenham. Whilst driving his Douglas, Parker had the misfortune to be involved in a cross-road collision with a locally owned car, and he sustained a fractured thigh.

Awards in Herts County A.C. Kendal Tour.

We publish below the official awards in the above competition: Lightweight Cup, C. M. Down (2½ Enfield); Triumph Cup, E. A. Colliver (3½ Zenith); Indian Bowl, G. S. Carter (5 Matchless); Humber medal for passenger machine, Alan Hill (3½ Rudge); Car Cup, F. S. Carter; Kempshall tyres, A. J. Dixon (3½ Rudge); Silver Cup, P. Phillips (2½ Douglas). All the other competitors have been awarded bronze medals.

Another Broken Sidecar Axle.

A member of the motor cycle section of the Brookdale C.C., of Catford, had an unpleasant experience near Newmarket on Sunday morning. He was driving his Bradbury and another make of sidecar when the axle of the latter broke. Fortunately he was travelling slowly, and neither the lady passenger nor himself hurt. The return run to London was made with the lady on the carrier. This accident once again emphasises the necessity of a good strong axle on a rigid sidecar.

Kent Autumn Hill Tour.

H. A. Cooper, of Keston, Kent, is organising another invitation personally conducted run round some of the Kentish hills, on the same lines as the successful outing held earlier in the year when the Salt Box (Crown Ash) climb first received attention. Mr. Cooper informs a correspondent that he has already made investigations into a new hill "find" in the neighbourhood of Chalk Pit, which is an exceedingly stiff test, especially if taken "on the run." The date and place of meet for the autumn run will be duly intimated.

Another Dog Episode.

An accident befell Mr. Campbell, the architect to the Bolton Education Committee the other day while riding his Motosacoche. He is, we are glad to state (by the way of showing the utilitarian purposes of the motor cycle), in the habit of using his petrol mount in the course of his professional duties, having a large number of schools to look after spread over a big area. Returning to his offices he suddenly found himself thrown in the road through a big dog running across the street to its mistress. His left little finger was broken, his temple badly bruised, and other cuts besides shock sustained. We wonder when dogs will be kept under proper control? Some folk by a twist of good nature think a dog's freedom of greater value than the safety and life of a human being.

Autumn Open Speed Trials.

On October 21st, in a private park at Luton Hoo, near Luton, by kind permission of Sir Julius Wernher, the Herts County A.C. will hold a series of open speed trials. The course will be nearly a mile long, and is practically straight. The surface is excellent. There will be no formula, fastest time to win in each class, and a flying start will be allowed. Particulars may be obtained from Mr. C. C. Cooke, North Mimms, Hatfield. Admission to the park will be strictly by programme, which may be had for 6d. each.

The Herts County A.C. will hold a members' hill-climb on October 14th, at Aston Hill.

FUTURE EVENTS	
Sept. 30.	—Streatham and District M.C.C. Open Hill Climb.
Oct. 4.	—Brooklands October Meeting.
" 12.	—"The Motor Cycle" Overseas Number.
" 14.	—A.C.U. Quarterly Trial (Midland Centre).
" 21.	—Herts County A.C. Autumn Open Speed Trials.
Nov. 20-25.	—Motor Cycle and Cycle Exhibition at Olympia.
A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.	

3,000 Miles Engine Test.

The free engine Singer machine on which D. R. O'Donovan is attempting to cover 3,000 miles without using a tool has now covered 1,700 miles with all seals intact. The rider was to be timed over a measured mile on Tuesday; and again before the trial finishes. He estimates that his mount will do 55 m.p.h. After the conclusion of the 3,000 miles run the engine is to be dismantled in the presence of one of our staff to prove that the machine is standard.

A New Engine for the Hour Record.

That talented designer, Mr. Louis Coatalen, of Sunbeam car fame, is at present completing the design of a 3½ h.p. motor cycle engine for a leading firm of motor cycle manufacturers. The engine is of the 499 c.c. class, measuring 85 x 88 mm., and will have overhead mechanically-operated valves actuated by outside tappet rods. The cylinder head is water-cooled, and the design is chiefly conspicuous for its very large valve area. The single-cylinder hour record is the object in view, and Mr. Coatalen has strong hopes that the machine will accomplish nearly seventy miles in the hour.

Water-cooling on Motor Cycle Engines.

At least four firms will market water-cooled motor cycle engines next year. The absence of valve troubles, carbon deposits, and less liability to knocking is evidently appealing to designers.

B.A.R.C. October Meeting.

The entries for the October meeting, to be held on Wednesday, October 4th, are:

THE FOURTH LONG MOTOR CYCLE RACE.

D. C. Bolton (1 cyl. Bolton-Jap).
E. J. Bolton (1 Martin-Jap).
George Hill (1 Rudge).
O. C. Godfrey (2 Indian).
W. O. Oldmar (1 Zenith-Gradua).
S. G. Cummings (1 L.M.C.).
P. Schmidt (2 N.S.U.).
A. R. Abbott (1 Bradbury).
P. Weatherill (1 Zenith-Gradua).
H. W. Hands (1 Zenith-Gradua).
H. Martin (2 Martin).
H. Shanks, jun. (1 Kingfisher-Jap).
J. H. Slaughter (1 L.M.C.).
W. Pollard (1 Quadrant).
S. C. Winfield-Smith (1 Singer).
R. G. Mundy (1 Alcyon).
N. D. Slater (1 Alcyon).
S. T. Tessier (1 Bat).
F. E. Pither (1 Rudge).
A. C. Allen (1 Douglas).
H. A. Collier (2 Matchless).
C. R. Collier (2 Matchless).
The above race starts at 2.25 p.m.

Well-known Rider Committed for Trial.

At the Westminster Police Court, before Mr. Francis, on Wednesday last week, Jas. Merton, 24, a professional motor rider, giving an address at 46, Angel Lane, Stratford, appeared on remand to answer a charge of obtaining a motor cycle value £25 by false pretences from G. N. Higgs.

The evidence given on the last occasion was to the effect that the defendant, being anxious to obtain a motor cycle upon which to attempt to break the six days' record, approached the prosecutor with certain proposals, which he declined, and the defendant, being unable to obtain the use of a machine, finally agreed to purchase one for £25. He gave a cheque for the amount in payment drawn by



Harrogate and District M.C.C. hill-climb in pairs. J. A. Tinsall (3½ h.p. Triumph) and J. J. Day (3½ h.p. Bradbury) previous to running off for third and fourth places.

another person, which on presentation was returned marked "No account." Ultimately, defendant was committed for trial at the next Sessions, bail being allowed.

CLUB NEWS.

Walthamstow M.C.

Whilst competing in the standard ride for a silver cup Miss A. Percy, a member of the above club, succeeded in riding her $3\frac{3}{4}$ Scot. from Walthamstow to Norwich and back, 200 miles in twelve hours, including stops at checks.

Sutton Coldfield A.C.

The petrol consumption test for motor cars and motor cycles will take place on September 30th, at 2.30 p.m. Competitors will meet at the Midland Railway, Sutton Park Station, where they will be weighed in and tanks filled.

Walsall M.C.

The hill-climb on Style Cop which was held on the 17th inst., resulted as follows: Class 1, Mr. Field ($3\frac{1}{2}$ Precision), 72 $\frac{3}{4}$ s. 2, Mr. Smytheman ($3\frac{1}{2}$ L.M.C.), 52 $\frac{3}{4}$ s., fastest time of the day. 3, Mr. Smytheman ($3\frac{1}{2}$ L.M.C.), 58 $\frac{1}{4}$ s. 4, Mr. Busby (2 Humber), 101 $\frac{1}{4}$ s. 5, Mr. Walker (7-9 Indian), 60 $\frac{3}{4}$ s.

Furness M.C.C.

The above club held its first hill-climb on Birkkrigg Moor, near Ulverston, on the 2nd inst. The results on formula were: 1, J. Timmins (2 $\frac{3}{4}$ h.p. Enfield); 2, L. Bradbury (2 $\frac{3}{4}$ h.p. Douglas); 3, H. Bloxam (3 $\frac{1}{2}$ h.p. N.S.U.). Prizes were presented by Douglas Bros., Bristol. The club, which is of 1911 formation, is being affiliated to the A.C.U.

Durham and District M.C.C.

A severe reliability trial was held on September 17th. Course: Durham, Lanchester, Edmond-Byers, Stanhope, Middleton, Alston, Killhope, Wolsingham, Lanchester and Durham. The results are: J. P. Forster, 1; F. C. Wake, 2; T. Smith, 3, all riding T.T. Triumphs. Only one competitor succeeded in making a clean ascent of Softley Hill.

Pontefract M.C.C.

The annual non-stop trial for the members' trophy was run off on the 21st. The course was forty-two miles out and fifty miles home, and included Pot Bank, Norwood Edge, and Brogden Hill, each of which had to be climbed twice. There were seven starters. The results were: 1, Edw. Lee ($3\frac{3}{4}$ Scott) and Will Bentley ($3\frac{1}{2}$ F.E. Triumph), lost no mark; 3, H. Craven (7 Chater-Lea and sidecar), lost one mark.

Taunton and District M.C.C.

The above club held a seventy miles reliability trial on Thursday, the 14th inst., when gold medals presented by the president, Col. D. F. Boles, M.P., were won by the following: W. G. Potter ($3\frac{1}{2}$ h.p. P. and M.), total error 54s., non-stop; P. Clarke ($3\frac{1}{2}$ h.p. Triumph), 1m. 15s., non-stop; W. Phillips ($3\frac{1}{2}$ h.p. Triumph), 1m. 25s., non-stop; W. Goodman ($2\frac{3}{4}$ h.p. Douglas), 1m. 26s., non-stop. Messrs. T. G. Crump ($3\frac{1}{2}$ h.p. Ariel tricycle), F. Hansford (Matchless), and T. Drayton ($3\frac{1}{2}$ h.p. Triumph) finished within schedule time, but each had a stop and was disqualified. There were eleven competitors.

Sheffield and Hallamshire M.C.C.

The above club held its severest reliability trial on Saturday last. The course included three well-known hills, Wass Bank, Brownstay Ridge, and Keighley Gate, and was as follows: Sheffield, Ferry Bridge, York, Easingwold, Coxwold Bank, Wass Bank, Ripon, Pateley Bridge, Brownstay Ridge, Kirkby Malzeard, Ripon, Keighley Gate, Bradford, Wakefield, and Sheffield, a total distance of 210 miles. The severity of the course accounted for rather a small entry, but the competition for the first three places was very keen. The results are as follows: 1, Dan Bradbury ($3\frac{1}{2}$ h.p. Norton) and S. Sawyer ($3\frac{1}{2}$ h.p. Premier), lost no marks. 3, C. Bellamy ($3\frac{1}{2}$ h.p. Zenith-Gradua), lost nine marks.

North-west London M.C.C.

The above club completed a heavy season's programme on Saturday last with a speed-judging competition in which every element except pure speed estimation was eliminated. The course was laid from the thirteenth to twenty-third milestones and back on the Great North Road. Out of fourteen competitors the nearest to correct time was W. Cooper ($3\frac{1}{2}$ h.p. Bradbury and sidecar), one minute twenty seconds slow, his passenger being Mrs. Cooper, the donor of the first prize, who seemed most disappointed that her gift was to remain in the family. E. G. Westacott ($3\frac{1}{2}$ h.p. Zenith-Gradua), who organised the competition, was second one minute forty-seven seconds slow. H. B. Karslake ($3\frac{1}{2}$ h.p. Rover) finished third.

Oxton (Birkenhead) M.C.C.

The above club held a hill-climb on the 9th inst. at Thursaston, for medals presented by Mr. O. Mann Kitchen, of Heswell. The results were as follows:

Class I., for standard touring singles up to 600 c.c.—1, A. Wellgood ($3\frac{1}{2}$ h.p. Bradbury); 2, T. B. Naylor ($3\frac{1}{2}$ h.p. Rover); 3, P. Barry ($3\frac{1}{2}$ h.p. Triumph).

Class II., for any size single or twin (racing class)—1, G. Flinn ($3\frac{1}{2}$ h.p. T.T. Triumph); 2, E. Kickupp ($3\frac{1}{2}$ h.p. Rudge); 3, S. Warson ($3\frac{1}{2}$ h.p. T.T. Triumph).

Class III., for lightweights up to 340 c.c.—1, A. Kitchen, jun. ($2\frac{1}{2}$ h.p. New Hudson); 2, A. V. Latham ($2\frac{3}{4}$ h.p. Douglas); 3, H. H. Bavistock ($2\frac{1}{2}$ h.p. Motosacoche).

Class IV., for passenger machines.—1, P. C. Staytham (6 h.p. Zenith-Gradua and sidecar); 2, A. Kitchen, jun. (8 h.p. Chater-Lea and sidecar).

Essex M.C.

The results of the annual Snaresbrook to York run have now been passed and are as follows: A. V. Deacock ($3\frac{1}{2}$ h.p. N.L.G.) gold medal and the Triumph challenge cup, total error in minutes 11; G. L. Fletcher ($2\frac{3}{4}$ h.p. Douglas), gold medal and special lightweight award, a silver cigarette case, presented by the Rex Co., 13; G. T. Gray ($3\frac{1}{2}$ h.p. Rudge), gold medal, 15; H. A. Beal (3 h.p. N.S.U.), silver medal and special amateur award, a pair of Michelin covers, 20; A. T. Stanton ($3\frac{1}{2}$ h.p. Bradbury and sidecar), silver medal and special passenger award, a Lucas lamp set, 21; B. Alan Hill ($3\frac{1}{2}$ h.p. Rudge and sidecar), 21; F. W. Applebee ($3\frac{1}{2}$ h.p. N.S.U.), 21; H. Evans ($3\frac{1}{2}$ h.p. Rudge), 23; J. A. Campbell ($3\frac{1}{2}$ h.p. Rudge), 25, silver medals; J. L. Love ($3\frac{1}{2}$ h.p. Triumph), 64; C. E. Lovett ($3\frac{1}{2}$ h.p. Bat-Jap), 91; S. B. White ($3\frac{1}{2}$ h.p. Service-Jap), 108; N. C. Dear ($2\frac{3}{4}$ h.p. Douglas), 111; D. S. Kapadia (8 h.p. Minerva and sidecar), 161; C. J. Byat (6 h.p. Salway and sidecar), not checked, bronze medals.

Harrogate and District M.C.C.

The last competition of the season, a hill-climb, was held on Saturday last. Each entrant was handicapped according to merit, and the event was then run on the knock-out principle. The results are as follow:

First Round.—R. Spencer ($3\frac{1}{2}$ T.T. Triumph), 4s. start, beat F. Mackay ($3\frac{1}{2}$ T.T. Singer), 2s. J. E. Brooke ($3\frac{1}{2}$ T.T. Triumph), 4s., beat H. Fortune ($3\frac{1}{2}$ Triumph), 6s. B. Tindall ($3\frac{1}{2}$ T.T. Triumph), 4s., beat W. E. Grange ($3\frac{1}{2}$ Bradbury), 3s. C. Nettleton ($3\frac{1}{2}$ two-speed Humber), 10s., a bye. T. Atkinson ($3\frac{1}{2}$ T.T. Triumph), 2s., beat G. Sayner ($3\frac{1}{2}$ T.T. Triumph), 4s. J. Day ($3\frac{1}{2}$ two-speed Bradbury), 6s., beat G. Hill ($3\frac{3}{4}$ two-speed Scott), 8s. W. Atkinson ($3\frac{1}{2}$ T.T. Calthorpe), 5s., beat W. Hemsworth (5 two-speed Rex), 6s.

Second Round.—Spencer beat Tindall. T. Atkinson beat Day.

Final.—Spencer beat T. Atkinson.

Inter-club Hill-climb at Newnham.

The Sutton Coldfield A.C. and Oxford M.C.C. held a hill-climbing match last Saturday.

The Sutton Coldfield team proved somewhat easy winners over the Oxford team, which was composed entirely of amateurs.

SUTTON COLDFIELD A.C.

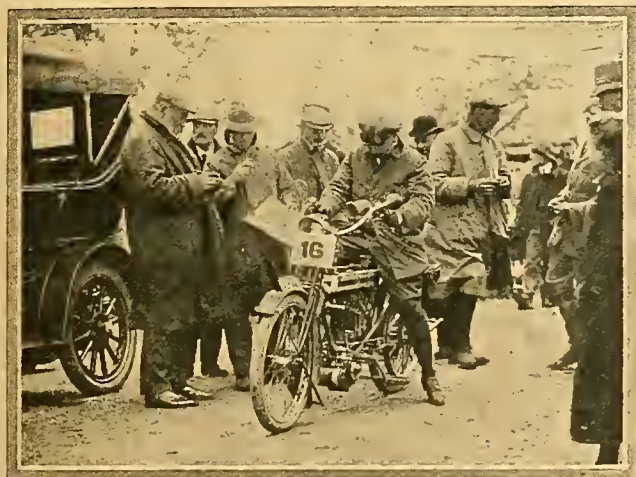
Rider and machine.	Time.	Figure of merit.
1. Dudley ($2\frac{3}{4}$ h.p. Hobart) ...	25s.	24.1
2. Woodgate ($2\frac{1}{2}$ h.p. Singer) ...	22 $\frac{1}{4}$ s.	24.7
3. Roper ($3\frac{1}{2}$ h.p. Ivy) ...	19 $\frac{3}{4}$ s.	28.3
4. Jones ($3\frac{1}{2}$ h.p. Ixion-Jap) ...	20s.	28.9
5. Clark ($3\frac{1}{2}$ h.p. Corah) ...	19 $\frac{3}{4}$ s.	31.0
6. G. Hill ($3\frac{1}{2}$ h.p. Rudge) ...	24s.	33.7
Total ...	...	170.7

OXFORD M.C.C.

1. Beard ($2\frac{3}{4}$ h.p. New Hudson) ...	34s.	27.2
2. Viggers ($2\frac{3}{4}$ h.p. Enfield) ...	20s.	27.6
3. Askew ($3\frac{1}{2}$ h.p. Triumph) ...	21 $\frac{3}{4}$ s.	31.5
4. H. G. Hill ($3\frac{1}{2}$ h.p. Bradbury) ...	23s.	34.4
5. Horr ($3\frac{1}{2}$ h.p. Triumph) ...	26 $\frac{3}{4}$ s.	34.5
6. Hardy ($3\frac{1}{2}$ h.p. Norton) ...	22 $\frac{3}{4}$ s.	35.2

Total ... 190.4

Club News.—



G. Van Vestraut (3½ h.p. Rover) starting in the Coventry and Warwickshire M.C. members' hill-climb at Saintsbury, near Broadway, last Saturday.

Coventry and Warwickshire M.C.

After the car hill-climb at Saintsbury, near Broadway, Worcestershire, on Saturday, a scratch hill-climb for motor cyclists was held, for which two prizes were offered (1) for the fastest time on a touring machine up to 500 c.c., and (2) for the slowest time on a single-gear touring machine up to 500 c.c.

There were fifteen entries. Results:

EVENT 1.		Time.
		m. s.
1. A. Elson (3½ Triumph)	...	2 43½
2. B. Alan Hill (3½ Rudge)	...	2 44½
3. J. V. Pugh (3½ Rudge)	...	2 49½

EVENT 2.		Time.
		m. s.
1. J. V. Pugh (3½ Rudge)	...	9 19½
2. V. A. Holroyd (3½ Rudge)	...	8 13
3. C. S. Burney (3½ Rudge)	...	7 19

Mr. Pugh (the club president) made a bad start in the fast ascent or might have made fastest time. His times showed the biggest margin.

Bradford M.C.C.

The autumn handicap hill-climb was held on Tong Hill on the 16th inst., and resulted as follows: 1, P. Shaw (3½ P. and M.), 9s. start; 2, A. Harrop (5 Rex), 13s.; 3, J. N. Longfield (3½ T.T. Triumph), 6s. The men were handicapped from H. D. Shaw (7 Indian), who was on scratch. There were twenty competitors. The gradients on the hill vary from 1 in 7 to 1 in 9. Length 1,200 yards. The event was run in heats of two on knock-out principle.

The handicap speed trials were held on the 17th inst.

	H'dcp.	Actual Speed.
	m.p.h.	m.p.h.
1. Sheard Grange (3½ T.T. Triumph)	62	72.1022
2. F. D. Sugden (3½ Rex)	...	48 51.1274
3. C. Sidney (3½ T.T. Triumph)	52	55.978

First, gold medal; second, silver; third, bronze.

The riders were handicapped by the committee, and the men making most improvement in m.p.h. handicap were placed in order of merit. Timed over 440 yards flying start. Time-keeper, Mr. Jack Scriven.

Scottish Border M.C.C.

An open hill-climb was held at Lanton Hill, near Jedburgh, on the 16th inst., in beautiful weather. Results:

LIGHTWEIGHT HANDICAP.

Rider and machine.	Time.	Fig. of
	secs.	merit.
1. W. Tait (2½ h.p. Enfield)	80½	104
2. T. Gillies (2½ h.p. Douglas)	88½	120

SINGLE-CYLINDER HANDICAP.

1. R. H. Monat (3½ h.p. Rudge)	63	86.6
2. W. B. Smith (3½ h.p. Bat-Jap)	72½	87.6

MULTI-CYLINDER HANDICAP.

1. W. J. Burn (5 h.p. Indian)	68½	102
2. A. J. C. Lindsay (5 h.p. Matchless)	58½	103.2

PASSENGER MACHINES HANDICAP.

1. W. B. Smith (3½ h.p. Bat-Jap)	108	96
2. J. R. Alexander (7 h.p. Indian)	89½	113

KNOCK-OUT COMPETITIONS.

Lightweights—W. Tait.

Single-cylinders—W. Kirkpatrick.

Multi-cylinders—A. J. C. Lindsay.

The race between Lindsay and Alexander was very fast and exciting. They rode neck and neck for a very long way, then Lindsay forged ahead and won by fifteen yards.

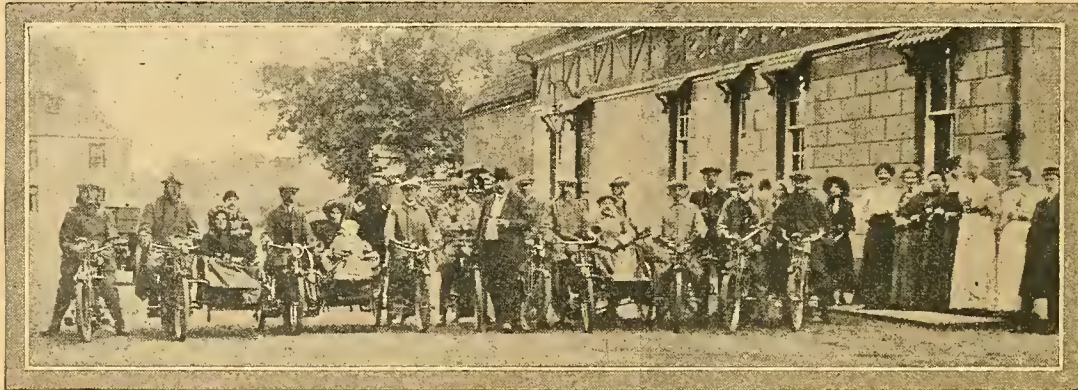
Special prizes for fastest time on Ross petrol: W. Tait (2½ h.p. Enfield), R. H. Monat (3½ h.p. Rudge), and J. R. Alexander, jun. (7 h.p. Indian), who made fastest time of the day.

OXFORD M.C.C. v. SUTTON COLDFIELD A.C. INTER-CLUB HILL-CLIMB AT NEWNHAM.



(1) The starting point. H. S. Askew (Triumph) of the Oxford team in full flight.

(2) C. Roper (Ivy-Precision) of the Sutton Coldfield A.C. team finishing. He tied for fastest time with two other members of his club.



Motor cyclists at the annual outing of the Hull Motor Club to the home of their president, Dr. W. A. Coates, Patrington.

Doncaster and District M.C.C.

To-day (Thursday), starting at 3-30 p.m., a hill-climb open to members of the Northern League will be held at Stainborough Lowe, near Barnsley. There are three classes.

North Middlesex M.C.C.

A petrol consumption test will be held on Saturday, next, 30th inst., meeting at Totteridge Station at 3.30 p.m. The scales will be closed down at 4 p.m. sharp. It has been decided to use the A.C.U. formula. Sidecar combinations are specially desired.

The annual reliability trial for a handsome silver trophy takes place on October 8th, and a circular route covering about 150 miles has been chosen. The prize list is considerable, and will be duly announced.

North-eastern A.A. (Motor Cycle Section).

The revised result of the reliability trial to Patterdale and back, in conjunction with the Sunderland and District Motor Club, has just been issued: The following seven competitors tied for first place, and it was decided that each should be awarded a silver medal: J. Whittaker, W. H. Fairclough, G. W. Raper, F. Turvey, jun., R. B. Smith, T. Smith, and J. B. Reed.

The following is the result of the hill-climb at Tunstall Hope on the 9th inst.: Single-cylinder class.—1, C. W. Smith (2½ h.p. New Hudson); 2, G. W. Raper (2½ h.p. A.J.S.); 3, R. B. Smith (3½ h.p. Ariel).

Sheffield and Hallamshire M.C.C.

A flexibility hill-climb was held at Stannington on the 16th inst., the competitor showing the biggest difference between his fast and slow climbs being the winner. Result: 1, J. Haslam (6 h.p. Zenith); 2, F. Donovan (6 h.p. Zenith); 3, C. E. Squire (5 h.p. Roc); 4, T. Durant (3½ h.p. J.A.P.).

Halifax and District M.C.C.

A trade v. amateurs reliability run was held recently by the above club. Only the utmost reliability of the machines and driving abilities of the riders enabled three competitors to score full points, two of these being amateurs, namely, F. E. Jackson (3½ h.p. Humber) and C. J. Lumb (3½ h.p. Rex), the trade member being J. E. Holdsworth (3½ h.p. Rex). The result proved a win for the trade members, who gained 86% of the possible marks against 67% scored by the amateurs. The rules were very stringent, and competitors arrived home much after dark, which made running to schedule time very difficult. A pleasing feature was the freedom from punctures, not one being experienced by any member. The hill known as the Ainleys at Elland soon tested the machines' climbing abilities, and thus early accounted for many members losing points. Owing to the somewhat early start—7 a.m.—a six hours' stay was obtained in Matlock, which was greatly enjoyed by all members. The weather was all that could be desired. This is the last competition of the season, three runs are still left on the official card.



AMULREE HILL-CLIMB. J. W. Adamson (3½ h.p. Triumph), who made fastest time of the single-cylinder riders. He is seen rounding the lower of the two hairpin bends.



A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Ignition Timing.

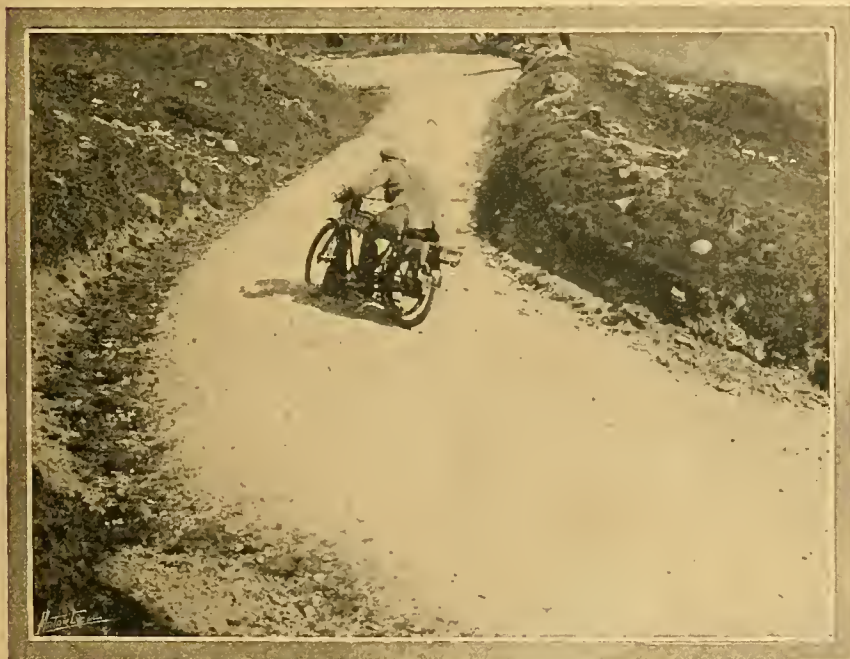
Q. My machine is of 1911 manufacture, and has a $3\frac{1}{4}$ h.p. Peugeot engine, 84×90 , M.O.I.V., Bosch magneto, B. and B. carburettor. I find the engine to be extremely flexible, and can drive it at an absolute walking pace without the slightest sign of a misfire, and without the machine jumping at its work. At speed and on hills, however, I cannot run the magneto fully advanced, or a slight knocking ensues, especially if I do not retard early on hills, and if there is anything like a strong wind on the level. I cannot quite understand this, as the machine has always acted in the same manner since it was new, whilst a Triumph, which I frequently ride, never requires the spark lever retarding at all, either to start, on hills, or under any other circumstances. Will the trouble be due to the magneto being timed a little too early? If you think this is the probable cause, will you please inform me as to the best way in which to re-time it. The

machine has run about 1,600 miles, and has not yet had the cylinder removed to take the carbon deposit off cylinder head and piston, although it has been rather freely oiled. I do not attach much importance to this fact, however, for, as I have said, the running has always been the same since bringing the motor new out of the works. With ignition about two-thirds advanced, the running is first-class, and the cycle will climb practically anything on the main roads in this country with a gear of $4\frac{3}{4}$ to 1, reduced on tricky ascents to $5\frac{1}{2}$ to 1. Are these gears any too high to expect the machine to perform well? If so, what gears do you recommend? I use Price's Huile de Luxe, oil every five miles with a half pumpful, and drive in the ordinary way as regards throttle and air. I have a multiple jet in the carburettor, since fitting which I get greatly increased power on hills and ease in starting, also the petrol consumption is slightly lower (about 105 miles to the gallon).—A. M. POLLARD.

We should imagine that the reason is entirely due to the ignition timing being too far advanced. In this event uncouple the magneto, put the piston on the top of the firing stroke, and turn the magneto rocking arm until the points just separate. Then, if the magneto advance lever is put one third advanced from the full retard position and the magneto coupled up again, the timing should be suitable for an engine of this description. We should imagine it would be well, in any case, to remove the carbon deposit after a distance such as you say the machine has travelled. The gears are not too high for the machine in question. It should certainly stand at least $4\frac{1}{2}$ to 1. There is one other explanation of the phenomenon, which is, that the magneto lever can be advanced further than is actually necessary for the machine, and in this case it would be only necessary to drive with considerably more retard than you do at present. We take it that you quite understand that a slowing of pace will result from retarding the spark timing.

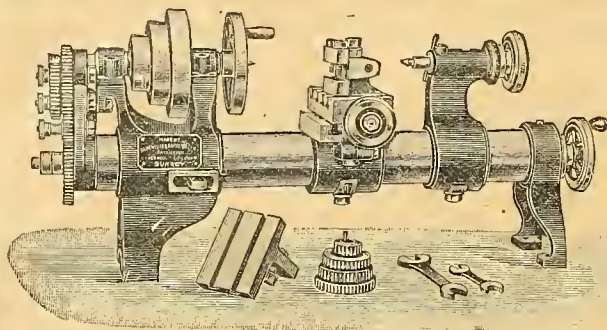
A Machine for Sidecar Work.

Q. Please give me your advice re the purchase of a motor cycle. I shall not require the machine until the spring of next year, and intend visiting the show in November. I might say that I have favourably considered a 5-6 h.p. Matchless-Jap two-speed, as these machines appear to be reliable. I require a reliable machine for sidecar work with lady in car. I weigh $10\frac{1}{2}$ stones and the lady $9\frac{1}{2}$ stones. I want to be able to climb fairly steep hills, as I live in Kent, and shall tour in Sussex and Surrey. I want a machine which gives the greatest amount of comfort with smoothness of running and small amount of noise, and which will keep up an average of, say, 15 to 20 m.p.h., yet without my having to race up hills to keep the engine going. As I put reliability to the front, I should want a speed gear (if you recommend this) which has stood the test of time. (1.) Do you recommend chain or belt drive? (2.) Is it necessary to have a two-speed if a twin-cylinder free engine is used? Would an adjustable pulley do instead, to save expense? I do not want to rush about at a great speed, but wish to keep up an even pace as far as possible. (3.) Does a castor wheel compensate for the danger of side-slip as a rigid sidecar does?—G.N.W.



CLIMBING AMULREE, ONE OF THE MOST DIFFICULT HILLS ACROSS THE BORDER.

This illustration gives an excellent impression of the steep gradient and double hairpin bend. A Bap-Jap rider is seen competing in the Edinburgh M.C. open competition last week.



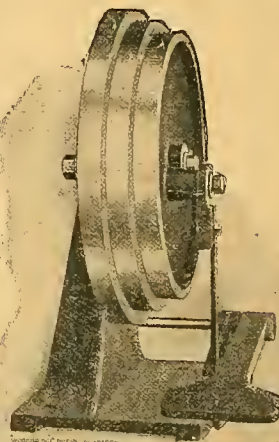
Independence ?

The motor cyclist is the most independent man on the road. He only needs one thing to make him independent everywhere—and that is a lathe.

With a lathe in his workshop he is absolute master of his machine, need call in no outside help for repairs, and will find the work a continual source of enjoyment as well as a great money saver. And the initial outlay is slight.

The 4 in. centre lathe illustrated here is screw-cutting and milling, price £5, and the footmotor is 30/- only. Write for further information.

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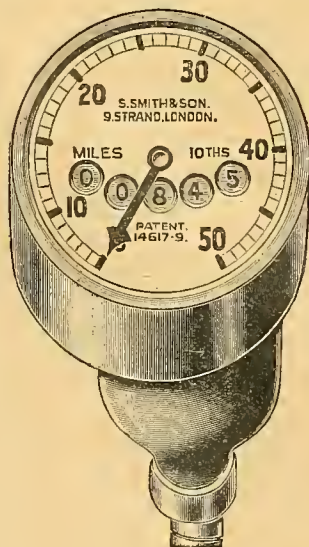
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S. SMITH & SON, LTD.,

Holders of Six Royal Warrants for Speedometers,

9, Strand, LONDON.



Your selection is an excellent one, and you cannot do better than visit Olympia in November as suggested. (1.) A chain is the more efficient drive for passenger work. (2.) For a beginner we recommend belt transmission and a single gear for solo work, but if you are going to use a sidecar a variable speed of some kind is desirable. An adjustable pulley is useful, but it is, after all, only a makeshift. (3.) Yes; but the castor wheel sidecar is not so good a preventive against side-slip as the rigid type. The machine you have referred to in the first part of your letter is quite good, and we can thoroughly recommend it as likely to satisfy all your requirements in the way of speed and smooth running. The gear fitted is, moreover, quite reliable.

To Run Slowly.

Q. I have an old-fashioned $3\frac{1}{2}$ h.p. Humber accumulator machine which I cannot get to run slowly—it either goes at top speed or will not go at all. Can you tell me what is the matter, and would an up-to-date carburetter make any difference? If so, what make would you recommend? I may say there is no h.b.c., only switch.—R.T.S.

You are obviously getting too much air, and most probably *via* the main air inlet. Close extra air, almost close throttle, and retard spark. An up-to-date carburetter would certainly be an advantage.

Ambleside to Wantage.

Q. Would you kindly inform me of the best route from Ambleside to Wantage (Berkshire), avoiding as far as possible large towns, trams, and setts? What would be the total mileage by the route given?—E.S.K.

Your best route will be Ambleside, Kendal, Lancaster, Preston, Wigan, Warrington, Tarporley, Nantwich, Stafford, Gailey Cross Roads (turn left along Watling Street, taking left-hand road at fork and avoiding Walsall and Cannock).

Brownhills, Erdington, Stonebridge, Kenilworth, Warwick, Banbury, Oxford, and Wantage. It is difficult to avoid the Lancashire towns. The distance is just over 250 miles.

Sidecar Steering.

Q. For the last ten months I have been driving a $3\frac{1}{2}$ h.p. P. and M. and Mills and Fulford spring wheel sidecar. I find the steering and generally the handling of this combination as a rule most satisfactory, but from time to time an extraordinary thing happens, which is attended with great danger. Whilst driving along an ordinary road with a good surface, the combination without any warning alters its direction and dashes at an angle towards the side of the road. On the first two occasions of this occurrence I put it down to tyre trouble on the sidecar. But on the last two occasions, which took place on the same day, and at an interval of two

CLIMBING EDGE HILL IN THE A.C.U. INTER-CLUB CHAMPIONSHIP.



or three miles, there was no question of the tyres being at fault. We were travelling at a moderate pace, and when the combination altered its direction, and made for the side of the road, I was able to pull it up before any damage was done, and found all tyres intact. On this last occasion I found that the steering head was slack, and that the springs on the forks required tightening. Would these facts account for the accident? The sidecar wheel has no play whatever, and runs as smoothly as possible. The sidecar has been most carefully coupled to the machine. My point is, whether the combination would suddenly develop this "freak," as a result of the slack (loose) steering head of the machine, having given no previous symptoms of the difficult steering. The direction taken by the combination is always away from the sidecar. I have had the steering head down and carefully examined, and ball races and everything are in perfect order. Can you suggest anything?—E.S.C.K.

Certainly the fact that the steering head is loose and that the spring forks require tightening would account for the trouble. The looseness of any part of the sidecar attachment would cause erratic steering. We have carefully considered your letter, and cannot think of any other reason.

EXPERIENCES WANTED.

"L.C.E." (Co. Wicklow). 5.6 h.p. F.N.
 "L.D." (Kingston-on-Thames) would like to know the address of the makers of the Haslam rubber and chain belt.
 "H.W.B." (Tipperary). Exhaust whistles, especially the Garner on a $3\frac{1}{2}$ h.p.
 "S.J." (Walthamstow). A.C. sociable and Morgan runabout.



(1) Exercise which some competitors would have been glad of.

(2) Nearing the summit.

(3) Will the engine do it?

Magnetos and Hill-climbing.

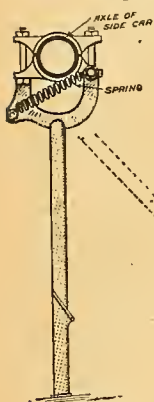
The first seven machines in the light-weight class of the Mont Cenis hill-climb in Italy were fitted with the "U.H." magneto. The agents in this country for the "U.H." magneto are Messrs. S. Wolf and Co., of 115, Southwark Street, Blackfriars Bridge, S.E.

Mudguarding.

We are in receipt of the preliminary 1912 list of the Wasdell Rim and Tube Company, Ormond Street, Birmingham. The firm make specialities of motor cycle mudguards and number plates. The frontispiece illustrates a well constructed mudguard complete with side shields and front number plate, which appears to be a thoroughly satisfactory article. A special point is also made of sidecar mudguards and wings for tricars and runabouts.

A Handy Sidecar Stand.

The A.J. sidecar stand (sold by A. J. Sproston) should appeal to sidecarists, as it renders puncture repairs much more



easy to effect. It also enables the sidecar to be detached single-handed with comparative ease. It is automatically operated by means of a spring, and one need but press the leg on to the ground with the foot and pull the sidecar back to bring it into engagement. It

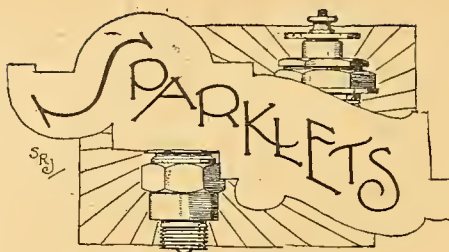
is useful as a sprag on hills.

Our Bookshelf.

"Motoring in the North of England," E. J. Burrow and Co., Cheltenham and London, is the latest addition to the excellent series of guide books published under the auspices of the Royal Automobile Club Touring Department. The author is Mr. Chas. G. Harper, the compiler of "The Autocar Road Book," while its revision by Mr. H. A. T. Moroney, secretary of the R.A.C. Touring Department, ensures the book being not only accurate, but entirely suitable for the purpose for which it is intended. The letterpress, written as it is by so great an authority as Mr. C. G. Harper, is most interesting, while the excellent series of maps, especially those which show the way through such populous towns as York, Preston, Newcastle, and Darlington, are of the greatest utility.

"Electrical Ignition," M. A. Codd, E. and F. N. Spon, 57, Haymarket, W. Nearly every motoring handbook has its chapter on ignition, but those who desire to study the subject more fully require to peruse a book like that written by Mr. Codd. It is thoroughly up-to-date, although the coil systems are adequately described. The magneto side of the subject is gone into fully, and the latest types of machines are described.

Both these publications may be had from Iliffe and Sons, Ltd., 20, Tudor Street, E.C.



The Motor Cycle in Holland.

We understand that business in motor cycles is on the steady increase in Holland, and there is a great demand for machines selling at about £40 complete. Manufacturers who make motor bicycles selling at about this price should correspond with Mr. H. Posno, Hooiidrift 60a, Rotterdam, Holland.

A Special Tyre for Sidecars and Tricars.

If those readers who complain of the short life of the average tyre when used with a sidecar attachment would realise that the tyre was never intended for passenger work, less trouble and less grumbling would follow. To stand up to the work of a sidecar attachment, the driving tyre should be especially strong. The Lomax Tyre Co., William Street, Birmingham, recognising that an ordinary standard tyre is not equal to the extra strain of a sidecar, have for a long period specialised in the production of an extra strong cover modelled on car tyre lines, the casing of which is specially reinforced. This particular Lomax cover is being used with great success by a number of our readers on the driving wheels of tricars and sidecars.

Rubber Goods.

The rubber and canvas belt introduced by the Roberts Motor Tyre Co. is meeting with much success. We are using one ourselves, and shall shortly publish our opinion of it after an extended trial. Vulco repair outfits are another speciality of this company, whose address is St. Mary's Row, Birmingham.

Peugeot Repair Works.

A small factory on modern lines has been built on the Warwick Road, Birmingham, for Mr. J. Taylor, the agent for Peugeot engines in this country. Repairs to all types of Peugeot engines may now be promptly effected. Mr. Taylor's new address is Motor Works, Warwick Road, Birmingham.

Phosphor Bronze Bearings.

We are frequently asked for the name of makers of phosphor bronze bushes, and can refer enquirers to the Phosphor Bronze Co., Ltd., Chester Street, Aston, Birmingham. Their representative, Mr. Phil Mosedale, who is himself a keen motor cyclist, recently called upon us and brought to our notice the fact that this company market phosphor bronze chill cast bushes and sticks in a convenient form for amateur engineers. The sticks are cored and are specially suitable for machining into small motor cycle bearings.

Readers mechanically inclined will be interested in a new white metal called Plastic metal, which is an alloy chiefly used for lining up bearings and shafts, and is particularly useful for bringing up worn bearings or shafts to their original size. It is said to adhere firmly to iron, steel, brass, and bronze, and its contraction in cooling is practically nil.



OPEN HILL-CLIMB ON AMULREE.

J. Gerard travelling fast on the lower reaches of the hill on his 3½ h.p. Bradbury. The surface of the road is very rough at this point; the photograph shows the front wheel clear of the ground.

At last, the great drawback to enjoyable motor cycling has been removed. Vibration and its attendant evils have been overcome.

Since the introduction of the pneumatic tyre, no invention has been found to eliminate these obstacles so effectively as the A.S.L. MOTOR CYCLE.

Let not prejudice blind you to the advantages of "riding on air" as offered in the A.S.L. Motor Cycle. Made in two models, 3½ h.p. Single-cylinder and 5 h.p. Twin-cylinder, the machines conform to the latest design in general appearance, the air springs being cleverly incorporated in frame with pleasing results.

MOTOR CYCLE IS LIKE RIDING ON AIR.

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PREVENTION IS BETTER THAN CURE, therefore it is in your interest to have suitable clothing for the cold weather and run no risks.

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is the most economical means to
run a Motor Cycle at all.

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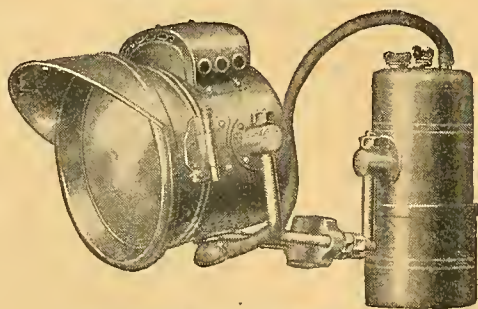
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We will allow full price paid for these in part payment for better machines within six months from date of purchase.

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P and M. and Rover, both 1911, equal new: £61 and £50, or offers.—E. S. Piercy, York.

1911 Scott, in excellent condition, purchased April: £50.—Seal, Nevill St., Southport.

N.S.U. 4h.p. Twin, 2 speeds, Bosch, sidecar; trial: best offer.—Butterworth, Greenfield.

TWIN Alcyon, 5h.p., good order: £16, or exchange single.—George Firth, Ossett, Yorkshire.

TRIUMPH, standard, 1911, with sidecar, done 2,000 miles: £46.—37a, Nevill St., Southport.

1909 3½h.p. Rex de Luxe, 2-speed, splendid condition: cheap.—48, Church Rd., St. Annas-on-Sea.

WOLF Lightweight, 1½h.p., new condition, perfect order: £18.—180, Smithdown Rd., Liverpool.

1910 Rex, 3½h.p., new belt, lamp, accessories, splendid condition: £25.—20, Pottennewton Lane, Leeds.

3½h.p. Singer, Bosch magneto, new tyres, splendid machine: accept £11.—65, Hilden St., Bolton.

5h.p. N.S.U., lamp, horn, tools, just spent over £6 on overhauling: £24.—Collier, Chester St., Leigh, Lancs.

PREMIER, 3½h.p., 1910, good condition: £26, close offer.—Particulars from Edward Earlham, Frodsham.

6h.p. 4-vel. F.N. Motor Cycle, new 1910 engine: £21 or offer, quick sale.—Apply, Stanley Garage, Bury.

PHELON-MOORE, late 1908, Millford sidecar, good order: £34.—Locke, Ripon Terrace, Akroyden, Halifax.

1910 Triumph, 3½h.p., free engine, new last October, tyres new: price £40.—Shaw, 335, Lees Rd., Oldham.

1911 Standard Bradbury, not unpacked: first cheque £42.—No. 8,544, The Motor Cycle Offices, Coventry.

1910 3½h.p. Triumph, perfect condition, re-bushed, numerous spares: £35.—E. Chadwick, Wharf St., Preston.

1911 Humber Lightweight, in new condition: £28/10, or nearest offer.—Address, B. c/o 51, Standishgate, Wigan.

3½h.p. Rex, good condition, low saddle, footboards, 2 good tyres: £8, or best offer.—Lyons, 117, Tongue Moor, Bolton.

2h.p. 1910 Twin Moto-Rex, splendid running condition, everything perfect: £23.—Snowball, 62, Filer Rd., Scarborough.

1907 Triumph, 1909 cyl. piston, B. and B. h.b.c., Bosch; exchange lightweight, or sell, £23.—30, Dale St., Blackpool.

1911 Scott, perfect condition, lamp, horn, generator, complete, ready for road: what offers.—Sixsmith, Market St., Wigan.

HUMBER, 1911, 2-speed, 3½h.p., and art case sidecar, lamp, horn, and spares: £48.—Fiddling, 5, Alma Rd., Birkdale.

N.S.U., 1911, 3½h.p., Model de Luxe, 2-speed and free engine, brand new: £40.—Graydon, 19, Kennington Rd., St. Annas-on-Sea.

5-h.p. Rex, Brown and Barlow carburettor, h.b.c., Whittle, Kempshall back, good condition: £17.—79, Albert Rd., Sheffield.

5h.p. Indian, 1910, perfect condition, only ridden 3,000 miles, F.R.S. lamp, numerous spares: £37.—Campbell, Mount Royd, Bradford.

3½h.p. Premier, 1910, variable pulley, Dunlop belt and tyres, in splendid order.—L. Holt, Knowle House, Horwich, Lancashire.

MINERVA, 3½h.p., Mabon, handle starting, h.b.c., takes sidecar, splendid condition: bargain, £14, nearest.—Ormsby, East Hatley.

1911 New Hudson, 2½h.p., 3 speeds, chain drive, Cowey: cost £60; perfect, 1,000 miles: £49; bought car.—Dr. Muir, Halifax.

MOTOSACOCHE, bought 1911, free engine, guaranteed as new; ride 50 miles purchaser; cash offers wanted.—80, Bisham Rd., Southport.

SACRIFICE.—Humber, 2½h.p., accumulator, chain driven, cost £8 overhauling, enamelling, and plating, new B. and B. new covers, machine equal new: approval: £10.—80, Bisham Rd., Southport.

BAT, 8h.p., 1911, J.A.P. carburettor, J.A.P. pulley, drip and pump, new tyre and belt.—Further particulars, Gregson, Hesketh Rd., Southport.

1911 5h.p. Rex de Luxe, new F.R.S. lamp, Whittle belt, spare tube, complete accessories: £50, lowest.—Beesley, Charlestown Rd., Blackley.

BRADBURY, 1911, 2-speed and free engine, complete with new sidecar, only been for trial runs: cost £65, what offers?—Cockburn, 20, Rosemount, Consett.

£16, cost £48.—3½h.p. twin Werner, new condition, and perfect, takes sidecar, tools, spares, consider lower power in exchange.—22, Hambleton Terrace, York.

TRIUMPH, late 1911 standard model, new Lucas headlight, horn, watch, all spares, in perfect condition: 40 guineas; only wants seeing.—Park, 167, Wigan Lane, Wigan.

ZEDEL, 2½h.p., Palmers, Hellesen ignition, Amac, h.b.c., stand, spring forks, carrier, spare tyre, low in good condition: £10.—Rosedene, Chorley New Rd., Bolton.

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3½ h.p. BROWN, M.O.V., with magneto	£7 10
4 h.p. CORONET M.O.V., air-cooled	£4 5
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3 h.p. QUADRANT £3 0	2½ h.p. MINERVA £32/8
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BAT, 1911, 8 h.p., overhead valves, very fast	£50
N.S.U., 1908, 5½ h.p., magneto, very low	£25
F.N., 1910, 2½ h.p., two-speed model	£30
REX, 1908, 5 h.p., magneto, very fast	£24
REX, 1910, 3½ h.p., Tourist, very good order	£28
TRIUMPH, 1909, 3½ h.p., standard model	£32
ARIEL, 1910, 3½ h.p., footboards fitted	£30
ZENITH, 1911, 6 h.p., equal to new	£55
MINERVA, 1911, 8 h.p., P. and M. two-speed	£48
MINERVA, 4½ h.p., twin, spring forks	£20
N.S.U., 1908, 5½ h.p., two speeds, perfect	£30
REX, 1911, 5 h.p., de Luxe, brand new, in stock	£63
REX, 1911, 5 h.p., cone clutch, new, in stock	£53
REX, 1911, 3½ h.p., Tourist, new, in stock	£45
REX, 1911, 3½ h.p., cone clutch, new, in stock	£50
TRIUMPH, 1908, 3½ h.p., XL All saddle	£34
QUADRANT, 1907, 3½ h.p., spring forks	£14
REX, 1907, 5 h.p., free engine, spring forks	£18
F.N., four-cylinder model	£16
TRUMP-JAP, 1911, 4 h.p., as new	£35
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N.S.U., 5½ h.p., 1908, two-speed model	£24
F.N., 5 h.p., 1911 model	£28
F.N., 3½ h.p., 1908, magneto	£20
PEUGEOT, 3½ h.p., Chater frame, Bosch	£19
REX, 3½ h.p., h.b. control, low built	£9
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F.N., 4½ h.p., 1909, four-cyl.	£23
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FAFNR, 5 h.p., two speeds	£15
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TRIUMPH, 1909, 3½ h.p., good order	£34
BRADBURY, 1911, 3½ h.p., magneto	£29
REX, 1910, 3½ h.p., Tourist model	£28
N.S.U., 3½ h.p., Tourist model	£22
REX, 5 h.p., 1909, Speed King	£30
HUMBER, 1909, 3½ h.p., two-speed	£30
TRIUMPH, 1907, 3½ h.p., magneto	£19
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REX Litterie, 5½ h.p., two speeds, open frame	£22
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4 h.p. Roe, magneto, 1911, B. and B., handle starting, J.A.P. pulley, splendid condition, with new sidecar; £26/10. offers, separate.—13, Pleasant Grove, Blackpool.

£7/10, great bargain.—2½ h.p. Bat-De Dion, accumulators, one new, back cover and tube new, belt new, spares, good running order.—Martin, 16, Hallam Gate Rd., Sheffield.

F.N., 5-6 h.p., h.b.c., magneto, good running order, not run 200 miles since overhauled by maker, too fast for owner; £24, or exchange good single.—J. Longster, Pateley Bridge.

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1910 Triumph, Jones speedometer, exhaust whistle, lamp, watch, spare belt, all accessories; £35, no offers; excellent machine; genuine bargain.—12, St. Paul's Parade, Sheffield.

1½ h.p. Lightweight P.N., magneto, engine recently overhauled by makers, new spring forks, Whittle belt, spares; £15. Hughes, Ellesmere Rd., Lower Walton, Warrington.

TRIUMPH, late 1909 clutch model, Palmer cord back, Dunlop special front, nearly new, splendid condition; nearest cash offer £36.—Poole, Langholm Crescent, Darlington.

HUMBER, 3 h.p., 2-speed gear, handle starting, new August, 1910, only ridden occasionally, excellent condition, also sidcar, unused.—Norris, 18, Wyndcote Rd., Mossley Hill, Liverpool.

MINERVA, 4 h.p. twin, 2-speed, free engine, Bosch magneto, Brown-Barlow, with sidcar, all accessories, spares, fine condition; £30, no offers.—38, Carill Drive, Fallowfield, Manchester.

DE DION, Chater-Lea, accumulator, 4 h.p., 1911 Brown-Barlow, Whittle, tyres and tubes practically new, good sidcar machine, too powerful; £16.—Wheatley, Ropetrag, Pontefract.

DOUGLAS, 1910, late model, Continental tyres, Whittle belt, lamp, generator, horn, spares, splendid condition throughout; £27.—W. Teer, 69, Cavendish Rd., Chorlton-cum-Hardy, Manchester.

TRIUMPH, 1910, hardly used; Triumph, 1909, just overhauled by makers, and standard Rudge-Whitworth, 1911, all in first-class order; exchanges entertained.—West Yorkshire Garage, Settle.

4 h.p. Twin Rex, T.T. roadster, overhead mechanical inlets, 24 tyres, spring forks, Lucas lamp, new August, 1910, splendid condition; £36.—W. Garlick, 471, Manchester Rd., Hollinwood, Oldham.

TRIUMPH, 1911, free engine, very little used, condition as new, lamp and generator, overall, and spares; would ride 100 miles to genuine purchaser; 45 guineas.—2, Ellesmere Rd., Pemberton, Wigan.

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1909 Motosacoche, bought new in 1910, Druids, magneto, Whittle; £20; would exchange for modern 2-speed passenger motor cycle, 1911 model preferred; cash adjustments.—Griffiths, 31, Downing St., Ardwick, Manchester.

5-6 h.p. F.N., guaranteed perfect, and practically new, steel studded, non-puncturable, tyres unmarked, most carefully handled, all extras, most exceptional bargain; first money order £27/10 secures, no offers.—Coronation, 40, Cockburn St., Liverpool.

2½ h.p. Enfield, October, 1910, 1911 model, just overhauled by makers, spring seat, headlight, generator, horn, spare belt, cyclometer, tools, spares, Palmer cord tyres, enamelled black, excellent condition; £26.—Hart, 17, Humphrey St., Old Trafford, Manchester.

1911 Standard Triumph, £48/15; 1911 standard Bradbury, £48; 1911 clutch (Triumph) Rover, new six weeks ago, £37; 1911 2½ h.p. New Hudson, 3 speeds, £47; 1910 3½ h.p. Minerva, 2-speed Simplex hub gear, £30; 1909 V.S., 5 h.p., 2-speed, perfect, £30.—Wray, Virginia St., Southampton.

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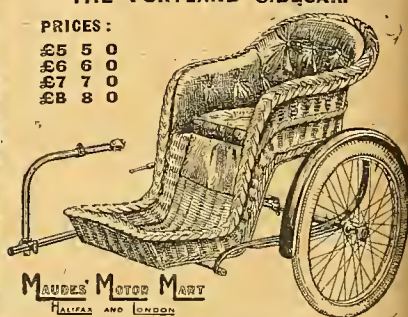
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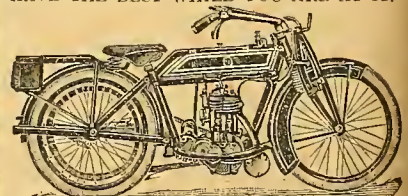
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that instead of advertising your Motor Cycle in the papers, and being deluged with offers of Bull Pups, Prize Poultry, fancy Pigeons, Gramophones, Typewriters, Brass Bedsteads, and other furniture, in part payment for your Motor Cycle, or tempting offers at £2 down and 2/- a week; or again, £10 down, and the remainder SOMETIME, or otherwise NO TIME; or may be the very common offer of high-class Accumulator machines which your Buyer values at £15, and you value at 15/-, and the remainder in cash,—that it will be better to send your machine up to Hitchens, of Morecambe, to be sold on 5% commission, when you will be sure of getting CASH for it, letting Hitchens be troubled with the Bull Pup offers, and the other Sunny Jims, who have something to get rid of.

HAVE YOU EVER THOUGHT that when you decide to buy a machine, it is very much better to send your money up to Hitchens, of Morecambe, who will send you a machine on approval for you to try, and if not satisfactory, return and have your money back in full. THIS IS A SILLY THING to have to remind you of, bearing in mind the fact that you have read this offer for the last two years, week by week. This game is a great deal better than indulging in the luxury of buying a machine, and finding it of no use to you, and having to trot down to your solicitors, or writing a four-page letter to the editor of "The Motor Cycle," telling him of your trouble. No doubt he will feel full of sympathy for you, but his advice will be very similar to mine, BE CAREFUL WHOM YOU DEAL WITH.

HAVE YOU NEVER THOUGHT that when you want to exchange a machine, buy a new machine, or buy a good second-hand one, that the only right and proper place to purchase one is where they have the LARGEST STOCK in the WORLD—Hitchens, of Morecambe. There you can try the machine on the road, and, if not satisfactory, leave it behind. You can walk into the Garage, walk round, and walk out; no one will trouble you. If you want to BUY ANYTHING, open your mouth; if not, you can walk out without SAYING ANYTHING. There is no necessity to purchase.

1911 REDUCTIONS.

MOTOSACOCHE, free engine	£38 0
BAT-J.A.P., 5 h.p.	£52 10
P. and M., 1911, two-speed	Best offer
BRADBURY	£45 0
SCOTT, 1911, two-speed	£60 0
ZENITH-GRADUA, 3½ h.p.	£50 0
HUMBER, two-speed	£45 0
BRADBURY, two-speed	£50 0
ZENITH-GRADUA, 5 h.p.	£65 0
BAT-J.A.P., 8 h.p.	£55 0
DOUGLAS, Model D	£35 0
TRIUMPH, standard	£48 15
DOUGLAS, two-speed, Model E	£43 0
TRIUMPH, free engine	£55 0

LIGHTWEIGHTS.

MOTOSACOCHE, free engine	£20 0
SIMMS, 1½ h.p.	£10 10
DOUGLAS, 1910, fine order	£29 0
MOTOSACOCHE	£14 0
F.N., 2½ h.p.	£12 10
F.N., 1½ h.p.	£16 0

HIGH-CLASS SOLO MACHINES.

BROWN, 1909, twin, 5 h.p.	£32 10
BROWN, 1909, 3½ h.p.	£25 0
SIMMS, 3 h.p., magneto	£12 10
TRIUMPH, 1909, L.M.C. pulley	£32 10
N.S.U., 3 h.p.	£17 10
REX, 1910, 3½ h.p., splendid order	£28 0
SIMMS, 2½ h.p., magneto ignition	£14 10
REX, 3½ h.p., M.O.V.	£15 0
SINGER, 3½ h.p.	£18 10
N.S.U., 3½ h.p., M.O.V.	£15 0
TRIUMPH, 1910, Mabon clutch	£35 0
GRITZNER, 3½ h.p., free engine	£17 10
SINGER, 3 h.p., magneto	£12 10

MOTOR BICYCLES FOR SALE.

F.N., 4-cyl., 1911, only done 1,000 miles, 2 speeds, free engine, bought June, all spares, new Englebert tyres, new Lomax non-skid, 2 spare tubes, Rosinol exhaust whistle, a perfect bicycle, runs beautifully; will accept £45.—Morgan, c/o Phenician, Ltd., Finch Rd., Handsworth, Birmingham.

HUMBER, 1911, 2 speeds, 3½ h.p., almost new, delivered August 10th, with first-class Portland sidecar, quite new, horn, spare valve, plug, all tools, brand new Dunlop belt, enamel unspratched, splendid puller, all in perfect condition; £50.—188, c/o Briggs, Humber agent, High St., Wellingtonborough.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

BRADBURY, 3½ h.p., quite new; offers, exchange.—Bailey, Jeweller, Soham.

STEVENS, 3½ h.p., hatted tubes, adjustable pulley; £5.—Bailey, Jeweller, Soham.

1909 F.N. Lightweight, just overhauled; £18.—62, Upper Cliff Rd., Gorleston, Gt. Yarmouth.

3½ h.p. Triumph, special T.T. 1911, as new, do 60 easily, cost £55 7 weeks ago; £45 for quick sale.—Denny, Harleston, Norfolk.

1910 2½ h.p. Enfield, splendid condition, £24: 1911 free engine Triumphs in stock; willing to exchange with second-hand Triumphs and cash adjustment.—Parker and Son, St. Ives, Hunts.

1911 Bradbury, P. and H. head lamp, large exhaust whistle, Jones speedometer (trip mileage), excellent condition, done 2,000 miles, with all spares; offers wanted.—Cyril Catchpole, Rookery, Felixstowe.

4½ h.p. Twin Minerva and Sidecar, Mabon, H.B. 42 Whittle, splendid condition throughout; trial; exchange for 1910 Douglas, or good lightweight, cash adjustment, or sell.—Bunting, 456, Sprowston Rd., Norwich, Norfolk.

1911 Motosacoche, as new, slight use one season only, free engine, adjustable pulley, Whittle belt, lamp, tools, spares in tubes, outer covers, belts, motor cycling waterproof cap, coat, leggings, complete; best offer.—Harvey, builder, Watton, Norfolk.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

1911 Rudge, free engine, practically new; £50.—F. Coomber, 58, Tything, Worcester.

4-CYL. F.N., ridden 4,000 miles, speedometer; £30, a bargain.—Coomber, 58, Tything, Worcester.

PREMIERS, brand new, 3½ h.p., standard models; £35, no offers.—Wright, Motor Agent, Alrechurch.

2½ h.p. Minerva, good running order, engine rebushed, 4 accessories; photo; £7, bargain.—13, Telford St., Cardiff.

BRADBURY (late 1910), 3½ h.p., in splendid condition throughout; any trial; £35.—R. P. Jones, draper, Aberdeen.

1911 Triumph, in excellent condition, P. and H. lamp, Cowey, exhaust whistle, spares; £45.—Pailthorpe, Evesham.

DOUGLAS, Model D, 1911, delivered in May, for sale in perfect order; price £32.—Forsyth Grant, Newcastle Emlyn.

STANDARD Triumph (late 1910), perfect condition, P. and H. lamp, all accessories; £36.—Williams, 67, Gwydr Crescent, Swansea.

L.M.C., 1910, 3½ h.p., variable gear, free engine, footboards, new belt, only ridden 1,000 miles; first £30, cost £56.—Bowyer, Risca.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants, and Channel Islands.

4-CYL. F.N., 3½ h.p., Palmer tyres, little used; selling through illness.—3, Sidmouth St., Devizes.

1909 (late) Tourist Rex, 1910 cyl. and piston, little used, spares; offers.—Churchfields, Horley.

SCOTT, 1911, splendid condition; approval, deposit; £47, or offers.—56, Shirley Rd., Southampton.

F.N., 4-cyl., 5½ h.p., thoroughly overhauled, good condition; £17.—W. Tucker, The Nurseries, Faringdon, Berks.

ENFIELD, 1910, perfect condition, lamp, horn; £27; trial; wanting sidecar combination.—Cluer, Bray, Berks.

KERRY-ABINGDON, 2-speed gear, complete, almost new; sacrifice, £5.—Maidment, High St., Emsworth, Hants.

N.S.U. Lightweight, magneto, Whittle, tyres, nearly new, perfect condition; £19.—Trevoze, New Milton, Hants.

1911 Douglas, in excellent order, very reliable, accessories; 32 guineas.—Henshaw, High St., Andover

HUMBER, 3½ h.p., chain driven, good condition, new accumulator, tyres good; £8.—Goodwin, 68, Queen's Rd., Bristol.

SIDECAR MACHINES.

F.N., 4-cyl., 4½ h.p.	£25 0
N.S.U., two-speed, 5 h.p., twin, 1910½	£40 0
J.A.P.-CHATER-LEA, 4 h.p., free engine	£26 0
J.A.P.-CHATER-LEA, 10 h.p., racer	£40 0
P. and M., 1910, perfect order	£45 0
ZENITH, 6 h.p., late 1909, Gradua gear	£40 0
REX, 5 h.p., fine order	£27 10
REX, twin, 5 h.p.	£25 0
VINDEC SPECIAL, 5 h.p., clutch	£22 10
P. and M., 1910, splendid order	£50 0
BAT-J.A.P., 1910	£36 0
P. and M., 1911, as new	£55 0

ACCUMULATOR MACHINES.

£3 down and 5/- per week for any of these models.	
ARIEL, 3½ h.p.	£10 0
REX, 3½ h.p.	£10 0
MINERVA, 1½ h.p., h.b. control	£6 10
HUMBER, 3½ h.p.	£9 0
REX, 3½ h.p., M.O.V.	£10 0
R. and P., 2½ h.p., h.b. control	£7 0
HUMBER, 2½ h.p.	£8 0
MINERVA, 1½ h.p.	£6 10
KERRY, 2½ h.p., useful model	£7 10

Also several more equally as cheap.

S.H. SIDECARS.

CHATER-LEA, £12 10s.; cost £18 18s.	
MILLFORD, £7 10s.; cost £10 10s.	
MILLFORD Castor Wheel, £7 10s.; cost £12 10s.	
MONTGOMERY Castor, £6 10s.; cost £12 10s.	

Also one or two cheaper ones from £1 10 to £3 15s.

SPECIAL LINES.

Ajax Heavy Tyre	35/-
MORECAMBE Studded, new pattern	19/11½
Heavy MORECAMBE Studded, new pat.	23/11½
50 Odd Tyres from 13/6 to 17/6 to clear.	
Mabon 1911 Free Engine	£2 5
Large Side Bags	£2 5
Swan-neck Seat-pillar	2/9
Special Strong Carrier	4/5
E.I.C. Pings, 2/6 size	each 1/1
Magnetos, S.H., all sizes	£3, £3 5s., and £4
Parker Self-contained Lamp	15/11½
Special Bracket Separate Generator Lamp	23/6
F.I.E.N. Magnetos	£3 4/11½
Sidecar Aprons, ready to fit	6/11½
Special Twist Horn	1/11½
New F.R.S. Generators	7/-
Exhaust Cut-outs	2/11½
Handle-bar Mirrors	2/9 and 4/6
Tube and Belt Cases	5/11½
Rubber Belts, 7½ ft. x 1½ in.	6/11½
Special H.B. Watch Holders	10/1d.
New Self-contained Lamp, large size	13/11½
Tubes, all sizes, brand new	6/11½ and 8/11½
Leather and Steel-studded Bands	19/8
S.H. Lucas Lamps, complete	30/-
B. and B. Carburettors, h.b. control, 1911	23/-
Trembler Coils	6/11½
Non-trembler Coils	6/9
Carbide Carriers, post free	1/10½
Rubber Goggles	1/5½
Brass Exhaust Whistles	2/11½
T.B. Handle Starter	10/6
S.H. F.R.S. Lamps, complete	25/- and 35/-
Garner's Whistles, post free	12/6
Long Holland Coats	4/11½
Lamp Brackets, all patterns	1/11½
Horn Grips	1/11½
Assorted S.H. Carburettors, h.b. control	12/6
S.H. P. and H. Generators, complete	7/6
S.H. Parker's Generators, complete	6/9
New Generators	4/11½
Holland Motor Cycle Suits	6/8
Tan Gauntlet Gloves, 4/6; lined	4/11½
S.H. Whittle from 1/- to 2/9 per foot	
Triumph Compression Domes	2/2
Dry Cells	4/6 and 6/6
Large Triumph Pattern Horn	4/11½
Waterproof Leggings	4/11½
Ditto ditto with fronts, 8/11½ and	9/11½
Ditto Suits	19/11½
Handle-bar Watch and Holder	3/11½
Butted Tubes, all sizes, brand new	12/6
Triumph Pattern Handle-bars	5/6
Long Handle-bars	4/11½
Lot of Engines and Parts of Motor Cycles, cheap	
Mudguards, enamelled, 3½ and 4½ in., pair	3/11½
Puncture-proof Bands, S.H.	4/11½
Leather Gauntlet Gloves	2/11½

New Specification List now ready, post free.

**HITCHEN'S MOTOR
EXCHANGE CO., LTD.,**
Euston Road, MORECAMBE.

Telephone: 112. Wires: Motor, Morecambe.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1911, free engine, delivered May, like new; £47/10.—Motor, Strathearn, Suffolk Rd., South, Bournemouth.

MOTOSACOCHE, 1911, new August, 2½ h.p., Whittle, free engine, 500 miles, spare cover.—Lewis, Bellevue Rd., Salisbury.

TRIUMPH, 1909, Cowey, lamp, horn, spare valve, tools, new belt, Rom tyres; £25.—Read, 20, Montgomerie Rd., Southsea.

BRADBURY,—1911 Bradburys in stock; immediate delivery; trade supplied; exchanges entertained.—Ginger Motors, Banbury.

1911 3½ h.p. Triumph, free engine, used 200 miles only, absolutely unsoiled; offers wanted; exchange considered.—Layton, Bicester.

1911 Triumph T.T. Roadster, picked engine, exceptionally fast, machine as new; £43, or near offer.—Layton, Bicester.

1910 Standard Triumph, Palmer tyres, rear new, most excellent condition; £38, or near offer.—Layton, Bicester.

1911 3½ h.p. B.S.A., h.b. watch, spare belt, mileometer, spare valve, lamp, and generator, run 1,400 miles exactly, as new; £42, or near offer.—Layton, Bicester.

MINERVA, 1½ h.p., good running order, new back tyre, and accumulator; first cheque £4/10 secured.—Moore and Sons, Andover.

QUADRANT, 3 h.p., magneto, h.b.c., new belt, perfect order; £12, or nearest offer.—Ranson, East Stratton, Micheldever Station, Hants.

MINERVA Twin, 4-5 h.p. engine, in excellent condition, wants enamelling; £12, or near offer.—Particulars, apply, K. Charsley, Slough.

T.A.C., 1911, perfect running order, F.R.S. lamp, Cowey speedometer, tools, and spares; 50 guineas.—Graham, H.M.S. Foxhound, Portsmouth.

TRIUMPH, 1909, perfect condition, lamp, all accessories, spares, excellent tyres, fast level and hills; £29.—Chesterton, Sulhamstead, Theale, Reading.

MOTOSACOCHE, 1909, accumulator, free engine, Whittle belt, good tyres, plating and enamelling hardly scratched; bargain, £14.—Norton, Theale, Berks.

EYLES and Eyles, 113, St. Aldates, Oxford, have in stock Bat, 4 h.p., 2-speed, free engine; B.S.A., 3½ h.p., free engine; and Premier, 3½ h.p., free engine; also sidecars.

32 and enamel as new, h.b.c., adjustable pulley, new belt and tyre, all accessories; £14.—360, Waterside, Chesham.

TRIUMPH, 1907, magneto machine, new engine November, 1910, speedometer, horn, lamp, spares, etc., excellent condition, most reliable; £20.—Maddick, Fawley, Southampton.

24 h.p. Douglas, not 12 months old, in absolutely perfect order and condition, not ridden more than 500 miles; £30, no offers.—T. Baker and Sons, Motor Cycle Works, Reading.

24 h.p. F.N., 2-speed gear, 1911 model, not ridden 100 miles; £41/10, full guarantee given with this machine.—T. Baker and Sons, Motor Cycle Works, Reading.

TRIUMPH, late 1910, splendid condition, F.R.S. head lamp, almost new Dunlop back; would ride reasonable distance to bona-fide purchaser; £36.—Wood, The Cottage, Farnham Royal, Bucks.

1910 Triumph, Mabon clutch, F.R.S. lamp, horn, tools, looks almost new, excellent mechanical condition, guaranteed not run 3,000 miles; £44, no offers.—Midland Motor Co., Oxford.

HUMBER Lightweight, demonstration machine, £27/10; Moto-Reve twin, never been used, £33. 1½ h.p. Clement-Garrard, perfect, £10/10; sole district agent Humber; immediate deliveries.—Harvey, 58, Poole Rd., Bournemouth.

GENUINE Royal Enfield, 2½ h.p. vertical, m.o.v., spring forks, B. and B., 26in. x 2½in. tyres as new, accumulator and Siemens battery, Solar headlight, low and fast, medium weight; £12; solar against cash.—Ernest Bayliss, Tibberton, near Gloucester.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

TRIUMPH, late 1910, splendid condition; £35.—Marshall, High St., Esher.

SCOTT, 1910, in perfect condition; a bargain, £38.—Chilton, High St., Watford.

FOR Bargains in second-hand motor cycles, write, The Ketco Motories, Smarden, Kent.

MOTO-REVE, 1910, all grey, twin cyls.; best offer.—2, Tugela St., Perry Hill, Cardiff.

1911 Triumph, free engine model, not done 1,000 miles; £43.—Bunting, Wealdstone.

HUMBER Lightweight, beautiful condition, good as new; bargain, £29.—Bunting, Wealdstone.

ENFIELD, 2½ h.p., latest model, without a scratch; £35.—Bunting, Wealdstone.

12—3 h.p. Fafnir, 26 x 2½ Palmers, h.b.c., all accessories.—Hollis, Addlestone.

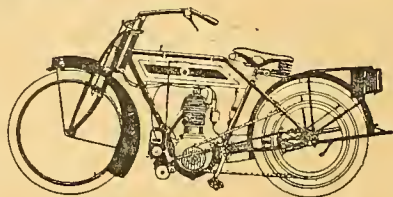
Let us quote you for your old mount. You'll save money.

1911 3½ h.p. PREMIER Tourist	£47 10
1911 3½ h.p. Tourist TRIUMPH	£48 15
1911 3½ h.p. Magneto RUDEGE-WHITWORTH ..	£48 15
1910 3½ h.p. Magneto REX, 1911 forks	38 Gns.
1910 3½ h.p. Twin REX DE LUXE, 1911 forks and fittings	£54 10
1911 3½ h.p. BRADBURY	£48 0
1911 3½ h.p. Two-speed BRADBURY	£55 0
1910 5 h.p. Twin Tourist REX, Cantilever seat, non-skids	39 Gns.
1910 5 h.p. REX DE LUXE, 2½in. non-skids, 1911 fittings, cylinders, mechanical inlet valves	£53 10

£31 BUYS

A BRAND NEW 3½ h.p. REX,

with 84½ x 89 Rex balanced engine, 26in. wheels, Continental tyres, low dropped frame, handle-bar control, carburettor, Bosch magneto, foot and hand brakes, ball bearings to engine-shaft, ½in. rubber canvas V belt, Lycett's saddle, spring forks, extra wide improved mudguards, footrests stand, carrier, toolbag, tools, and number-plate Makers' full Guarantee.



Don't buy unfashionable makes or foreign rubbish at prices far above their actual value.

EASY PAYMENTS.

DEPOSITS from £3 3s. upwards. Write us!

7 h.p. 2-speed DOT and Montgomery Sidecar	£44 10
1910 T.T. TRIUMPH, almost equal to new	£38 10
MOTO-REVE, magneto, Druids	£19 19
2½ h.p. ROYAL, very fine condition	£8 0
QUADRANT, 3½ h.p., magneto, spring forks	£24 10
F.N. Lightweight, magneto, spring forks	£19 19
REX Twin, 5½ h.p., spring forks, fast	£19 10
QUADRANT Trike, low, good	£6 6
1908 3½ h.p. Magneto REX, very low	£22 10
REX Magneto Lightweight	£16 10
1910 7 h.p. Twin REX, M.O.V.	£37 10
5½ h.p. N.S.U., free engine and sidecar	£33 10
Magneto TRIUMPH, spring forks, very smart	£25 10
Twin REX DE LUXE and Montgomery Sidecar	£25 0
REX, 1910, 3½ h.p., "hot stuff"	£29 10
1910 TWIN REX, M.O.V.	£29 10
4½ h.p. 4-cyl. F.N. magneto	£19 19
3½ h.p. Magneto MINERVA, spring forks	£14 10
3½ h.p. REX, vertical engine, trembler	£8 10

A CALL WILL REPAY YOU.

MISCELLANEOUS.

26 x 2½ Extra Heavy Tubes, 7/6; 26 x 2½ 8/6.	
F.R.S. Lamp, with special generator	£1 9 6
Brooks' Brood Saddle	12/6
26 x 2 New Continental Cover	15/6
New Large Lycett's Saddle	10/6
Twin Rex Frame	£2 7 6
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New Sidecar Basket	17/6
8ft. 6in. NEW ½in. Continental Belt	11/6
Sidecar Body, art cane, new	19/6
Harrison Backrest, new, reduced price	10/6
Rushmore Pattern Lamps, mirror lens, complete	15/11
"Forward" Adjustable Belt Fasteners	1/6
Double-twist Horns	4/6

Collier's Motories,
WESTGATE, HALIFAX,
ENGLAND.

MOTOR BICYCLES FOR SALE.

WILTON Cycle Co.,

VICTORIA, S.W.—See bargains below; all best makes in stock.

WILTON.—Clyno in stock; £64; first cheque secures

WILTON.—Bradburys in stock, free engine, £54/10 2-speed, £55.

WILTON.—Clyno; sole S.W. agents; trial by appointment; immediate delivery.

WILTON.—Matchless; sole S.W. agency; early deliveries.

WILTON.—Several 1911 shop-soiled machines at greatly reduced prices.

WILTON.—1911 Kerry-Abingdon, with 2-speed gear Lucas lamp, horn, mirror, with sidecar, canopy, new condition; £50, cost £70.

WILTON.—1910 Excelsior, 3½ h.p., fine condition £25.

WILTON.—1911, latest model, No. 1 Clyno, 2-speed lamps, spares, spring pillar and sundries, with spring wheel sidecar, cost £90, new condition; £70.

WILTON.—Exchanges and instalments, reasonable terms.

WILTON.—1910 Moto-Reve, 2 h.p., with accessories £23.

WILTON.—7 h.p. Brown, twin; Bosch magneto, B. and B. carburettor, just overhauled; £50.

WILTON.—1909 5 h.p. Sarolea, Chater-Lea, 4 speeds, new Druid forks, B. and B. carburettor, Bosch magneto, new Rom on back; £30, bargain.

WILTON.—Several second-hand motors; from £1 each.

WILTON Cycle Co. 110, Wilton Rd., Victoria, London, S.W. Phone, 5115 Westminster.

TRIUMPH, 1909, good order, lamp included; £28.—Matthews, Earls Colne, Essex.

32 1 h.p. Brown, 82: 2½ h.p. Minerva, £6; great bargains £2.—29, Eastbourne Rd., West Ham.

7 h.p. 1910 m.o.v. Rex Speed King, splendid condition; £32/10.—39, Holland Rd., Kensington.

2 1 h.p. Bachel, F.R.S. lamp, speedometer, low; £7.—2 L.K., 49, Birstall Rd. S. Tottenham.

P. and M., 2-speed gear, for immediate delivery, and Scotts—Rey, 5, Heath St., Hampstead.

3 1 h.p. Rex, good condition, new tyres; £13, offers.—Gomm, 43, Blackheath Hill, Greenwich.

N.S.U., 3 h.p., magneto, adjustable pulley, new condition; £16.—101, Hewitt Rd., Harringay.

SCOTT, 1911, brand new, for immediate delivery, and P. and M.—Rey, 5, Heath St., Hampstead.

1909 Arno, 3½ h.p., magneto, spring forks, lamp, horn spares; £24.—22, Sidney Rd., Stockwell.

TRIUMPH, 3½ h.p., 1909, splendid condition, lamp horn; £29.—Longley, 15, Grove Rd., Surbiton.

REX, 1908, 3½ h.p., magneto, h.b.c., splendid condition; £19.—Peacock, 274, High Rd., Balham.

1911 Standard Triumph, been little used and every thing as new; £42.—322, Broadway, Hendon.

TRIUMPH, 1910, nearly new; £45: all accessories.—A. Swan, Golspie, Marlborough Rd., St. Albans.

£8/10.—3½ h.p. Rex, powerful, low, reliable, Osborn 4-speed gear included.—Ford, jeweller, Redhill.

TRIUMPH, 1910, free engine, new back tyre and belt; price, £42.—Edginton, Bridge St., Godalming.

5 h.p. Sarolea, Chater-Lea, Bosch magneto, and sidecar; £20.—36, Strand Green Rd., Finsbury Park.

2 h.p. Werner, £5: 3 h.p. tri-car, magneto, £9: both running order.—Stacey, Stanford le Hope, Essex.

EAGLES.—N.S.U., 3½ h.p., Model de Luxe (1910) gained gold medal in 1910 6 Days' Trials; £27.

EAGLES.—N.S.U., 3½ h.p., late 1909, standard model, ridden 800 miles, 2-speed gear, free engine, as new; £30.

EAGLES.—Douglas 2½ h.p. Twin; late 1910, had little use, nearly new; £27/10.

EAGLES.—N.S.U., 3½ h.p., 1908, magneto, spring forks, B. and B. carburettor, fine condition £17/10.

EAGLES.—Motosacocha Lightweight, Helledsen ignition, Whittle belt, fine condition; £11/10.

EAGLES.—Minerva, B.S.A., 2½ h.p., m.o.v., spring forks, adjustable pulley, h.b.c.; £10/10.

EAGLES.—We have a few brand new single-cyl. N.S.U.'s just delivered, magneto ignition, m.o.v., improved carburettor, h.b.c., Shamrock belts, 1911 spring forks and other improvements, complete tool case, full set of tools, stand, etc.; 3 h.p. £27, 3½ h.p. £31, net cash; deferred payments arranged.

EAGLES and Co., High St., Acton, N.S.U. West London district agency.—Immediate delivery of 1911 models; liberal allowances for machines in part payment Tel.: 556 Chiswick.

1911 3½ h.p. Bradbury, only ridden 500 miles, Acton W. new; £35.—Forsyth, 22, Rosemont Rd., Acton W.

MOTOR BICYCLES FOR SALE.

ERRY, 24hp., chain drive, sound, fast, pedal starting; quick buyer 49.—Fisher, 7, Dollis Rd., Finch-hp. 1909 Tourist Rex, magneto, and spring forks, perfect; £22.—5, Station Rd., Edgware, Middle-

OR Sale, 6hp. 2-speed N.S.U., Bosch, h.b.c., spares, tyres excellent; £26/10.—52, Agraria Rd., Guild-

MUMPH, 1910 model; £32; rare bargain, no offers.—C. Moss, 1, St. George's Mews, Primrose

EMIER, 1911, as new, delivered July, guaranteed perfect throughout.—Sorrell, Nottley, Braintree,

NERVA, 34hp., B.B. carburettor, good tyres, low, fast, reliable; £12/10.—128, Highbury Hill,bury.

IFFIN, Clement, 12hp., weight 70lbs., average 15 miles, runs easy; £13.—Milton, High Pavement,sham.

11 (May) 24hp. Twin Lightweight, cost £42, for unexpected departure; £42.—70, West Hill,sworth.

MUMPH, 1910, splendid condition, comparatively little used; £36/10.—73, Onslow Gardens, MuswellN.

hp. Bradbury, magneto, 1910 model, splendid condition; bargain, £29/10.—73, Church St., Camber-Green.

P.-CHATER, 4hp. No. 6 (1908, magneto, very low, really excellent condition; £22/10.—27, MelbourneIford.

hp. Humber, upright engine, belt and back tyre new; £6.—Harnsworth, 43, Blackwater Rd.,bourne.

UMBER, 34hp., 1910, accessories, spares, overalls, perfect; £32.—St. Winifred's, Earlham Grove,at Gate.

MUMPH, 34hp., magneto, h.b.c., fine order, all accessories; £21.—W.I., Factory House, I.R. Works,stown, E.

ANDSWORTH.—Griffon 5hp. twin, genuine Zedel engine, magneto, spring forks, runs well; cheap,10.—Below.

ANDSWORTH.—F.N., latest 1911 model, with sidecar, 6hp., magneto, drip feed; sacrifice, £36,low.

ANDSWORTH.—F.N., latest 1911 model, 6hp., magneto, drip feed lubrication, as new; offers.—w.

ANDSWORTH.—V.S. 5-6hp. twin, magneto, Tru-fault spring forks, extra fast and powerful;—Below.

ANDSWORTH.—V.S. 1909 5-6hp. twin, magneto, 2 speeds, Tru-fault forks, beautiful order; £29,low.

ANDSWORTH.—Roe, 4hp., m.o.v., military model, magneto, 2 speeds, free engine, perfect; £25.—w.

ANDSWORTH.—Roe, 4hp., m.o.v., military model, magneto, free engine, clutch, beautiful order;19.—Below.

ANDSWORTH.—Indian, 1911 model, 5hp. twin, magneto, spring forks, as new; sacrifice, £38/10,low.

ANDSWORTH.—N.S.U., late 1908, 34hp., m.o.v., magneto, gear pulley, h.b.c., nice order; £17/10,low.

ANDSWORTH.—Bat, 4hp., spring frame forks; £12/15; exchanges.—Wandsworth Motor Ex-change, Ebner St., Wandsworth.

10 24hp. F.N., 2-speed, shaft driven, overhauled, new tyres August; £24.—Warwick House, BuryEdmunds.

MUMPH, 1910, free engine, all accessories, carefully used; £40; must sell.—Arondale, BectivePutney.

Clarendon, m.o.v., magneto, B and B, spring forks, accessories; £12/10.—Walter, Ashley,ey, Kent.

10 Triumph, splendid condition, nearly new, Palm-er coach back; £38/10 lowest.—J.B., 57, Lewis-Hill, S.E.

hp. F.N., geared pulley, in excellent condition, spare h.b.c. tube, spare valves, etc.; £15.—Motorist, 4,ds Av., E.C.

Quadrant, low, Clincher, and studded, spring orks, h.b.c.; £9.—H. Matthews, 125, Chesterton Rd.,ing Hill, W.

11 P. and M., nearly new, £50; sidecar, Chater-Lea, £7/10; appointment.—Howard, 277, WoodWalhamstow.

UGEOT, 34hp., low, fast, reliable, tyres, appear-ance, condition good; £12/10.—Rowns, CudwaySouthgate, N.

09 34hp. Peugeot-Rex, Palmer cords, adjustable pulley, Hellesen battery, very low; £15.—Lloyd,St., Staines.

hp. Rex, with coach-built forecar, powerful, fast, splendid condition; trial; bargain, £10.—45,les St., Stepney.



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"EBONITE" SWITCH.
No. 404, 1 way, 3 - each
„ 407, 2 „ 4/- „
„ 406, 1 „ 3 6 „
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MOTOR BICYCLES FOR SALE.
CLYNO.—Place your orders now for 1912.—Sole agents London, S.W., Wilton Cycle Co., Victoria Station, S.W.

1908 Midget Bicar, 34hp. Fafnir, magneto, Contin-ental, Whittle, perfect; £12.—Berjouville, Grove Rd., Woodford, Essex.

34hp. Minerva-Chater and Sidecar; £13, exchange

32 twin, out of order not objected.—Eleanor Villa, Nether St., N. Finchley.

32 1hp. Zenith, 1911, and sidecar, many spares, ren-dition perfect; what offers!—8.543, The MotoCycle Offices, Coventry.

1910 4hp. Ball Bearing J.A.P., Chater-Lea, Bosch, B.B. h.b.c., perfect order; £26.—E. Dolley, Back Green, Horsham, Surrey.

N.S.U. Twin, magneto, 2-speed, with sidecar, £26; also twin magneto racing J.A.P., £28.—Taylor, 112, New King's Rd., Fulham.

34hp. N.S.U., 1908, magneto, 2 speeds and free, 24 Peter Unions, spring forks, h.b.c.; £21.—50, Lea Bridge Rd., Clapton.

6hp. Ariel-Jap, J.A.P. carburettor, and adjustable pulley, recently enamelled and plated; £17/10.—Richards, Pier Rd., Erith.

32 1hp. Minerva and sidecar, in perfect order, £16; also 32 3hp. cycle, Trent, good order, £6.—Selsby, 145, Powerscroft Rd., Clapton.

1911 34hp. Rover, free engine, all accessories, splen-did condition; £37, no offers.—Major Hardy, 21, Ireton Rd., Colchester.

3hp. Clyde, magneto, good running order, just over-hauled, new belt, etc.; £10/10.—Motor, 44, New-barnh Rd., Aston, W.

B.S.A., new May, unscratched, ridden 1,200 miles, takes sidecar, condition perfect; £45.—Mears, 70, Belgrave Rd., Waustrand.

41hp. Twin Werner, tyres good, splendid running order, new belt; sacrifice, £12.—Apply, Scott, 5, Gildredge Rd., Eastbourne.

1910 Late 24hp. Enfield, perfect condition, and run-ning order; £25, or near offer; bought 24hp.—48, Holborn Viaduct, E.C.

F.N., 4-cyl., Bosch magneto, spring forks, shaft driven, new non-skid on back; £13, a bargain; offer 6.—Seabrook, Chantry, Stanmore.

TRIUMPH, standard, delivered February, 1911, new condition, lamp, accessories; £38.—151, Chamber-lyne Wood Rd., Willesden.

1911 Douglas, 2-speed, new May, fine condition, buy-ing sidecar machine, runs as new; £40.—Spencer, 1a, Belmont Rd., Uxbridge.

34hp. Rex, just overhauled, h.b.c., new Palmer's, 32 splendid condition; £14, bargain. — Beard's Garage, Broadway, Criklewood.

32 1hp. Brown, magneto, spring forks, excellent order; £18/10, or exchange with cash for 1910 Douglas.—49, Crownside Rd., Beckenham.

LIGHTWEIGHT K., 24hp., 1911, new 2 months ago, unscratched, not done 500; taken for debt, £20.—69, Green-side Rd., Croydon.

DOUGLAS, 1910, run 3,000 miles, drip lubricator Brooks saddle, practically new belt and tyres; £27.—E., 73, Birkbeck Rd., Enfield.

MINERVA 24hp. B. and B. carburettor, bar control stand, carrier, tools, bar, all perfect condition; £12.—42, Brixton Hill, London.

34hp. Clutch Triumph, splendid condition, spare 32 belt and tube in case, all spares, backrest, etc.—136, High Rd., Willesden Green.

TRIUMPH, 34hp., 1909, splendid condition, new tyres, spare belt, all accessories and tools; £30.—7, Ciren Rd., St. John's Wood.

£17.—1908 34hp. Vindoe, magneto, spring forks, fast, reliable; approval, deposit; ride 30 miles.—Swan, 3, Stockwell Green, Brixton, S.W.

ZENITH-GRADUA, 34hp., 1911, Cowey speedometer, Lucas lamp, all accessories; £45.—Karek, 3, Devonshire St., Portland Place, W.

DOUGLAS, 24hp., O. tober, 1910, 38 guinea model, carefully used, lamp, and spares; £27, or offers.—Humphrey, 22, Brighton Rd., Horsham.

N.S.U. Twin-cyl., low position, Bosch magneto, Peter Unions, Whittle, perfect order; bargain, £14/10.—36, Stroud Green Rd., Finchbury Park.

HUMBER, 1910, 34hp., 2-speed gear, excellent con-dition, tyres both new, accessories, and spares; £35.—24, Woodland Rise, Muswell Hill.

F.N., 1910, 4-cyl., 5-6hp., 2-speed gear, faultless con-dition; £45; enamelled cream.—Pritchard, c/o F.N. Repairs Dept., Highbury Barn, N.

1908 Twin Moto-Reve, magneto, spring forks, all h.b.c., all accessories, wants engine overhauling; £11.—12, Market Sq., Horsham, Sussex.

DOUGLAS, late 1909, condition excellent, cylinders, pistons, carburettor new 1911, tyres Rom com-bination, F.R.S. lamp.—Kinnes, Busby House, Tedding-ton.

34hp. Rex, magneto, B. and B., h.b.c., good Hutchin-son and Continental, low position, very good con-dition; nearest £19; after 6—26, Verham Rd., Plumstead.

In answering these advertisements it is desirable to mention "The Motor Cycle."

A51

MOTOR BICYCLES FOR SALE.

ARIEL Motor Bicycle, 3h.p., perfect condition; sale £6/10, or exchange; owner gone abroad.—T. Edinborough, Wyfield, Temple Fortune, Hendon.

B.S.A.—Early deliveries of these splendid mounts from the Tripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

REX 1909, 5h.p., recently overhauled, B. and B. Bosch, footboards, good tyres, smart machine; £28.—Hodd, 2, Hurst Rd., Winchmore Hill.

2 1/2 h.p. Minerva, Chater-Lea frame, in new condition; £4 29, or highest, or exchange with cash for higher power.—126, Tollington Park, Finsbury Park.

TRIUMPH, 1908, good appearance and condition, fitted Zenith-Gradua gear; £35, or offer.—Smith, 1, Pembroke Villas, Dorchester Rd., Weybridge.

19 10 1/2 h.p. 2-speed Kerry-Abingdon, only ridden 1,000 miles; cost £55 at Easter, nearest offer to £35 secures.—30, Arlington Rd., Surbiton.

3 1/2 h.p. Rex, T.T. model, only ridden few miles, as £2 new; £27/10; consider chain or shaft-driven lightweight in exchange.—134, Tulse Hill, S.W.

BAT, 3h.p., used for 10 days' tour on Continent only latest model, guaranteed soiled only; cost £50; no dealers.—White, K. Garle, Chislehurst, Kent.

TRIUMPH, 1911, standard, exceptionally well kept, like new throughout, large Lucas lamp, generator, horn, spares, etc.; £40.—94, Gloucester Rd., S.W.

1909 Triumph, splendid condition, go up anything, very fast, Palmer back week old, and new tube; £35.—H.L.P., 157, Pembury Rd., Tonbridge, Kent.

1911 5-h.p. F.N., in new condition, only 3 weeks old, perfect throughout; only £39/10; seen by appointment.—36a, Grenville Rd., Hornsey Rise, N.

V.S., 7-h.p. 2-speed, and sidecar (torpedo), royal blue, all spares, grand condition; good reason for selling; £55.—Apply by letter.—Motor, 162, Seven Sisters Rd.

T.A.C., 4 cyls., 3 speeds, bucket seat, sprung frame, perfect condition (1,000 miles); expert examination; £55, or near offer.—28, Wellesley Rd., Chiswick.

TRIUMPH, 1908 model, special condition, compression and bearings perfect; £25, or exchange 5-6 h.p. F.N.—W., 71, Fox Lane, Palmer's Green, London.

HUMBER, 1911, 2-speed, excellent condition, Autoclipse, Jones speedometer, new Kempshall back, spares; £38.—Armstrong, 3, King William St., Strand.

3 1/2 h.p. N.S.U. magneto, variable pulley, £20, or nearest, owner gone abroad; also Whiteley engine and frame, £1.—Geoffrey, 8, Edith Rd., West Kensington.

3 h.p. Cotterean, 26in. wheels, spring forks, nearly new tyres, h.b.c., only trial, £7/10; also sidecar, 35/.—Norman, 53, Thornbury Rd., New Park Rd., Brixton.

1910 Triumph, run 2,500 miles, Cowey speedometer, lamp, generator, spares, exceptional condition; £39.—Box L4,448, The Motor Cycle Offices, 20, Tudor St., E.C.

2 1/2 h.p. Minerva Lightweight, low, fast, in good condition; £12/10, or part exchange lightweight, magneto, or small car.—Chilworth, Victoria Rd., Upper Norwood.

HUMBER, 3h.p., and sidecar, 2-speed, only run 2,000 miles, splendid order; £33 for quick sale; or separate; ride 30 miles.—Hughes, chemist, Hurstpierpoint.

2 1/2 h.p. Ariel, very low, torpedo tanks, Dunlop tyres, 22 Simms magneto, B. and Barlow, Stanley belt; seen running any evening; £15/10.—Hole, Lavender Rd., Wallington.

MOTOSACOCHE, 1910, little used, free engine, Whittle belt, footrests, cut-out, 50/- saddle, horn, lamp, tools, overalls, etc.; £20.—151, Finchley Rd., Hampstead.

IF You Want Bargains in second-hand motor cycles, you can get them at Wauchope's.—Wauchope's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

MATCHLESS-J.A.P., Amac semi-automatic carburettor, new covers, lamp, and good kit of tools; engines perfect; price £45, or near offer.—Sorrell, Clarnico, London.

LA BRUTUS (De Dion pattern), 2h.p., Chater frame, perfect order, new belt and Michelin, new Amac; sacrifice, £10; appointment.—W., 3, Downhills Park Rd., Tottenham.

2 1/2 h.p. Ariel Lightweight, magneto, footboards, B. 22 and B. carburettor, in good condition; £15, or close offer.—A. E. Tettnar, "Hazelwood," Marlborough Rd., South Woodford.

A 5-h.p. 4-cyl. F.N., with lamp, horn, and all accessories, also passenger attachment, and guaranteed in perfect working order.—Apply, M. Fasio, 28, Churton St., Victoria, S.W.

TRIUMPH, 1911, free engine, complete with lamp, horn, and all accessories, in perfect condition, only 10 weeks old; owner giving up riding; £46.—25, Aberdeen Rd., Highbury, N.

OFFERS wanted, 6h.p. Antoine, Chater-Lea No. 6, just overhauled, new belt, tyres unpunctured, footboards; exchange 3h.p.—Kenmont Villa, Kenmont Gardens, College Park, N.W.

2 1/2 h.p. Shaft-driven F.N., l.h. clutch control, free engine, new inner tube back, only done 2,500 miles, perfect condition; £25/10, or near offer.—Wood, 11, Milton Rd., Wallington.

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We must again "rub it in" that the machines we are offering are not so-called "1910 models" assembled from a miscellaneous assortment of out-of-date parts, for we know if we sold you such a machine we should lose your custom for ever.

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1911 3 1/2 H.P.

Free Engine **REX,**
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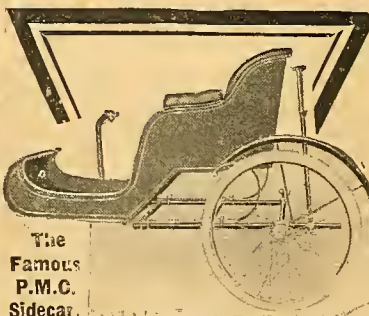
One 1911 5 h.p. Twin-cylinder
Two-speed Rex de Luxe
(slightly soiled) 50 GUINEAS

(List Price 60 Guineas).

We can give immediate delivery from stock of Triumph (free engine, Standard, and T.T. Tourist), Rex, Ariel, Humber, B.S.A., Scott, and Indian Motor Cycles.

We have many bargains in overhauled and guaranteed Motor Cycles, and shall be pleased to post full list on application.

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MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—Only house for great bargains a quick delivery of new 1911 machines you can get elsewhere; agents for all makes, and makers of famous Rey's sidecar and exhaust whistle.—Only address, 5, Heath St. Tel: 2678 P.O., Hampstead.

HAMPSTEAD.—Douglas, 1911, model D., almost new all accessories, run about 200 miles; £35.

HAMPSTEAD.—1911 free engine Triumph, almost new, run about 300 miles; great bargain, £48.

HAMPSTEAD.—1911 2h.p. Royal Enfield, 1st model, chain drive, new condition; £30, a bargain.

HAMPSTEAD.—3h.p. Centaur, B. and B., all accessories, good tyres; bargain, £8.

HAMPSTEAD.—1911 Triumphs, free engine, T. roadster, or standard for immediate delivery for stock.

HAMPSTEAD.—1911 6h.p. racing Bat, almost new, not run 100 miles; only £48.

HAMPSTEAD.—1911 Rudge, almost new, with accessories, a fine machine; only £42.

HAMPSTEAD.—3h.p. 1910 free engine model T. umph, with all accessories, £39; standard £38.

HAMPSTEAD.—3h.p. N.S.U., magneto, and spring forks, 2-speed gear, nice condition; £20.

HAMPSTEAD.—5h.p. V.S., magneto, and spring fork £17; sidecar for same £7.

HAMPSTEAD.—8h.p. 1911 Matchless, almost new, fine machine; £45, with all accessories.

HAMPSTEAD.—3h.p. 1911 Zenith, almost new, soiled condition; only £48; with accessories.

HAMPSTEAD.—1909 Moto-Reve twin, with 1910 engine, all accessories; £12, special bargain.

HAMPSTEAD.—1911 standard Triumph, 3 weeks old condition almost new; £39, special bargain.

HAMPSTEAD.—3h.p. B.S.A., condition and tyres like new, requires cylinder only; bargain, £6.

HAMPSTEAD.—1911 3h.p. Premier, almost new condition, with all accessories; special bargain £33.

HAMPSTEAD.—1911 Bradbury, like new condition with accessories; a sidecar machine; £35, bargain.

HAMPSTEAD.—3h.p. 1911 two-speed Humber, almost new, with accessories; £45.

HAMPSTEAD.—6h.p. Bat, 1911 model, splendid condition; only £43.

HAMPSTEAD.—1911 3h.p. Lincoln Elk, shop-soil condition only; special bargain, £26; all accessories.

REY, 5, Heath St., Hampstead, can give immediate delivery of the following 1911 machines:

P. and **M.**, 1911, in stock, 6b.p. Zenith, and 3h.p. Zenith.

BRADBURYs, standard, free engine or 2-speed; immediate delivery; no extra for extended payment.

DOUGLAS, 1911 models, in stock; 2-speed and standard; no waiting; 5% extra for E.P.

HUMBER, 1911, 3h.p., 2-speed and free engine model; immediate delivery.

BAT, 7-h.p., 1911, new, for immediate delivery; £6.

LINCOLN Elk, 3h.p., 1911, £34; or 2h.p., £28/10 no waiting.

HANDY Hobart, 3h.p. twin, 1911, or 2h.p.; waiting.

SCOTTs, 1911, 3h.p., 2-speed gear, for immediate delivery, no waiting; £60.

RUDGE T.T. Standard and free engine, now in stock no waiting.

B.S.A., 1911, 3h.p., for immediate delivery; no waiting; £50.

ZENITH, 8h.p., 1911, brand new, for immediate delivery, no waiting; 68gu.; and 3h.p.

ALL the Above for immediate delivery; terms, cash exchange, or extended payments.—Only address, Rey, 5, Heath St., Hampstead. Tel: 2678 P.O.

7-9h.p. Chater-Peugeot practically new magneto exchange for accumulator machine and cash, sell £33; also good sidecar, £5.—B., 12, Shrubble Villas, Bushey Rd., Sutton.

1911 Standard Douglas, not run 1,000, F.R.S. lamp, generator, clock, horn, etc., every spare, perfect condition, all new June; trial, £34.—Amstel House Fitzgerald Av., East Sheen.

1911 Triumph, clutch, under 4,000 miles, for guinea sidecar, £7; Cowey speedometer, £3.—Trafford 40, Glazbury Rd., West Kensington.

DOUGLAS, June, 1910, run 1,500 miles only, a punctured back tyre, large Brooks B250 saddle, cyclometer, lamp, tools, etc., in perfect condition; guineas.—Gardner, 6a, High St., Hampstead.

1911 Twin Peugeot, Roc frame, 2 speeds, free engine handle starting, Whittle belt, Bosch, B. and I. perfect condition, any trial, with rigid Chater-Lea sidecar; £40.—Rutledge, Glebe Av., Woodford Green.

1910 1/2 4h.p. J.A.P., Chater frame and fitting throughout, Bosch magneto behind engine, H. and B. B104P, perfect condition, whistle, spare in case, etc.; £28 lowest.—106, Church St., Chelsea.

MOTOR BICYCLES FOR SALE.

4hp. Kerry-Abingdon, 1910, perfect condition throughout, tyres and belt almost new, accessories spares, fast, and guaranteed most reliable; £32, no tax.—Laurence, Westleigh, Tonbridge Rd., Maidstone.

RADBURY, Magneto, Continentals, Dunlop belt, 211; smart Sociable triar, £20; De Dion 4hp. ne, gear box, carburetter, silencer, 28; Clement ne, wants repairs, 10/-.—Smith, 11 Mary St., Arling-Sq.

11 4hp. J.A.P., Clater-Lea, automatic lubrication, new 3 months ago, perfect condition throughout, little used, Dunlop and Palmer cord as new; seen time; £40, or close offer.—Richford, 153, Fleet St., don.

4hp. Twin J.A.P., B. and B. carburetter, h.b.c., thoroughly overhauled, not done 50 since. Whitticall new tyres, Dunlop and Palmer, too powerful owner; bargain, £17/10.—Roberts, Melvor Villa, ley Rd., Erith.

EX Twin, 6hp., Bosch magneto, 1910, 2-speed, free, handle starting, Amag, h.b.c., spring forks, £65 rear, exceptionally low and comfortable, tyres belt as new, spares and accessories; bargain, £26.—Leigham Vale, Streatham.

TRIUMPH, 1910; this machine has been carefully driven, and is in perfect condition; headlight, al accessories and spares, new belt and Whittle, tyres first-class order, engine overhauled recently; £35.—Kingston Rd., Wimbeldon

11 3hp. Roadster T.T. Bradbury, machine takes sidecar excellently, very fast, good in traffic, Romas, everything in splendid order; accept £38 for sale, or would exchange for 1910 8hp. Bat—South Norwood Hill, S.E.

MOTOSACOCHE, 2hp., 1911, adjustable pulley, new, best quality inner tubes and back tyre, all es and fittings perfect; £29; seen after 6 any even; ride any reasonable distance to prospective purer.—41, Primrose Mansions, Battersden Park.

4hp. Humber Triar, free engine, handle starting, trembler, good condition, offers wanted; 2hp. mph-jap, very low, h.b.c., £9/10; 3hp. Brown, ter-Lea frame, h.b.c., trembler, 26in.x2in. new ided back, £17.—Motor Works, Wornley, Herts.

11 4-cyl. F.N., 5-6hp., good running order, only run 1,500 miles all tools, horn, lamp, mile r, and spare butted tube, £35; Portland sidecar, also good order, £4; sold as owner wants to get a car.—C. Swinhoe, c/o Messrs. Cox and Co., 16, Charing Cross.

VIN-PRECISION Motor Cycles.—Immediate delivery of 1911 model, Druid forks, Bosch magneto, B. B. carburetter, Dunlop tyres, £45/10; cash or dual payments, £2 monthly; trial by appointment reasonable distance.—Jennings, 268, Hornsey Rd r Public Baths, Holloway, London.

N., 1911, 2hp., shaft driven, 2 speeds, clutch, £35; also 1911 4-cyl. 5-6hp. F.N., all latest iments, Cowey, £37/10; both machines guaranteed ect; would exchange either for 2-stroke Scott, in ect condition; trials arranged.—Leet, 179, Broadesr Park, N.W.

4hp. Twin Minerva, footboards, 1911 B. and B., 2 double accumulator ignition, adjustable pulley, little, 26x21 wheels, Rich endless and butted tubes, Continental back, mirror, lamp, and generator, fast powerful; £16/10, or close offer.—Seen at Atom or Co., 180, West End Lane, West Hampstead.

4hp. 1908 Special Ball Bearing Minerva, extremely low built, 16in. Clater frame, 26in.x2in. s, rider forks, magneto, new belt, 6in. adjustable e, cost 25/- recently; 1911 B. and B. carburetter, y overhauled and enamelled French cross, spare belt, es, plugs, etc.; any trial, photograph; £20.—229, dett Rd., London, E.

11 Free Engine Triumph, just delivered, £55; standard 1910 Triumph, in fine condition, tyres eaded, £35; 1911 T.T. roadster Triumph, in perfect dition throughout, will do over 60, £43; 1911 shoped B.S.A., offers: 1911 Mills-Fulford 12 guineas or wheel sidecar, in new condition, tyre unpued, £8/10.—L. R. Tipping and Son, Triumph Agents, ley, Manningtree.

OTTENHAM.—We have following 1911 machines in stock ready for immediate delivery: Bradbury ard £48, free engine £54/10, 2-speed £55; mber 2-speed £50, T.T. twin, single speed 40ins., eed, 50 ins.; Rudge-Vitworth, free engine model, £45; Triumph, standard model, £48/15; Millford cane y sidecars, £11; Millford Herald sidecars, 6ins.—High Rd., South Tottenham. Phone 1922 (foot Stamford Hill).

OTTENHAM.—We have following first-class second-hand machines for immediate disposal at bargain es: Humber, 1910, 2-speed, just returned from es, £35; Fafnir Simplex, 4hp., engine and mago, just fitted, £27/10; 5hp. twin Kerry, free engine, coach-built sidecar, £20; 5hp. twin Kerry, mago, just overhauled, £20; N.S.U., 6hp. twin, variable e, Clater-Lea sidecar, £33; N.S.U., 2-speed gear, 6hp. twin, as new, £28; Ruc, 2hp., 1910, 2-speed, itary model, spring forks, £34; Matchless, 8hp., v., twin J.A.P., 2-speed gear, spring forks, good e and cash; 3hp. M.M.C., magneto, new, h.b.c., e; Fafnir, 3hp., magneto, spring forks, £18/10, per, Clater-Lea; Motosacoche, 1910, free engine, just e from makers as new, £25; F.N. lightweight, 1910 eed, very little used, £35.

OTTENHAM.—128, High Rd. Phone: 1982 (foot Stamford Hill).

G. RAWES & SONS' MOTOR CYCLE CLOTHING SALE!



Locks next and feels comfortable.

The end of the season is approaching, and we are determined to clear our surplus stock at a reasonable reduction of 10%.

ALBANY "STANDARD" SUIT.

In grey-green or fawn double-texture cloth. Guaranteed absolutely waterproof. We sell garments separately.

JACKETS ONLY.—Double-breasted, deep storm collar, and special adjustable strap to keep out rain and dust. Inside and outside wind cuffs, etc., etc. 18/-, less 10%.

16/3.

LEGGINGS ONLY.—Leather adjustable boot strap, V-shaped gussets, and patent dome fasteners to exclude wind, rain, and dust. Specially shaped to protect eyelet holes. 8/-, less 10%.

7/3. Complete Suit, 25/-, less 10%, 22/6.

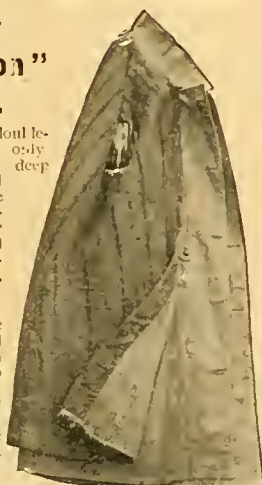
Albany "Special" Leggings.

In grey-green or fawn double-texture cloth to match "Standard" Jacket. Guaranteed absolutely waterproof. All latest improvements, and specially designed to come well up and protect the stomach from wind and rain. Without seat 13/11, less 10%, 12/6. With seat, including special convenience, 15/11, less 10%, 14/6. For Winter riding these "Specials" are indispensable. Buy now while prices are reduced.

Albany "All-Season" Jacket.

In grey-green double-texture cloth only Double-breasted, deep storm collar, and inside and outside wind cuffs. Guaranteed absolutely waterproof. Fitted with best detachable fleece lining. 25/- each.

Being motor cyclists ourselves, we found it very cold riding in Autumn and Winter, so this jacket was designed specially for all seasons. By simply detaching the lining, the coat can be worn in Summer. It is a great boon, and so great is the demand, and value so good, that No Reduction is possible.



Very warm and comfortable.

Albany "Guinea" Suits.

In double-texture waterproof cloth, 21/- less 10%, 19/-.

Advice to Purchasers.—These goods are of genuine stock, and every garment is guaranteed absolutely waterproof. Should you not be satisfied, we will refund amount paid if goods returned undamaged in 3 days.

Terms.—Nett Cash with order. Send chest measurement and length desired for Jackets, and inside leg measurement only for Leggings.

Send for Catalogue and patterns to—

G. RAWES & SONS,
Waterproof Clothing Specialists,
The Albany, Oldhall Street, LIVERPOOL.

MOTOR BICYCLES FOR SALE.

HAZEL Lightweight Motors.—We are now in a position to give early delivery of our 2hp. model, the lowest, shortest, and lightest machine of its power on the market, fitted with Jap engine; price 35 guineas; second-hand machines in part payment; many good second-hand machines in stock at reasonable prices.—The Cripps Cycle and Motor Co., 24-28, Woodford Rd., Forest Gate, London, E.

3hp. Premier, 1909, 2-speed gear, Bosch, in magnificent condition, seen little use, ideal sidecar machine, clutch anything, all accessories, lamp, etc., £27; also 5hp. Vinder, 1909, Bosch, free engine, clutch, splendidly fitted up, £24; 5hp. Rex and sidecar, complete, splendid order, £14; exchanges arranged.—Sydenham Autocar Co., 153, Sydenham Rd., Sydenham, S.E. Bradbury sole agents for district.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

1911 Rudge-Whitworth, 3hp., fixed engine, in stock; £48/15.—Moffat, Yeovil.

F.N., 4-cyl., 1910 model, equal to new, not done 800 miles; £28.—Reynolds, Broadway, Dorset.

DAN GUY, Weymouth.—1908 Triumph, guaranteed, and any trial or examination allowed; £28.

DAN GUY, Weymouth.—1910 2-speed Humber, very little used, appearance and tyres as new; any trial or examination; £35.

3hp. Lightweight, 1911, B. and B., very low; photo and specification; £12, or offer.—Fathers, Row, Truro.

ENFIELD, 2hp., late 1910, absolutely new, not done 1,000 miles, lamp, spares, Dunlop belt, new; photo; £30.—42, Lemon St., Truro.

5-6hp. 4-cyl. F.N., 1909, perfect condition; trial run arranged; must sell, £20; offers considered.—Cruse, Fifehead, Gillingham, Dorset.

B.S.A., sole agent; 3hp., fixed and free engine in stock; exchanges wanted. 3hp. B.S.A., done 300, as new, £45.—Metz, Weymouth.

FOR SALE. 2hp. V. pattern twin-cyl., 2-speed and free engine Royal Enfield lightweight motor cycle; owner has only ridden 56 miles on machine, everything absolutely new, all accessories, lamp, etc., a beautiful tool in every way; only reason for sale, going in for triar; price £48, no offers.—Cox, 10, Gyllyngvase Terrace, Falmouth.

SECTION X.

Scotland.

INDIAN, 5hp., new September, 1910, Rom 21, speed ometer, little used; £38.—Adam, Sate Works, Ed kirk.

1909 F.N., 5-6hp., particularly good machine; any trial; £19.—Dr. Miller, Hillside Terr., Springburn.

TRIUMPH, 1909, free engine, in good running order recently overhauled, new tyres; £38.—No. 8, 546 The Motor Cycle Offices, Coventry.

TRIUMPH, 3hp., good condition, new cylinder, carburetter, and h.b.c., two new Palmer tyres this month, horn, lamp, etc.; £23.—Grant, Ellabank, Polmont Station, N.B.

HUMBER, 2-speed, 1911, perfect, only run 500 miles, all spares, lamp, generator, new spare combination Rom tyre, spare butted tube, new spare belt; £45.—14, Lyndoch Place, Edinburgh.

6hp. Late 1909 N.S.U. and sidecar, with 2-speed gear and free engine, in perfect order, having just been returned after a thorough overhaul by makers; price £33; free on rail Edinburgh.—Ardoch, Wilton Rd., Edinburgh.

SCOTLAND'S Largest Motor Cycling Firm.—Don't wait for months on your new mount. We can give immediate delivery of Indian, Premier, Douglas, Zenith, B.S.A., Rex, N.S.U., and Lincoln Elk. Besides these, we stock P. and M., Roe, and Norton, and can supply any other make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

DOUGLAS, latest type Model D, in stock, 38 guineas; 4hp. twin Aleyon, perfect order, spring forks, £18; 2hp. lightweight Ariel, guaranteed good going order, £10; second-hand machines taken in part payment of new ones; sole agents for Douglas, New Hudson, and Zenith; enquiries invited.—Dundee Motor and Cycle Co., Nethergate, Dundee.

TRICARS FOR SALE.

9hp. Singer Triar, in first-class condition; £55; any trial.—78, The Green, Twickenham.

9hp. Singer Triar, twin cyls., 3 speed, forward and reverse, splendid condition; accept £40.—Lycett, Burnham, Staffs.

6hp. Quadrant 2 speeds, free engine, wheel steering; £16 cash, or useful exchange.—Allen, Duke St., Northampton.

RALEIGHETTE, registered 1907, good running order, 70 gallon, 35 hour, good climber; £12.—Spicer, Crimble St., Leeds.

A.C. Sociable, late 1910, good, screen, 1 lamp, new tyres, perfect; trial; £65.—Cook, 19, Crediton Rd., West Hampstead.

TRICARS FOR SALE.

5-h.p. Rex Twin Tricar, B.B. carburettor, Mabon clutch, guaranteed perfect order; £18.—Morgue, 107, Gallewall Rd., Bermondsey.

HUMBER 4-h.p. Tricar, free engine, water-cooled, splendid machine; £14, worth double; photo, particulars.—44, Archery, Eastbourne.

52-h.p. Water-cooled Rextette Tricar, good running order; what offers?—Photo and particulars on application to Pitchers, Heathercote, Milford, Surrey.

LIGHT Tricar, nearly new Minerva engine, splendid condition, cup and medal for reliability this season; £18.—27, Howard Rd., St. Ann's Rd., Stamford Hill.

LITETTE, 6-h.p., water-cooled, magneto, 2 speeds, new Whittle, car tyre rear, Autolipise, Lucas generator, splendid condition; £34.—67, Church Rd., Leyton, E.

RALEIGHETTE, 3-h.p., w.c., 2-speed, free engine, in splendid condition; expert examination, trial; bargain. £22.—Cunzon, 11, School Rd., Winsford, Cheshire.

41-h.p. Riley Tricar, first-class condition, water-cooled, 2-speed, new B. and B. carburettor; trial; spares; £26, or exchange for Rudge, 2 speeds.—19, Lynwood Rd., Blackburn.

31-h.p. Humber Tricar, chain drive, 2-speed, free engine, recently rebushed, overhauled, spares; exchange motor bike, or sell, £16, bargain.—V. Drew, Amberley Rd., Sydenham, S.E.

SOCIABLE Tricar, 8-h.p., w.c., 4 speeds, smart, low built, wheel steering and control, 760x90 tyres, faultless condition; £50, part exchange entertained.—P.N. Repairs Dept., Highbury Barn, N.

RILEY, 6-h.p. twin, w.c., wheel steering, bucket seats, coach-built throughout, 3 speeds and reverse, condition as new; seen by appointment; £35, no offers.—Purhouse, 32a, Aristotle Rd., Clapham.

TOTTENHAM.—Tricars; 3-h.p. Triumph, water-cooled single-cyl. engine, £15; 3-h.p. White and Poppe, single-cyl., water-cooled, 2-speed gear, £14.—Stamford Hill Motor Co., 128, High Rd., Tottenham. 'Phone: 1982.

6-h.p. De Dion Engine, open frame, wheel steering, 2 speeds and reverse, chain drive, car tyres, coach-built seats, well upholstered, in good order; £20, or motor cycle in part exchange.—Wilson, 16, Trinity St., Gainsborough.

A.C. Sociable, 5-h.p., speed model, specially built, hood, wind screen, two powerful headlights, Pythian horn, steel non-skid rear, many extras, in perfect order; cost £120, accept £85 genuine bargain; any trial.—Williams, 41, Bonham Rd., Brixton.

41-h.p. Riley Tricar, coach-built both seats, and well sprung, new 21 car tyres, wheel control, w.c., free engine, 2 speeds, dynamo for accumulator and lighting, splendid condition; price, with £5 worth of spares, £26.—182, Elizabeth St., N. Woolwich, E.

A.C. Sociable, 2-seater, screen, luggage carrier, side lamps (oil or electric), tail lamp, acetylene head lamp (2 generators), front wheel brakes, side aprons, 2 spare inner tubes and outer covers, spares and tools, Jones speedometer, 1911 model, shown at Stanley Show, thoroughly overhauled; price £85.—8,520, The Motor Cycle Offices, Coventry.

SIDECARS AND FORECARS.

MONTGOMERY Cane Flexible, right or left, sound condition; £3, or offer.—Mizen, Downton, Wilts.

SIDECAR, rigid, art cane, Chater, Michelin, plated springs, 35/-.—33, Grosvenor Rd., Canonbury.

ROVER Forecar, in good running order, B.B. carburettor, spares.—359, Whitehorse Rd., Croydon.

1911 Millford Ostor Wheel Sidecar, beautiful order; sacrifice, £6/15 cash.—1, Elber St., Wandsworth.

SIDECARS, brand new, beautifully upholstered, fit any make; £3/10.—Rey, 5, Heath St., Hampstead.

MONTGOMERY Flexible Sidecar, coach-built, with apron and tool box; £4/10.—Sinclair, East Molesey.

GLORIA Sidecar, fitted with Dunlop stud tyre, new March last; £10.—Elliesslie, St. Patrick's Rd., Coventry.

MONTGOMERY Flexible Upholstered Sidecar, newly enamelled; £4, or offer.—A. Batty, Little Hulton, Bolton.

BRAND New Chater-Lea Sidecar; cost fortnight ago £27, accept £5/5.—35, St. Stephen's Rd., Bow, London.

8-GUINEA model sidecar, Chater-Lea detachable fittings, brand new; £5/5.—Matthews, pawnbroker, West Croydon.

SOCIABLE Forecar, 7-h.p., 2 speeds, operated as car, fine condition; £50, or take motor cycle part exchange.—120, High St., Merton.

MILLFORD Sidecar, 1911, side entrance, cane, cost £19/10, equal new; approval, deposit; bargain, £12.—56, Shirley Rd., Southampton.

MILLS-FULFORD Rigid Sidecar, cane body, cane front, cost £12/12, perfect condition; accept £7.—Box 8,528, The Motor Cycle Offices, Coventry.

FORECAR Frame and wheels, oak footboards, foot brakes, mudguards, adjustable any machine, really good condition; offers; sell or exchange.—Ernest Mays, Stechford.

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Thus you turn would-be
Troubles into Pleasures.

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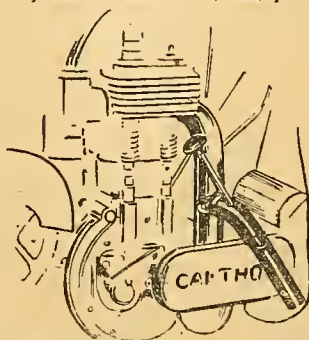
Birmingham Showrooms:

Humber Cycle Depot, 78, New St.

London Stockists—

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292 & 293, High Holborn, W.C.

BRANSOM, KENT & CO., LTD.,
40, Great Eastern Street, E.C.



SIDECARS AND FORECARS.

MIDDLETON'S, wholesale, retail, export, sidecar manufacturers; 12 models, 2-seaters, commercial narrow doorways, etc.—Watson St., Newington Great, London, N. 'Phone, 2126.

MONTGOMERY Sidecar, plated C. springs, land basket, apron, £5/15/6, cost £12/12.—Henderson's All-Automotive back rest, new, 20/-, cost 30/-.—Davidson 10, Park Terrace, South Shields.

NEVER in the annals of the trade has a better sidecar been placed on the market at £5. There is only one firm that can do this, and that firm is the Oakleigh Sidecar Co., 65a, Rosendale Rd., West Dalwich.

SIDECARS: largest stock; best value in England; all built of Chater-Lea fittings; prices, £6/10. £5/10. £4/15; second-hand from £3/15. Fitted free while you wait.—C. A. Edgar, 123, Holloway Rd., N.

SIDECARS.—A postcard will bring you illustrated list of the best, cheapest, and most up-to-date sidecars on the market, delivery from stock, trade supplied.—Jack Cairns, sidecar and fittings manufacturer, Grimshaw St. Works, Preston.

THE Pythian Spring Wheel Sidecar (Morrison's patent) is undoubtedly the most comfortable of the market; send for particulars; prices from £25/15 Pythian motor cycles; £46/15.—Clarke Bros. (Leicester) Ltd., Lower Free Lane, Leicester.

TOTTENHAM.—Sidecars: 1911, nicely upholstered fit any machine, £3/10/6; quick detachable £3/17/6; Millford Herald, £6/6; Mills-Fulford quick detachable cane body, £11, in stock.—Stamford Hill Motor Co., 128, High Rd., Tottenham. 'Phone: 1982.

PHENIX Sidecars.—The makers of the famous Phoenix motor bicycles are making Phoenix sidecars at high prices from £5/15, complete with tyres fitted free; sidecars on hire exchanges made.—Phoenix Motors, Ltd., Motor Cycle Depot, 736, Holloway Rd., London, N. 'Phone: 449 Hensley.

SIDECAR COMBINATIONS.

PHOLON and Moore; late 1910, and Mills castor sidecar; £50.—11, Strawberry Dale, Harrogate.

1909 3-h.p. 2-speed N.S.U., magneto, new tyres and belt, with sidecar; £26/10.—Sinclair, East Molesey.

1908 4-h.p. Clutch Model Rover, cane sidecar, perfect; £18/10; motor cycle part.—111, Walton Rd., East Molesey.

41-h.p. Bat and Millon Sidecar, powerful combination; £18, lowest power part.—H.S., 33, St. Stephen's Rd., Bow, E.

31-h.p. Quadrant and new sidecar, h.b.c., dry battery ignition, very powerful; £25.—26, Clardon Rd., Seven Kings, Essex.

6-h.p. Twin Advance, Chater, Roe 2-speed, Whittle Bosch, and spring wheel sidecar; £25.—80, White Horse Rd., Croydon.

WILTON Cycle Co., Victoria, S.W., have several combinations; Clynes, Chater-Lea, Sarolea, Kerry Abington, etc.; from £30.

WILTON.—8-h.p. Minerva, twin-cylinder, Mabon clutch Whittle belt, Millford castor sidecar, cane body £25.

6-7-h.p. Bat, 1909, perfect condition, just re-bushed sidecar, almost new; £30, no offers.—Dolley, 29 Queen's Rd., Hershaw, Surrey.

31-h.p. Minerva, magneto, spring fork, Whittle, Palmer (new), Peter-Union, h.b.c., Mabon clutch, and sidecar, good order; £25.—Long, Crowle.

41-h.p. Hamilton twin and sidecar, Chater-Lea frame, in splendid condition; £25/10, or nearest offer.—W. C. Rooke, 43, Hunsdon Rd., New Cross.

1909 (late) 8-h.p. Minerva, Bosch, spring forks, and Millford castor art cane sidecar; £30; little used; after 8.—177, Philip Lane, Tottenham.

REX, 3-h.p., and Millford sidecar, good condition, B. and B. m.o.v.; bargain; trial; £18.—Seen evenings, 24, Dunlop Place, Bermondsey, S.E.

WILKINSON T.A.C. and Sidecar, 4-cyl., 3 speeds, perfect condition, magnificent machine; sacrifice, £40, cost £90.—Philpott, 8, Horsefair, Bristol.

31-h.p. N.S.U., magneto, h.b.c., 2-speed, spring seat 32 pillar, comfortable sidecar, spare tyres, splendid condition; trial; £26.—1, Baldwin Gardens, Acton, W.

HUMBER, 1911, 2-speed, 2,000 miles, do 100 miles to gallon, with sidecar, lamp, spares, etc., perfect; trial; £47.—Moss, Cambridge St., Ashton-under-Lyne.

7-h.p. Chater-Jap and Sidecar, Druids, magneto, new condition; £42.—Ellesmere, Charleston Rd., Eastbourne.

6-h.p. J.A.P. free engine, magneto, No. 6 Chater, Palmer 24in. tyres, full set spares, spring wheel sidecar, no faults; £42.—Bryan, 31, Penelope Rd., W. Croydon.

1911 Triumph, free engine, Millford spring wheel Cowey, lamp, etc., very little used owing to illness, almost equal to new; £60.—Nicholson, Wright St., Hull.

31-h.p. De Dion, B. and B., adjustable pulley, new 32 Whittle and 24in. Rom tyres, long, low, art cane sidecar, Palmer, perfect order; £16.—Sneddon, Balerno Midlothian.

THE MOTOR CYCLE

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Subscription Rates: Home, 6s. 6d.; Canada, 8s. 8d.; Foreign, 13s. per annum.

Agents for Australia: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

ADDRESS: 20, TUDOR STREET, LONDON, E.C.

Lamps and Winter Riding.

IN the report to the members of the Manufacturers' Union there is a paragraph stating that the Auto Cycle Union proposed a trial for motor cycle lamps, and members agreed to abstain from taking part therein.

We think it is quite right for the Traders' Union to abstain from taking part in any competition if it considers the regulations are unsuitable and not likely to lead to a definite result, but taking into consideration that there is a paragraph in the report stating that friendly relations exist between the Traders' Union and the Auto Cycle Union, and that the trade is consulted in making regulations for public trials, it would have been a matter of ease for the Traders' Union to point out to the A.C.U. where the regulations for the lamp trial failed, and to co-operate in the formation of fresh regulations which would have been satisfactory. There is no doubt that lamps are an important accessory, and the trouble with acetylene gas lamps is by no means at an end. That is to say, there is still a considerable amount of fiddling to get lamps to burn properly. Cleanliness is, of course, the first essential, but even then it is not always possible to obtain a good light and a steady flow of gas.

Now that the winter riding season is upon us, a lamp trial on proper lines would, we feel sure, produce good results. Motor cyclists will agree with us that it would be begging the question to say that a lamp trial is absolutely unnecessary, because every other motor cyclist, although fairly satisfied with the lamps now on the market, usually mentions that night riding would be very much more pleasurable if he could always be sure of absolute lamp reliability,

particularly in connection with acetylene generators. Our personal experience with most generators is that they are reliable if kept perfectly clean and only the very best quality carbide employed. Generators with outside fastenings for the carbide container are, as far as we can tell, slightly more satisfactory than those which depend upon inside screws, *i.e.*, where the decomposed carbide can get at the threads or other connections there is usually trouble after the lamp has been once used. This applies more particularly to those lamp generators where the screwed connection is at the base of the container and not at the top. We even look upon the reliability of the generator as a more important item than the volume of light projected by the lamp. Curiously enough, a few years ago British-made motor cycle lamps and generators were rather behind foreign articles of the same description. Now we are pleased to say Britain leads by a short head, and it will generally be found that in the purchase of such articles as lamps and generators it is advisable to pay a good price for a good article. Electric lamps are excellent, but on the point of reliability they are not equal, in our opinion, to gas lamps, unless one is prepared to carry one or two spare bulbs. Motor cyclists also object to carrying accumulators now that they have found out the almost absolute reliability of the magneto, and to carry heavy accumulators for the purpose of lighting lamps is rather objected to, particularly on week-end rides, when the lamps are only required for an hour or two each night. Dry batteries will, of course, light an electric lamp quite well, and are reliable, but we have not yet found an electric lamp and battery giving the same volume of light as a gas lamp and generator weight for weight.

Farlow Bank in the Quarterly Trials.

BEING rather curious to see if the above much-talked-of hill was as difficult as described, I, mounted on a 1911 standard Triumph, in company with three Birmingham friends, paid a visit to the hill last week, and I am relating my experiences in the hope that my remarks may be of guidance to some of the single-gear brigade who may have to negotiate this hill in the Autumn Quarterly Trial without any previous practice.

Having travelled the 140 miles from Harpenden, Herts., almost as fast as the A.C.U. official car usually goes (!), I arrived with a rather warm engine, and at once made two attempts to climb the hill with a $5\frac{1}{2}$ to 1 gear. Had the surface been hard or dry, I think in all probability I might have succeeded, with a little luck.

Having lowered the gear to $6\frac{1}{8}$ to 1, I had another try, and this time got round the hairpin bend safely, but skidded off the machine a little higher up. After this I climbed the bank three times in succession, and could have kept it up for the rest of the day.

One of my companions—a well-known T.T. Triumph crack hill-climber—had exactly the same experience as I, and the whole knack seemed to be to go

steadily and take the inside corner very close in, and although the gradient at this point seems to rise to an alarming extent, this portion has a firmer surface and is slightly banked the right way.

The Middle Bend the Worst.

The hill has three bends, and the middle one is the worst, and might well be described as a Sutton Bank corner on a steep roof, and two inches of loose small granite complete the agony. Being a trick hill pure and simple, it will account for a lot of failures on the 14th inst., and I should include some variably-gear machines among the number.

There were a few well-known variably geared machines being tested at the time of my visit, and they failed several times before the riders got the knack of approaching the bends. We found them there, and left them there, so perhaps they will wear the gradient down before the trial.

In conclusion, I might venture to express the opinion that if the day be wet all three bends should be taken close in and not too fast, or the back wheel will try and change places with the front one.

E. C. JARVIS.



The second and worst bend on Farlow Bank; the loose granite renders it very difficult to negotiate except at a walking pace. The rider is T. Silver on the new three-speed Quadrant we illustrated on page 1011 last week.

You can always Trust the Trusty
TRIUMPH
 —————to Lead the Way!!

Mr. J. R. Haswell (an amateur) again proved invincible on his $3\frac{1}{2}$ h.p. Triumph at Brooklands, on Saturday, 23rd September, by breaking the

100 MILES RECORD

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covering the distance in **1 hr. 37 min. 52 sec.**

Mr. Haswell also holds the

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(500 c.c.)

travelling over

63 Miles

in the Hour....on a

TRIUMPH



Mr. J. R. Haswell
and his $3\frac{1}{2}$ h.p. Triumph.

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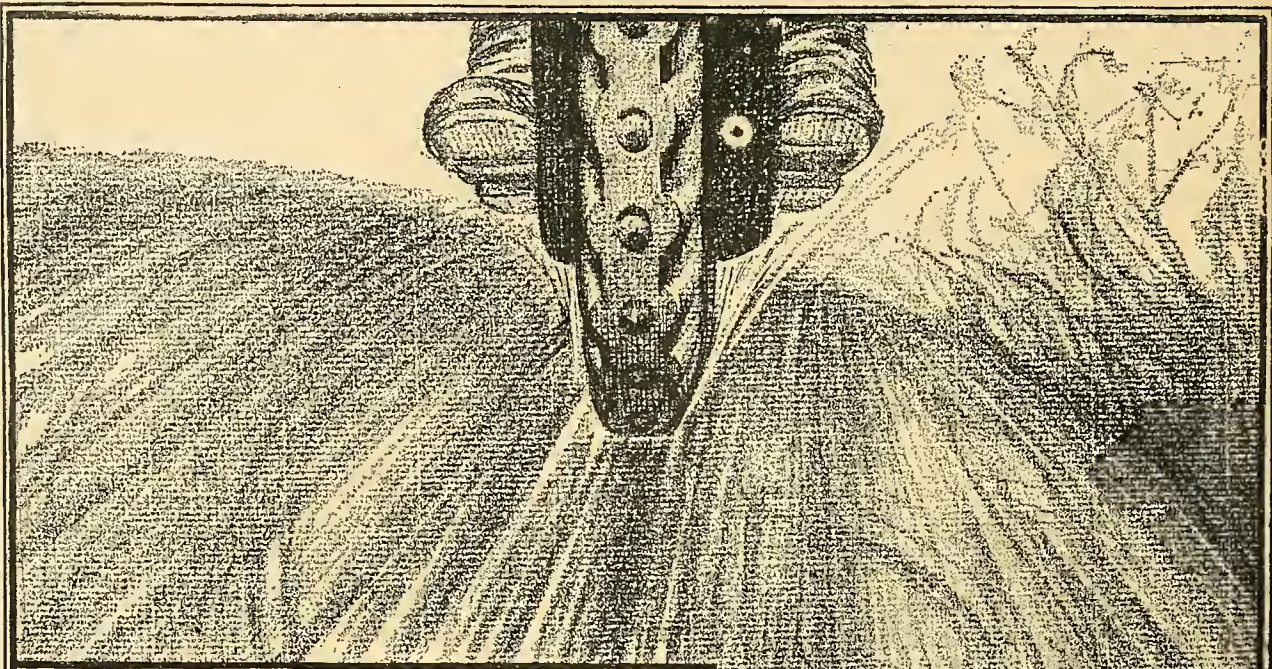
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St. Charles. ANTWERP: 41, Meir. CAPE COLONY: The Motor Supply Co.,
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the UNITED STATES: CRYDER & CO., 583, Park Avenue, New York.

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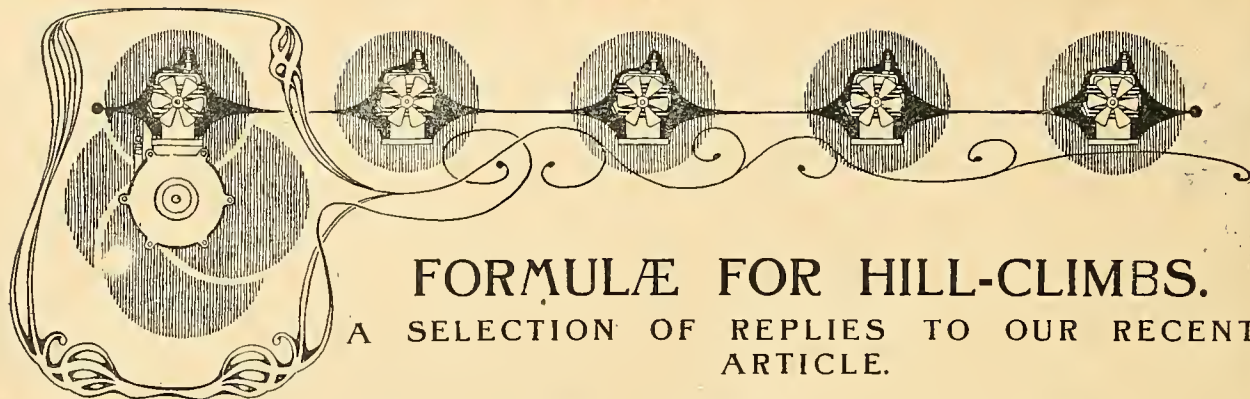
F.B.C.

Brooklands Habitue's



SNAP-SHOTS OF RACING MEN IN CHARACTERISTIC POSES AT THE LAST B.M.C.R.C. MEETING.

- | | | |
|---|--------------------------------------|---|
| (1) Sam Wright (twin-cylinder Humber). | (2) F. A. McNab (3½ h.p. Trump-Jap). | (3) A. E. Woodman (2½ h.p. twin Humber). |
| (5) Gordon Bell (Bat-Jap), aviator and motor cyclist. | (4) O. C. Godfrey (4 h.p. Indian). | (6) Harry Martin (Martin-Jap). |
| (7) N. D. Slatter (2 h.p. Alcyon). | (8) W. H. Elce (3½ h.p. Triumph). | (9) Lient. Stewart, R.N. (3½ h.p. Trump-Jap). |



WE publish a selection of the more interesting letters on the subject of formulæ for hill-climbs on this page from readers who have considered and criticised our article on that subject. "J.W." has suggested an alternative and more complicated formula, and, while agreeing with much that he says, we still think that *The Motor Cycle* formula gives a sufficiently accurate result. We have calculated by "J.W.'s" formula the figures of merit of the six machines already taken as examples, and reduced the figures to correspond with our own, and append the result for the sake of comparison:

Machine.	Motor Cycle formula.	"J.W.'s" formula.
2½ Singer	385	385
3½ Precision (1)	392	391
3½ Singer	411	411
3½ Precision (2)	451	450
3½ Rudge	453	453
3½ Rover	460	459

By an oversight, Precision (2) was credited with a figure of merit of 439 in our previous article.

It will be seen that these figures are practically identical. With a view to testing the two formulæ on extreme cases, we took the T.T. Triumph which made fastest time for a single-cylinder with a light rider and the New Hudson three-speed lightweight which with a fairly heavy rider was first in Class 2, and the figures are as follow:

Machine.	Motor Cycle formula.	"J.W.'s" formula.
3½ T.T. Triumph	399	401
2½ New Hudson	366	367

Again the difference is hardly worth remarking, and we think all will admit, after reading the letters, that our formula is the simpler. This object, of course, we had in mind at the time of writing the article.

Not a Horse power Formula.

In reply to Mr. W. Woodward, we may say that we are aware that the power varies as the cube of the velocity; in fact, we stated as much in a recent issue. By "frictional resistances on lubricated surfaces" we refer to the internal friction of the engine and the bearings of the machine. If we were giving a horse-power formula, this, of course, should not be credited to the engine as part of its output, but our formula does not pretend to be a horse-power formula in any sense of the term.

If Mr. Colin Macmillan will read the letters already referred to, he will see that he is wrong in supposing that value assigned to the time should lie between t and t^2 . It should be between t and t^3 , and t^2 gives a very fair approximation, being, as Mr. Macmillan

contents that it should be, nearer to t than to t^3 . It should be pointed out, however, that the example given by Mr. Macmillan is not a good one, as the speed up a gradient of 1 in 12 would be nearer 50 than 35 m.p.h., and the air resistance consequently much higher. If we take it that a motor cyclist and his machine present an area of 5 square feet to the air resistance, 1.7 h.p. will be required to overcome this resistance at 35 m.p.h. and 5 h.p. at 50 m.p.h. A 4 h.p. engine specially tuned up for hill-climbing and with a large jet will give considerably more than 5 h.p. for a short time. Also we do not agree that our formula unduly favours the short stroke. The New Hudson machine already mentioned has a short stroke engine, being 76 bore \times 65.5 stroke, cubic capacity 297. Our formula gives the figure of merit 366. If the same ride had been accomplished with the engine of the 2½ h.p. Singer, 69 bore \times 79 stroke, 295 c.c., the figure of merit would have been 364.

A Suggested Formula.

Sir,—Neglecting the friction of machine itself, there are two factors to deal with in comparing the performances of motor cycles on hill-climbs. There is the resistance due to weight and the air resistance.

The resistance due to weight is the total weight of machine and rider multiplied by the vertical distance through which weight is lifted, and the power required to overcome this resistance varies directly as the velocity or inversely as the time taken. If this were the only factor dealt with the

A.C.U. formula $\frac{W}{C \times t}$, or its inverse $\frac{C \times t}{W}$, would be perfect for comparing performances.

Air resistance varies as the square of velocity, and the power required to overcome this resistance varies as the cube of the velocity, and a figure of merit for this factor alone

would be obtained from $\frac{Ct^3}{A}$, where A is the area exposed to direction of motion. We can thus obtain by combining

the two factors of weight and air resistance a figure of merit,

$\frac{Ct}{W} + K \frac{Ct^3}{A}$, where K is a constant, or, if we assume that

A will be proportional to W , we get figure of merit =

$\frac{Ct}{W} \left(1 + \frac{t^2}{K} \right)$ where K is a constant to be found by

comparison of results and depending on length of hill-climb

and gradient. For the gradients generally used for hill-

climbs it will be found that if $K = \left(\frac{L}{22} \right)$, where L is

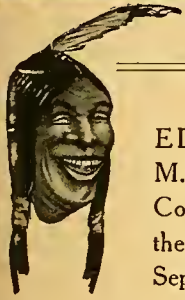
length of course in yards, a very satisfactory result is obtained.

In the hill-climb quoted in your article of September 21st

the formula would become—

$$\text{Figure of merit} = \frac{C \times t}{W} \left(1 + \frac{t^2}{2500} \right)$$

It is obvious that the proportion of the total power absorbed by the lifting of weight and the air resistance respectively will vary according to gradient. For a steep gradient the power required to lift the weight will be a



EDINBURGH
M.C.C.———

Competition for
the Sharp Trophy,
September 23rd.

Mr. J. R. Alexander, jun., writes :—

"In the Sharp Trophy Competition to-day, consisting of a fast speed contest, a slow test, and a fast hill climb, Indians were first, second, and third, and far ahead of all others. The result was a very close one for first place, my brother winning by exactly one second from myself, and B. Sandeman 7 h.p. Indian being third, somewhere about 20 seconds after. Indian won every class of the competition, I winning the speed test, and my brother the hill climb and slow test, only fifths of seconds between us. Only three Indians were entered (all 7 h.p.)"

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the competition—speed test,
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Formulae for Hill-climbs.—

greater proportion of total power than on an easy gradient and *vice versa* for the air resistance, but the relation of amount of power absorbed by weight lifting to air resistance is a matter of observation and experiment by comparing performances of machines of varying total weights, capacity being the same, and of similar total weights but varying capacities.

J.W.

Unnecessary Corrections.

Sir,—With reference to your article on hill-climbing formulae in your issue of September 21st, I should like to correct one statement made on page 977.

The air resistance varies indeed as the square of the velocity, but the power required to overcome it therefore varies as the cube of velocity, just as the resistance due to the gradient (and, probably, that due to road resistance also) is independent of velocity, and, therefore, the power required is proportional to velocity. I do not quite see what you refer to as "frictional resistances on lubricated surfaces." Surely you do not consider the rolling contact of the tyres on the road as of this character? And if you are thinking of the internal friction of the engine, this should not be credited to it as part of its output.

In conclusion, I am strongly of opinion that for important hill-climbs, where skilled calculators are available with slide rules, the formula should contain two terms, one proportional to t , the other to t^3 . The results would take very little longer to work out than on the simple formula, if the constants for the hill were calculated beforehand.

W. WOODWARD.

A Plea for $t^{1.3}$

Sir,—I read with interest your article on hill-climbing formulae, and how you arrive at the formula $\frac{D^2 S t^2}{W}$, but I am of the opinion that this is overrating time (or the speed), and gives an undue advantage to the big power and light rider.

In arriving at a formula the best way is first to investigate the proportion of power used in performing the various functions of propelling a machine up a hill, thus:

1. Weight Raising.

The power required for this function is exactly proportional to speed, or, in other words, the force necessary to lift a weight is constant, no matter what speed the weight is lifted.

2. Wind Resistance.

The power required to perform this function is proportional to the square of the speed, or, in other words, the force necessary to overcome the wind resistance is proportional to the speed. [This is incorrect.—Ed.]

3. Frictional Resistance of Tyres.

The power required to overcome this resistance is probably proportional to speed; i.e., the force is the same at all speeds.

Engine and transmission friction should not be taken into account, as the h.p. formula should give the power given out at the pulley, and the figure of merit formula should only take into account useful work done (see 1, 2, and 3 above) in exchange for work given out by the smallest engine.

To obtain an idea of the relative quantities of power absorbed by 1, 2, and 3, let us take a particular example.

Suppose we have a hill one mile long, average gradient 1 in 12, speed, 35 m.p.h., weight 350 lbs., and a 4 h.p. engine. H.P. absorbed in raising weight, = 2.7 nearly.

Suppose now that the 4 h.p. engine develops 5 h.p. when in perfect "tune" for hill-climbing, then this leaves 2.3 h.p. for wind and tyre resistance. Of this 2.3 probably .5 h.p. at least goes in tyre resistance, leaving 1.8 h.p. for wind resistance. So that, of the 5 h.p., 3.2 h.p. goes in overcoming weight-lifting and tyre resistance.

Now, as we saw above, the power absorbed by weight-lifting and tyre resistance is proportional to speed (and hence to $\frac{1}{t}$), and the power absorbed by wind resistance is proportional to the square of the speed (and hence to $\frac{1}{t^2}$).

Therefore, if weight lifting and tyre friction were the only resistances the formula would be:

$$\text{Figure of Merit (F.M.)} = \frac{W}{\text{H.P.} \times t} \quad (a)$$

and if wind was the only resistance,

$$\text{F.M.} = \frac{1}{\text{H.P.} \times t^2} \quad (b)$$

Now as wind resistance takes only about one-third of the total power, and weight raising and tyres take the remaining two-thirds, we see that formula (a) should predominate over (b), therefore the time t should be raised to a power between 1 and 2 such that (a) predominates. Probably $t^{1.3}$ or $t^{1.5}$ is near the correct value.

As regards the horse-power formula, the cubic capacity (or $N \times D^2 \times S$) favours unduly the short stroke engine, and $N \times D^2$ similarly favours the ultra long stroke engine. To get some value between these two which will be fair to all, the easiest way is to take some root of the stroke such as square root, cube root, or $\frac{2}{3}$ power.

The Edinburgh Club's formula is a combination of the above, viz.:

$$\text{F.M.} = \frac{W}{N \times D^2 \times \sqrt[2]{S} \times t^{1.3}}$$

In some of the hill-climbs the machines have been classified by capacity alone, thus having singles and twins running in the same class, with very satisfactory results.

COLIN H. MACMILLAN.



BROOKLANDS. A portion of the crowd which closely followed the progress of the Hour Race at the recent B.M.C.R.C. meeting.

Occasional Comments 'LXION'



Does the Belt's Angle Vary?

A Droitwich rider sends me an argument in favour of the view that when a 28° belt is curved round a small pulley, its angular section is considerably less than 28° . I think his contention is quite correct, and further that the trade are realising the facts he emphasises, and that the year 1912 will consequently see more novel departures in pulley contours. Most of the belts containing "arches" or other variations from the solid owe their existence to the facts he mentions. The belt makers were once content if they could get their belts to bend over the pulley easily. Now they are seeking to make belts which retain their cross-section round a bend, and as they are not remarkably successful, certain modifications of the pulley are probable.

Tyres for 1912.

As is usual in a hot dry season, complaints about the unreliability of tyres have risen in many quarters. The standard $26 \times 2\frac{1}{4}$ tyre is a compromise, in more ways than one. It is a compromise in price; stronger tyres of the same section can easily be made, but the motor cycle manufacturers cannot afford to fit, and many motor cyclists cannot afford to pay for, costlier tyres. It is a compromise in resiliency; heavier tyres slow the machine, and if fully inflated are bumpy, whereas hundreds of customers want to get the last possible inch of speed out of their jiggers, "mop up" fellow clubmen in social runs, and brag about sending their speedometer needles right round the clock.

Now that outputs are increasing, and the sporty customer is balanced by the steady-going man, it should be possible for all the leading makers to fit really reliable tyres as an option, at a slight extra cost, and to print advice in their catalogues that the heavier and slower tyre is a good investment for all buyers who are not speed merchants.

I find quite a number of riders ignorant that it is possible to obtain a pair of $26 \times 2\frac{1}{4}$ covers, which will easily last through a long season of hard work, and that without more than a couple of punctures. It is the old story of the push-bicycle over again. For years I used to fit the standard covers on my push-bicycle, and sometimes had four or five punctures in a single day. At last I met a man who was using heavy tandem covers, and when I followed his example I got through an entire season without a solitary puncture.

A Silencer Suggestion.

As readers are aware, I have never seen eye to eye with the A.C.U. on the question of silence. Eight years ago I was a bit of an idealist, and I faked up the machine I was then riding till it became practically noiseless at all ordinary speeds. I barely rode it for a fortnight in its unobtrusive condition, for I had a dozen narrow escapes of committing manslaughter. It is by

no means an unmixed joy to drive an absolutely silent car, but driving a gently-ticking motor cycle is far, far worse, for the motor cycle is so tiny that the average pedestrian or cart driver does not see it coming (it looms so small in the tail of his eye), and if he cannot hear it, collisions are bound to become frequent.

At the same time a dead silent motor cycle is a great joy to its owner, especially on the open road, as anybody can discover by freeling down a long grade in a deserted neighbourhood. Silence is especially jolly on prolonged rides, when the continuous burble of a raucous engine for twelve hours is apt to develop a buzz inside the rider's brain, something like the drumming in one's ears that accompanies high fever.

Now here is a solution, which I offer for what it is worth. Why not fit a *threeway valve* on the silencer? In traffic you could then drive with the silencer half open, so creating sufficient noise to give gentle warning of your approach, without becoming a public nuisance. Up the phenomenal precipice, miles from human habitation, you would naturally drive on the free exhaust. And in all ordinary driving you could shut the silencer right up and tick along like a Bee clock.

The Third Toolbag.

One thing I hope to see at Olympia next month is the universal adoption of the third toolbag. The system standard at present consists of two neat little leather cases, arranged pannier fashion on the rear carrier. One of these is already packed to suffocation with the usual toolroll; the other is fairly well occupied by the tyre repair kit, a duster, spare sparking plugs, and belt fasteners.

There are a few other things we all make a point of carrying on long rides, *e.g.*, a pair of valves, a spare inner tube, and one or two smaller fitments which serve as precautions against the failure of the one or two special weaknesses of our machines. At present there is no storage provided for these parts. The present bags cannot be enlarged in size without drawbacks, nor is their enlargement desirable, for the items referred to all need careful packing, and ought therefore to be stored by themselves, lest our testy tempers should spoil the repacking after a road-side stop.

The location of the third bag is a less obvious matter, but there are plenty of possible positions. It might be in front of the steering forks, it might be on the tank top, it might be under the tail of the carrier, it might be in some vacant niche inside the diamond of the frame; but it ought to be provided somewhere, and it ought to include a compartment for the spare tube. Above all, let all three bags be fastened to the machine by a method that eliminates $\frac{3}{16}$ in. or more of bolt end inside the compartment. These bag-ends of bolts cause more torn skin on one's hands than anything I know except cleaning machines which bristle with split-pins when one is not wearing gloves.

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BEST**



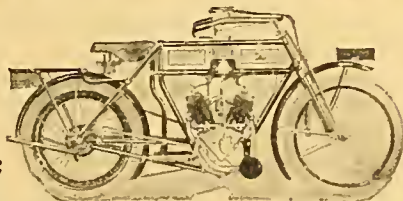
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Another Appreciation of the ROVER

Dear Sirs,

I am writing to express my satisfaction of Rover Motor Cycle that I bought from you about a month ago. I have been running the machine almost every day over all conditions of roads, and have found it most satisfactory. On hills it is perfect; I have not put the machine to any hill but what it would take easily. I think it very good considering it is only $3\frac{1}{2}$ h.p., and I myself being a heavy man, a large side-car, and fairly heavy passenger. I have run the machine nearly 300 miles, and have only had to tighten up one nut.

I think the Rover far superior to any other make.

Yours faithfully,

A. P. LANGFORD.

The Rover Co., Ltd.

THE ROVER CO., LIMITED,
COVENTRY.



A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Motor Cycle or Tricar for Colonial Use.

Will you advise respecting a machine suitable for the F.M.S.? I place reliability first, as we have few repairers, and those Chinese. Do you consider the A.C. a good, reliable machine and suitable for colonial use? Please give the makers' address.—A.W.

If you go in for a motor cycle we should recommend a single-cylinder $3\frac{1}{2}$ h.p. magneto ignition, but if you decide upon a sociable you cannot do better than get the machine you mention. The address of the makers is, Auto-Carriers, Ltd., Martell Road, West Norwood, S.E.

Two Sparks or One.

Can you tell me whether two sparking plugs in a single-cylinder taken off the one terminal from plug to plug gives two sparks in cylinder or only one? Also whether it is likely to damage the magneto.—G.P.H.

Two sparking plugs in a single-cylinder will not give two sparks unless one is a double pole plug. No damage will accrue to the magneto.

Overheating.

Would it help to obviate the overheating of my engine if I fitted a larger pulley to raise the gear ratio to $4\frac{1}{2}$ to 1, and a smaller jet to my B. and B. carburetter?—E 808.

We should recommend you to try a smaller jet (you can get a set of four in a case from Messrs. Brown and Barlow for 2s. 6d.) and an adjustable pulley. You will then be able to try various gears, but remember that too high a gear is as likely to cause overheating (over-loading) as one which is too low.

London to Glasgow.

(1.) I am thinking of motoring ($3\frac{1}{2}$ h.p. machine) from London to Glasgow, and your assistance with regard to the best road, avoiding as far as possible large towns, will greatly oblige. (2.) Will you kindly suggest a suitable road map?—A.S.D.

(1.) The route you require is as follows: London via Great North Road to Hatfield, Biggleswade, Stamford, Grantham, Newark, Doncaster, Leeds, Skipton, Settle, Kirkby Lonsdale, Kendal, Penrith, Carlisle, Lockerbie, Beattock, Crawford, Douglas Mill, Hamilton. (2.) We should advise you to get "The Motor Cycle Route Book," 1s. 8d. post free from 20, Tudor Street; the Michelin Guide, 6d.; and the necessary Bartholomew maps.

Date of Engine.

Early this year I bought a motor cycle, and was told at the time that the engine was a 1910. I examined it and found everything in fine condition and showing no signs of wear. After using it two months I bought a passenger machine, and wishing to sell my solo mount, I advertised it in your columns as a 1910 engine, which I fully believed it to be. It was eventually bought by a local man after he had seen its running capabilities and seen the engine taken down, and found everything to his satisfaction. I had a remarkable letter from him the other day, in which he says: "I have written to makers of engine and they tell me that it is a 1909 model and not a 1910 as you stated. You must refund the money paid and remove motor by Saturday or take the consequences." The machine being sold in perfectly good faith, would you be good enough to tell me what would be the best thing to do under the circumstances? If he brought an action

would he stand much chance of winning it?—DU 65.

Our legal adviser writes as follows: As unfortunately the mistake was made of advertising the engine as a 1910 model instead of a 1909, the purchaser would have a right to return the machine unless he has kept it and used it for any considerable time. If he has used it so much that it would be unfair to return it, then he has a right to claim damages on account of the misrepresentation, the amount of damages being the difference in value between a 1909 engine and a 1910 engine having regard to its being second-hand. He can claim this, although the misrepresentation was made quite innocently. On the other hand, your correspondent can claim damages from the party from whom he purchased the motor cycle, provided he can prove to the satisfaction of the court that he was informed at the time he purchased it that the engine was a 1910 model. His best plan would be to write to the person who sold the machine to him explaining the present position.

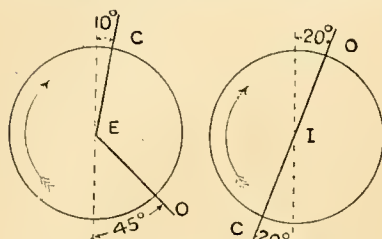
AMERICAN POLICE OFFICERS ON THEIR TANDEM-SEATED MOUNT.



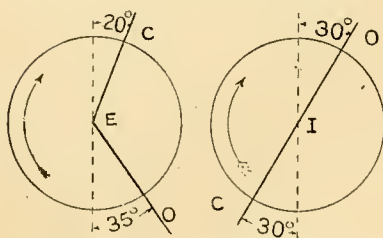
Nearly every large city in the States has its motor cycle mounted police. The above 7 h.p. free engine Indian, built to carry two officers, has just been added to the Cincinnati police department for the suppression of furious driving by motorists. It carries a miniature searchlight for reading identification numbers in the dark, and, of course, a speedometer.

Valve Timing.

Q (1.) Which of the following valve timings will give best results with my 2½ h.p. Minerva? The opening of valves is reckoned from the time they begin to lift until they are dead on their seating again. If, in example 2, the inlet closes too late, I might shorten the tappet a



EXAMPLE 1. I = inlet; E = exhaust.



EXAMPLE 2. O = opens; C = closes.

little, but, of course, this would make it open later. I cannot alter the inlet without the exhaust as they are both on one camshaft. (2.) If I fitted a magneto, would the improved spark increase the power of the engine sufficiently to make up for the extra power required to drive the magneto? (3.) What gradient should the average 2½ h.p. climb, with 26in. wheels geared 5 to 1? Weight of machine 140 lbs., and rider 11 stones.—J.T.

(1.) Of the two methods of timing mentioned in your letter we should prefer No. 1. In the case of No. 2 the inlet valve opens rather too late. We should not, under any circumstances, advise you to shorten the tappet. (2.) Fitting a magneto might improve the running slightly, though as regards actual speed tests the magneto has been shown not to be in advance of the plain coil, but as regards reliability it scores heavily. (3.) About 1 in 8

Licences and Registration.

Q I have recently purchased a 2½ h.p. motor bicycle, and am absolutely ignorant as to what licences I shall require. The machine is second-hand, and was previously registered in Warwickshire. Would you be so kind as to give me full particulars how to get them and the cost, etc.—H.E.

You will require—(1.) Driver's licence, 5s., obtainable from the County Council; this you must always carry with you when riding. (2.) Inland Revenue licence, 20s., obtainable from post office. (3.) The registered number must be transferred to you (fee 1s.); apply to the clerk of the County Council of Warwickshire. You can if you wish obtain a new number from your own or any other county council, but this will cost 5s.

Kent to Yorkshire.

Q I want you kindly to oblige me with the best route to get from here (Ashford) to Leeds. Shall I come in contact with any noted hills, and are there any police traps?—N.S.L.

Your route will be as follows: Ashford, Maidstone, Chatham, Gravesend (terry 4d.), Tilbury, Romford, Waltham Cross, Ware, Huntingdon, Stamford, Grantham, Newark, Retford, Doncaster, Pontefract, and Leeds. Notices of police traps are published from time to time in *The Motor Cycle*, and a police trap map appeared in *The Autocar* for July 29th. There are no bad hills.

Liability of Local Authorities.

Q I was motor cycling from Morecambe to Manchester, leaving Morecambe just before 1.30 p.m. and arriving at Bolton about 4 p.m. At Kearsley, knowing the condition of the roads to be usually bad, I slowed down, and was not exceeding 15 or 16 m.p.h. At this part (the main road between Bolton and Manchester) the electric tramcar posts are in the middle of the road, and there is only a single tramcar track, which is on the left-hand side of the road when journeying from Bolton. A tram was coming from the Manchester direction, and I was prevented from going between tram and kerb by another vehicle, and so obliged to cut between two electric posts on to the other side of the road. This part of road seems to have been paved in two instalments, a ridge standing up from nothing, perhaps to six inches almost, showing junction of two parts. I was unable to pull up before striking this ridge, and was badly thrown, knocking my shoulder out and badly lacerating myself generally. I wrote to

the Clerk, Urban District Council, Kearsley, notifying him that I should instruct my solicitors to claim damages as soon as they could be assessed. He replied as follows: "We are not the Highway Authority, and the Highway Authority is not liable for non-repair of roads." I shall be obliged if you will advise me.—R.B.

Our legal correspondent writes: "In reply to the point raised by your correspondent, I think that the whole question turns upon the point as to whether the ridge was caused, as 'R.B.' suggests, by the road having been constructed in two sections, or whether it was caused by a sinking of one portion of the road. In the former case, your correspondent, if he were riding cautiously, has a good claim for damages against the local authorities, as their carelessness in forming the road amounts to a misfeasance, which is a good ground for an action. On the other hand, if the ridge was not caused by any fault of the authorities, and they merely made default in repairing the road, your correspondent has no right to damages. Upon ascertaining the facts with regard to the cause of the ridge, 'R.B.' should instruct his solicitors."

EXPERIENCES WANTED.

"G.P.L." (Gosport). 7-8 h.p. Matchless and sidecar with twin belt drive and Matchless two-speed gear. Also the 7-8 h.p. Bat and sidecar with P. and M. gear. "P.H." (Truro). 3½ h.p. Lincoln Elk. "F.E.R." (Lincoln). 1911 Rover or Rudge. "R.T.L." (Belford). Rom combination non-skid and Kempshall tyres. "G.E.T." (Leeds). A.C. tricar. "P.G.J.G." (Bristol). Scott with and without sidecar.

MARRIED COUPLES WHO MOTOR CYCLE.



Mr. and Mrs. Jones, of West Bromwich, whose mounts are a two-speed Douglas and a two-speed Fex. This is the way they usually tour *en famille*. Observe the additional stay from sidecar to front tube which gives greater rigidity, and the owner further considers it relieves the front wheel forks of a good deal of strain.

THE MOTOR CYCLE OF TO-DAY IS THE LIGHTWEIGHT *and the Lightweight of Lightweights is* **MOTOSACOCHE** **FOR GENTLEFOLK** **NO VIBRATION** **NO OILY DIRT NO NOISE NO GYMNASTICS**

We do not rely upon words to impress upon the public the superiority of the Motosacoche as a mount which combines reliability, general handiness, low cost of up-keep, speediness, and light weight. Actions are more impressive than any number of words. Remember what the Motosacoche did in the Scottish Trials (3 gold medals in 1910 and another one this year). Remember also the numerous other medals and cups which we have won.

MAKE A NOTE TO SEE US AT OLYMPIA.

Footrests fitted if desired.

Ask for Catalogue A. and learn all about this wonderful little machine.

MOTOSACOCHE, LTD., 65, Holborn Viaduct, LONDON, E.C.

Telegrams—"Motosacoche, London."

Telephone—Holborn 5439.

SPECIFY **CLINCHER** **DREADNUGHT MOTOR-CYCLE TYRES**

Eminently suitable for high-powered Motor Cycles, possesses marked resiliency, and is very speedy. The tread also makes it an ideal non-skid.

Write for Catalogue.

THE NORTH BRITISH RUBBER Co., Ltd.,

Tyre Sales Department,

Phones: Gerrard 8578-8579. Grams: "Nobritire, London." **Bedford Chambers, Covent Garden, LONDON, W.C.**

This is the 3½ h.p.

N.S.U.

the motor cycling world is talking about. It is the cleanest bit of engineering work on the market, handsome and "handy" with a tremendous range of speed and comfy on all roads. It will negotiate any "pimple" in any part of the Kingdom,—long or steep. It is a machine you can use for every class of road work all the year round, and it will always give you reliable service under all conditions.

Buy it and secure satisfaction from the start. There is no other machine of its class to approach it for value and when you wish to dispose of it you can always command a big price—think of that.

Ask your local agent to supply further particulars and catalogue of the N.S.U. range of models.

THE N.S.U. MOTOR Co. Ltd.

Offices and Showrooms:
186, GT. PORTLAND ST.,
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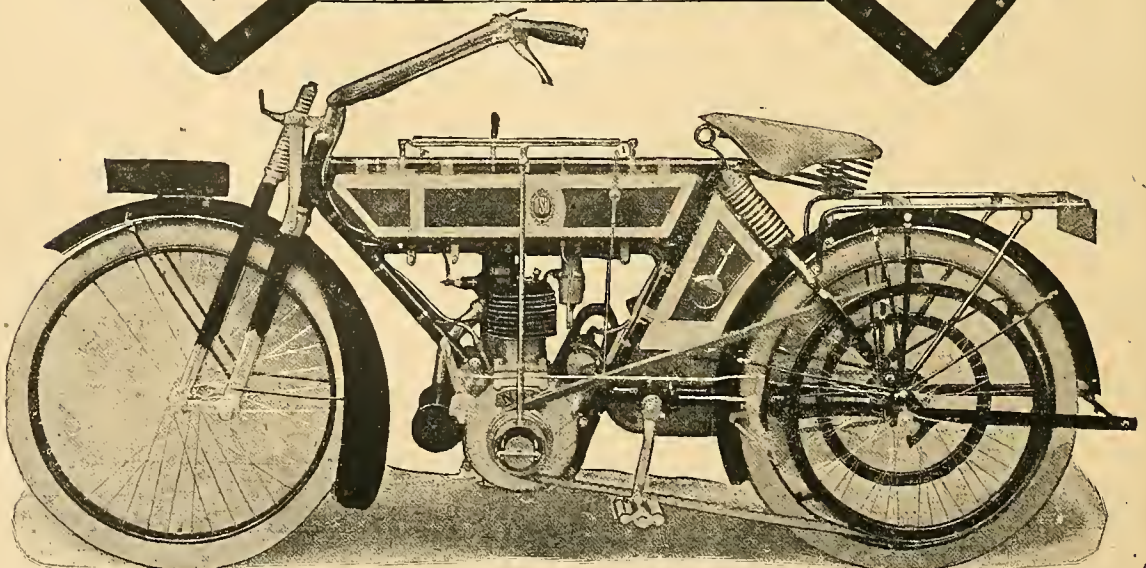
**Abridged Specification
of 3½ h.p. Model de
Luxe.**

Single-cylinder engine 83 x 88 mm., M.O.I.V., gear driven, H.T. Bosch magneto new type carburetter, drive by tin, belt, new pattern spring frame, improved spring forks, divided mudguards, separate tanks for oil and petrol of new design, automatic spring stand, two powerful brakes, 2 in. tyres, wheels fitted with 2 in. tyres, wheels base 54 ins., weight 160 lbs. Delivered as standard with adjustable pulley or, at small extra cost, with free engine (as illustrated).

THREE MODELS.

3 h.p. Twin-Cyl.
3½ h.p. Single-Cyl.
6 h.p. Twin-Cyl.
(Best for Sidecar).

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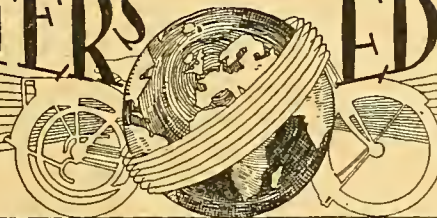


A.J.W.

LETTERS EDITOR

TO

THE



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Locking the Low Gear in Engagement.

[5919].—Could you or one of your readers tell me a simple way of locking the low gear pedal of a Rex two-speed gear (Roc licence) to enable me to mount without much exertion?

F. CHAS. B. LLOYD.

A Personal Explanation.

[5920].—I am very sorry to say that I have heard several rumours lately to the effect that I am a trade rider. This being untrue, I want to make it clear, once and for all, that I am an official of the Birmingham Corporation Electric Supply Department, and that my only trade interest is as the patentee of the C.A.P. carburetter.

I ride my own machine simply for the fun of the thing and because it is the best form of sport I know, and in competitions, I pay my own entry fees and expenses.

HAROLD J. COX.

The New Brighton Track.

[5921].—Referring to the letter from Mr. Baxter, appearing in your issue of the 21st ult., there are several points to which I should like to reply.

He states that he holds the speed record for the New Brighton track, viz., 57 m.p.h. I might add that on Tuesday, July 4th last, I attained a speed of 60 m.p.h. on my 7 h.p. Indian. The same morning I equalled his mile record for the track, which, I think you will agree, was fairly creditable, when I tell you that the machine in question had been driven about 1,500 miles (200 miles the previous day with a sidecar), and the engine had never been touched or tuned up in any way. Gear employed, 4 to 1.

I shall be pleased to meet him on the track any time I am at Liverpool again for a friendly contest. I consider the track a very dangerous one, particularly on the north end.

J. N. NEWMANN.

Partial Air Lock in Tank affecting Hill-climbing.

[5922].—My 1911 T.R. Triumph has not until recently shown up particularly well in climbing long, stiff hills, a deal of juggling being necessary to get up some that it should take without difficulty. Naturally, I was anxious to discover the reason for this, and, as I think I have found it, send you the result for the benefit of others.

I believed the poor results obtained to be due to a shortage of petrol, although the carburetter appeared to flood readily, and after making sure all carburetter passages were clear turned attention to the tank. The cap, as is known, is a good fit, provided with a leather washer, and the same fitted with a small hub lubricator and release. Examination of this release reveals a very fine hole indeed, one which immediately struck me as being too small. At once I enlarged this, and the results on the same description of hill as above were wonderfully improved. However, I thought one might go a step further, and therefore, by way of experiment, I unscrewed this lubricator and fitted in its place an ordinary Dunlop tyre valve, by the use of which it was possible with a few strokes of the pump to secure and maintain in the tank quite a good pressure. Anxious to note the effect of forced fuel feed the machine was tried on several hills on which previously it had behaved erratically, and the results were astonishing. It would take air as it had never done before, and simply roar over the ground up hill. I would advise all to see that a partial air lock does not occur in their tanks. Many, I am perfectly certain, will find that attention to this point will well repay them.

In fitting valve screw up from underneath side of tank cap and use seccotine to make a good joint.

T.R.T.

Stands as Nail Catchers.

[5923].—Let me offer a word of warning to any of your readers who may be tempted to follow the advice offered in letter No. 5853. Unless the rear bar of the stand is quite close to the tyre nails would pass untouched, and that is where the danger comes in. I recently adjusted my kick-up stand so that it cleared the tyre by about half an inch. Shortly afterwards, while travelling "somewhere near 20 m.p.h." the bar happened to touch the tyre. In the fraction of a second the bar was dragged over the wheel and came to rest on the rear forks, breaking both mudguard stays on the way. I was fortunate enough to prevent a spill, although a 40ft. mark on the tarred road showed where my locked back wheel had skidded.

NEVER AGAIN.

Variable Gears for Cornwall.

[5924].—As I live in the hilliest part of North Cornwall, it was with great interest I read Mr. C. E. Stuart's letter in your issue of August 31st. I quite agree with all he says as to the advisability of having a two-speed gear on a 3½ h.p. machine for touring in Cornwall. Long steep hills with bad corners abound in all parts of the county. With a good 5 h.p. twin it is possible to slow down for these bends and then accelerate again when safely past. The best 3½ h.p. single-speed machine is, however, likely to fail—unless it be geared absurdly low—when slowed down sufficiently to negotiate a bad corner on a 1 in 6 gradient. This is more than ever likely to happen if the hill is taken unawares on the run with the engine already hot. If, on the other hand, the machine is fitted with an efficient change-speed gear, it should be fairly easy to climb the steepest hills and negotiate the worst corners. The addition of a clutch makes it possible to get a re-start, even if stopped on a bad gradient. I ride a 1911 free-engine Bradbury with fixed gear. It gives me the greatest satisfaction and notwithstanding my remarks, I would not wish for anything better or for the addition of a two-speed gear. This no doubt seems paradoxical, but there is all the difference in just touring through a district and living in it always, especially if it be very hilly. On the one hand steep hills and awkward turnings come all unexpectedly, and in the other case the rider who lives in the district knows every inch of the ground, and how the various inclines may best be surmounted. If a long steep hill comes in the run, the rider will traverse the few previous miles at a lower speed and so allow his engine to cool down. He also knows when best to lubricate, and from what point a hill may be rushed with safety. Attention to matters like these enables a motor cyclist to complete a day's run in a hilly country without a stop, where another equally good rider on a similar machine would fail, simply through not knowing the road. Speaking personally, I find it possible to climb any hills if only I can get a run at the bottom. Even with a 4½ to 1 gear on a gradient of 1 in 6 the machine will climb a very considerable distance before the speed perceptibly slackens. This I attribute to the exceptionally large flywheels with which the Bradbury is fitted.

FRANK F. WARD.

Why there are few Motor Cycles in Germany.

[5925].—I noticed some time ago a question in *The Motor Cycle*, "Why are there so few motor cycles in Germany?" Well, here are my experiences. I wanted to get a licence for a machine coming out from England from a dealer. I went to the police court and asked for one. "Had I passed my medical examination yet?" "No, I had not." So up I had to go to be tested by the prison doctor for hearing, sight, heart, and chest. I came back to get the licence, but

no, I would have to get the motor cycle examined by the expert (official) to see whether it was safe or not (a Triumph, too!), at the same time to see that I was telling the truth about the cylinder capacity.

Then I had to find out the date, number, trade mark, name, and outstanding particulars about weight, etc., for the engineer, and also I had to fit a filter in the petrol-filler ("to keep the tank," as he explained, "from exploding!"). I also had to fit a brass plate with the make of motor cycle, name and address of makers, number of machine, horsepower, weight, and my own name and address. This, of course, all at my own expense. Then I came back to get the licence. No, not a bit of it. "Had I passed my driving tests?" "No? Well, go and be tested! Here is the address." I returned again, and had all my paper forms, certificates, etc., ready. I thought my troubles were over. No; I had to send for my birth certificate. That produced, I had to go next day to the customs house and pay. Four days after I received notice to drive up to the police station, and on arriving there the machine got another final look over; and that is all. The licence is "won."

Now, would anyone walk into this with his eyes open, unless he were really fond of the sport? I do not know how long this law has been in operation, but it makes you appreciate the freedom of England in comparison.

While talking about freedom, they add insult to injury by putting your letters H(A). H means "Hansa Stadt"! "Free town"! Ye gods! Needless to say, the town is not absolutely crowded with motor cycles. J.M.

Broken Piston Rings.

[5926.]—With reference to the correspondence in your columns on the subject of broken piston rings, I have had two cases this year of the ends of "step" rings breaking off. In the former case both "steps" were gone, and examination failed to reveal any traces of them. In the second case, the broken "step" fell out when I removed the cylinder. It was reduced to a rounded and polished piece of metal not more than half its original size; and this after running only very few miles.

In neither case did the cylinder show any signs of scoring.

BARAK.

The Dangerous Dog.

[5927.]—The various suggestions for the discomfiture of the inquisitive dog which have from time to time appeared in *The Motor Cycle* seem to show that the old-fashioned plan of telling the dog to go home has not been tried as much as it deserves. Nine dogs out of ten will obey sufficiently to let the motorist go in peace.

To those who find that they often meet the tenth dog, I would appeal not to squirt chemicals at him; firstly, because they run a good chance of injuring the dog's eyesight, which none with a spark of humanity would care to do, and secondly because they are morally certain to raise a good deal of prejudice which could quite well be done without. A long cane, or at a pinch a cycle pump, is quite an effective deterrent, and it has the advantage of being understood, and indeed used by the British public.

D. S. HOLMES.

The Camaraderie of the Road.

[5928.]—On Sunday evening, September 17th, I was driving with two ladies in my car through the ten-mile limit on the narrow and tortuous road between Pevensy and Bexhill, when another car, driven recklessly round a corner, forced me into the ditch as the only alternative to a collision. The offending car went on, but later two owner-driven cars came on the scene and stopped to render assistance, as did also a gentleman who was driving a motor bicycle and sidecar with a lady passenger. All worked manfully for quite an hour before my car was extricated, and I regret that the motor cyclist, having done his share of the hard work, rode away before I was able to thank him. In the hope that he may see this letter, I write to convey my grateful acknowledgment of his valuable help. It was dark when we finished, and I fear he was much inconvenienced by the delay. I should be sorry if he thought that his kindness was not appreciated.

W. P. BLOOD (COLONEL).

The Margin of Safety in Sidecar Axles.

[5929.]—In view of the recent fatal accidents caused through sidecar axle spindles breaking, we should like to call your attention to our remarks on sidecar spindles in enclosed pamphlet of our sidecars, printed at the beginning of the year. The spindle to be avoided is the one with a cone screwed on at the big end. The action of cutting a thread at this end of spindle, where all leverage takes place, is like putting a diamond across a sheet of glass.

Also this type of spindle is not made of drawn steel, but a stamping, very soft and spongy. These spindles are still being made and fitted to sidecars, carrying two people in some cases, and are only fit for a push bicycle. A word of warning and description of spindle would undoubtedly be the means of saving one or two lives, to say nothing of numerous accidents.

A. L. MIDDLETON AND CO.

The reference to axles in the pamphlet reads: "If a sidecar was to be taken over a rough road at 20 miles per hour, by a 3 h.p. machine, it would probably break up—in fact, we are certain, *with one or two makes, that the hub spindle would first bend and then snap off.* Our spindles are proof against this, and are guaranteed to stand all road shocks. They are turned from solid bar Bessemer steel, with special steel cone at big end driven on, *not screwed.*"

Silence.

[5930.]—I think the abuse of motor cyclists who have to use their cut-outs, which appears in your columns week after week, is quite too bad, and now a "Quiet Person" tells us he would give us "hard labour without the option." This is surely writing with a scratchy pen.

There is a why and wherefore in everything, and the reason why I and hundreds of other motor cyclists often ride with cut-out open is certainly a good one—our cycles like it, often demand it.

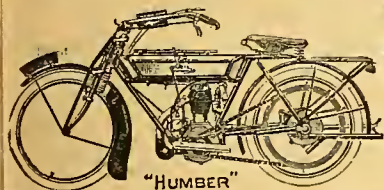
My cycle, 1907 pattern, is frequently referred to as "the best make of English cycle," and it certainly is a grand machine for its age. No doubt the latest pattern cycles are much more silent, but I for one do not purpose getting rid of my old mount for that reason only; also if sold it would still be ridden, possibly for many years to come. Or do the enemies of the old models suggest that they should be scrapped? Of course, quietness of running is very desirable, but in practice quite impossible with every motor cycle; also it should be remembered that the chief sufferer from a noisy cut-out is the rider himself. The annoyance to other people must be very little, and certainly does not justify the unreasonable remarks of many of the "silent ones."

E. W. KNIGHT.

Suggestions for Improving the Six Days' Reliability Trials.

[5931.]—I am glad to observe that Mr. Pratt practically endorses the suggestions I made in my previous letter for the carrying out of next year's Six Days' Trials, but I cannot agree with him that several official cars should ride amongst the competitors. Those who took part in this year's trial will remember the appalling dust clouds created by the competitors, and to have several cars driven amongst them would render the competition very unpleasant and dangerous. I think a better suggestion would be to abolish the minimum and maximum speed business, and instead to have one car just in front of the first competitors which no competitor would be allowed to pass, this car to set the speed according to the conditions, and in no case to exceed, say, thirty miles an hour. This would abolish the scorching which took place in this year's trial. And another car to follow at a reasonable distance behind the last competitor, which no competitor would be allowed to get behind except for tyre troubles. If the following car had a few observers mounted on motor cycles attached to it, whose duty it would be to stay behind with any competitor who fell behind to see that he did nothing to the machine—then with the toolbags sealed and a course like the Harrogate one we should see fewer gold medals. As matters stand at present gold medals are far too easily earned, and are no criterion of a machine's reliability, as witness the fact that several gold medal winners had endless mechanical troubles this year, but were able to make up the time lost in executing repairs by scorching. The public look to the Six Days' Trials for guidance in selecting their next year's mounts, but a better guide would be to study the second-hand columns of *The Motor Cycle* and carefully note the depreciation of the various machines.

ERIC W. MERRALL, Assoc. M.Inst.C.E.



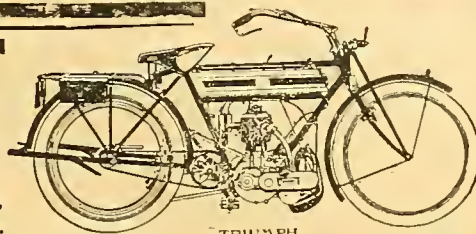
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1909 P. & M., guaranteed, almost new (no exaggeration)	..	£37
1909 5 h.p., REX DE LUXE, 2-speeds, free engine	..	£28
Or with new sidecar	..	£34
1910 3½ h.p. SCOTT, and coachbuilt sidecar	..	£45
6 h.p., BAT-JAP and Bat sidecar	..	£30
1911 3½ h.p. T.T. PRECISION-SERVICE, almost new	..	£35
1909 3½ h.p. ARIEL, variable gear, magneto	..	£25
1911 3½ h.p. REX (soiled)	..	39 gns.
1911 2 h.p. HUMBER (soiled)	..	£3
1911 3½ h.p. PRECISION-SERVICE, 42 guineas, reduced to	..	39 gns.
1910 5 h.p. REX DE LUXE, 2-speeds, free engine	..	£40
1910 2½ h.p. ENFIELD (khaki colour), almost new	..	£27 10
1909 2½ DOUGLAS	..	£23 10
3 h.p. SINGER, Bosch magneto	..	£17
1911 3½ h.p. free engine SINGER, hardly soiled, cost £55	..	£45
2 h.p. HUMBER LIGHTWEIGHT, shop soiled
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Etc., etc. Full list now ready, post free.		



TRIUMPH

3½ h.p. 1911 BRADBURY, shop soiled.

**1911 Free Engine TRIUMPH, and
2-speed DOUGLAS in Stock.**

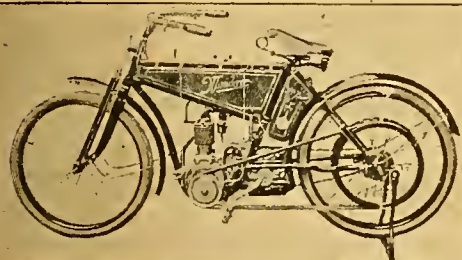
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**IMMEDIATE DELIVERY, 2-speed
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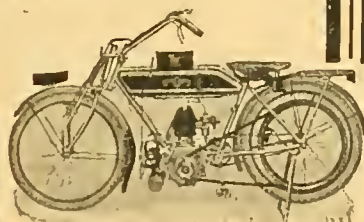
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SERVICE SIDECARS fit any machine, have quick detachable joints, and are complete with apron and cushion, £6 6s. A few, soiled, to clear at £5 17s. 6d.

Will customers contemplating purchase of 1912 machines kindly communicate with us if they have not already done so.

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Motor Cycle Club of New South
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WINNER—

H. R. Ludgater (3½ L.M.C.)

SECOND—

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The winner had to score the best average in three
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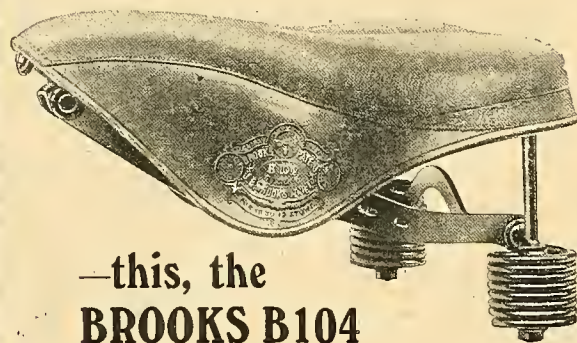
The Lloyd Motor Engineering Co., Ltd.,

132, Monument Road,
— BIRMINGHAM. —



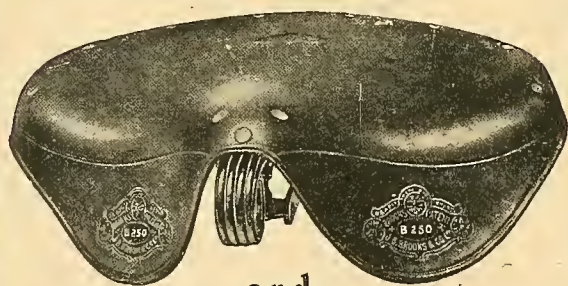
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a saddle which is eminently suitable for the Lightweight Motor Cycle. It is made in two sizes, and is exceptionally low-built, its height being only 3½ in. in the one size and 3 in. in the other.



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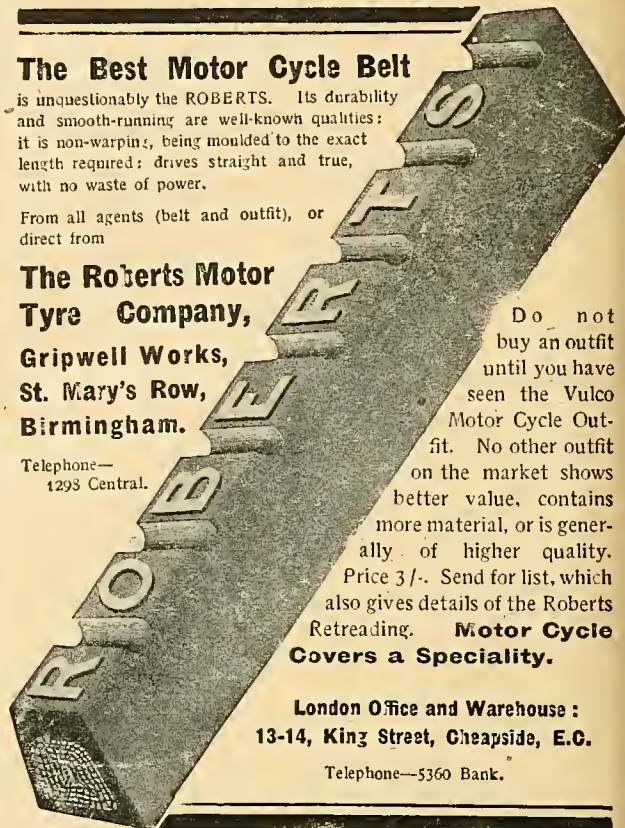
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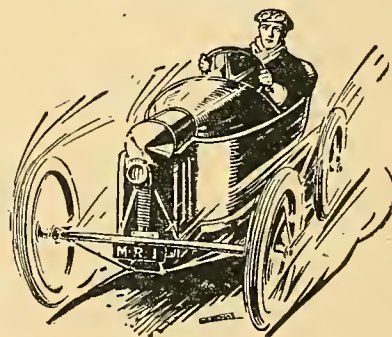
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Will Hill-climbs Survive?

[5932.]-They certainly ought to. If enterprising garage men up and down the country, are prepared to give prizes and provide suppers for competitors, long may the hill-climb survive to grace the sweet uses of advertisement.

ARTHUR T. MILLS.

Lamps. Belt Slipping.

[5933.]-I see "Ixon" complains of the poor light he gets from his modern lamp. I experienced exactly the same trouble from a small car lamp I fitted on front support of sidecar. If "Ixon" adjusts his flame to the exact centre of reflector I think he will find lamp quite satisfactory. My experience is that a large proportion of lamps are sent out without being properly adjusted. With an ordinary metal parabolic reflector it does not seem of so much consequence, but with a Mangin lens a very slight error makes an enormous difference to the light.

By the way, have any of your readers been troubled with belt slip on wheel pulley? I had a lot of trouble on a recent run, the machine sticking on several hills. There was no symptom of slip on engine pulley. Both pulleys are correct angle and in line.

H. W. SYMONS.

Flexibility Hill-climbs.

[5934.]-I read "Ixon's" notes on the above subject with great interest, as my club organised a very successful flexibility hill-climb this season which, though not most popular, was the most enjoyable, in my opinion, of all the competitions we held. We only ran one class, the greatest difference in time to win, no adjustments between the fast and slow climbs being permitted. We ran the slow climb first because, had we done the reverse, some wily rider might have essayed the fast climb on a new belt, the resultant stretch coming in very useful in the slow climb.

It is rather interesting to note how different methods of arriving at the winner give different results. For instance, at first sight it might be supposed that if one took the difference in time, it would give the same result as taking the difference in speed. This is not the case, however, as will be seen from the following example:

Theoretical hill, one mile long.

"A" machine. Fast ascent 10 m.p.h. = 6 minutes.

Slow ascent 5 m.p.h. = 12 minutes.

A difference of five miles per hour in speed and six minutes in time.

"B" machine. Fast ascent 60 m.p.h. = 1 minute.


Slow ascent 20 m.p.h. = 3 minutes.

In this case there is a difference of no less than forty miles per hour in speed, but only two minutes in time, and "A" machine wins on time, though there is no doubt that "B's" is the better performance.

Probably, the formula $\frac{\text{time occupied in slow climb}}{\text{time occupied in fast climb}}$ would give as accurate a result as any.

E. M. OLIVER.

Hints on Dismantling the N.S.U. Gear.

[5935.]-Having just read "Hints and Tips" No. 376 from *The Motor Cycle*, on the N.S.U. two-speed gear, I think my experience of this gear may be of interest to you. I have used one for two and a half years on a $3\frac{1}{2}$ h.p. machine, and another for two years on a 6 h.p. cycle. In both cases the following remarks apply: The complete dismantling of the gear is, with a little care, one of the simplest jobs imaginable when once the diagram is studied, although I managed it without any such help. The special tool I made myself of four inches of piano wire $\frac{1}{16}$ in. thick bent so  The ends are slipped into the small holes above the clutch spring and the spring cap simply unscrewed by the key provided. Then by placing the end of the hammer-shaft on top and pressing down from one's chest, the special clip can be slipped out and the clutch spring lifted out.

As to taking down the back of the gear, this is simply a matter of (1) loosening the r.h. screwed ring or fan pulley to the front of the gear, (2) loosening the l.h. screwed ring below this towards the back of the gear until the grub screw is revealed, (3) withdrawing this latter, and (4) unscrewing (l.h.) the front portion from the back or driving belt pulley portion of the gear. This last operation is only necessary when a new belt pulley is required, but the clutch I find must be taken out for oiling purposes every 500 miles or

so. The wire and spring need not be taken out unless required, but will all come away with the clutch on taking off the spring cap. When off, I press into the back part of the gear a quantity of thin grease, and also smear a good supply of thick oil and sifted blacklead all over the clutch and its plates. The gear I then find runs perfectly without further attention for perhaps over 500 miles.

If proper care is taken of it, this will prove a most reliable and efficient gear, but it has its faults. These are: (1.) If over oiled it spurts oil all over the machine (and on one's trousers). (2.) If allowed to get dry, the clutch begins to engage too fiercely. (3.) The low gear does not stay engaged for long if it is left to itself. (4.) At high speeds the clutch slips on the high gear. (5.) It is apt to get out of truth on the crankshaft. I can, however, most heartily recommend the gear as one of the best on the market as far as I know, and I have given it a good trial!

JAS. T. G. PHILIPS.

Standardisation of Tyre Rims.

[5936.]-In a recent article you announced that at last standard rims for motor cycles had been agreed upon, and it is a matter of congratulation for the Manufacturers' Union to have helped in attaining this result.

The published illustrations of the new sections of these rims have the same sharp edge inside which is responsible for a great many tyre bead defects. As many motor cyclists have suffered from head troubles more or less, I am surprised that the rubber manufacturers whose names are given in connection with this matter should not have proposed a more suitable pattern. It is evident, and many motorists will agree with me, that this sharp edge must damage the tyre sooner or later.

I have for some considerable time been using a flat base rim with great satisfaction. The ends are nicely rounded, and take a larger and consequently much stronger bead. I am also assured by one of the few tyre makers who supply these rims with their tyres that as the inside distance between the two beaded edges of the rim is greater, it is possible to make covers "four-ply," which is practically out of question with the narrow rim.

Through the use of sidecar carrier seats, additional strains are placed on tyres, and this matter should have had more consideration. I hope it is not too late for the makers to reconsider the rim question. Since I have used the flat base rim, I decline to go back to the old pattern, as I find I get better satisfaction and no head troubles.

LE 219.

Sidecars and Change-speed Gears.

[5937.]-I would like to add my testimony to the efficiency of the $3\frac{1}{2}$ h.p. single-cylinder for sidecar work. I have a 1910 Triumph, fixed gear, which I have used continuously, and which has proved invaluable to me in my profession of a music hall artiste. My partner and myself always use it when playing more than one hall nightly in London, and it has never yet let us down, even when having no time to spare for adjustments in working such turns at East Ham and Walthamstow, Woolwich and Poplar, Rotherhithe and Shoreditch, etc. Although I have no change-speed gear, it is very seldom that I have to drop my passenger on a hill. Recently we rode from Plymouth to London in a day without getting stuck on a hill, not even the teaser into Shaftesbury, although it is hardly necessary to add that a few vigorous strokes of the pedals were necessary.

Our last and longest journey was from Portsmouth to Sunderland—345 miles—which we accomplished in two days without an adjustment of any kind. On the Sunday we rode from Portsmouth to Retford, 216 miles, and on Monday to Sunderland, another 139 miles. The only time that I have any desire for higher power is when we strike a really strong head wind. There are, of course, some occasions on which I long for a change-speed gear, but they are very few. If only it were possible to fit the Gradua gear! Tyre troubles are practically the only ones we have, and we have been through two hours' continuous downpour, which soaked through our clothes to the skin, and my Service belt never showed the slightest sign of slipping.

I need scarcely trouble to add the usual disclaimer, but to judge from the tone of some correspondence on the subject one would imagine that a big twin was absolutely essential for any serious passenger work.

CLIFF LAKE.

[5938].—I cannot endorse your correspondent's remarks as to the necessity of a high-powered motor for a passenger machine. Many are evidently now considering the purchase of a sidecar machine, and as to whether the additional expense of running a twin, with extra complications over the single cylinder, is worth while, and probably my holiday experiences may be of some guidance or assistance. Last year I ran a $3\frac{1}{2}$ h.p. with sidecar, of perhaps the most widely known make, but as the manufacturers would not fit a two-speed gear (which I consider absolutely necessary), I this year purchased a $3\frac{1}{2}$ h.p. Zenith and Montgomery spring-wheel sidecar, receiving delivery two or three days before my holiday. My weight is 14 stone, and that of passenger over 10 stone. We made for a little village four miles from Burford, Oxon, climbing *en route* Warmington Hill. Making this village our centre, we toured the neighbouring country in various directions, averaging from 20-80 miles per day. Such hills as Quarry Hill, Bourton-on-the-Water, Stow-on-the-Wold, Wick Hill, Rissington (an unknown hill between Great Rissington and the Merrymonth), and many others, were easily overcome, and the hill out of Burford was climbed many times. There is a sharp corner at the bottom of this hill, with no chance of rushing, but the little J.A.P. engine ticked merrily away and brought its 24 odd stone to the top on every occasion. A friend who accompanied me on a free engine and sidecar (combined weight of passengers $19\frac{1}{2}$ stone), geared about 5 $\frac{1}{2}$ to 1, stuck on many occasions. When he could rush a hill he usually got to the top, often passing me; but with the low gear in I always got there, and re-passed him sometimes later, if the pace was somewhat slow. But on that grand stretch of road between Northleach and Witney, on top gear, the pace was exhilarating. I dare not state it. We met very few motor bicycles, and no sidecars, except on the Witney Road, and I should like to recommend this as a centre for a holiday, the villages of Swinbrook, Bibury, Slaughter, Churchill, Minster Lovell, Taignton, "The Barrow," and Milton-under-Wychwood being well worth visiting, Burford itself having a grand old church. The ride from Broadway to Stow-on-the-Wold, and on to Chipping-Norton was fine, and from Stow-on-the-Wold to the Merrymonth more so; and if gauged by the few motor cycles seen, little known. The roads were up-hill and down-dale, with little continuous level. I know the Midland district fairly well, and think there are but few hills (which can usually be easily avoided by a slight detour) a good $3\frac{1}{2}$ h.p. will not surmount, but I have no experience of the Scottish mountains.

I have no brief for the Zenith gear, but am certainly a satisfied user.

CONTENT.

A False Paradise in the Lamp World.

[5939].—I have noticed the paragraph headed "A False Paradise in the Lamp World," page 1008 of last week's issue, and should like to point out to your contributor that in all probability the reason for his poor light with the lamp in question is that probably the burner is not properly focussed.

If he cares to let us have his lamp, we think most likely we could so alter the burner that he would have no further complaints. Or if he would like to test a lamp which has been very carefully focussed, we should be pleased to send him a "Gamage." We think he would be astonished at the difference which the proper focussing of the burner makes.

A. W. GAMAGE, LTD.

W. A. VINCENT, Director.

1912 Models.

[5940].—I looked eagerly in last week's issue which dealt with 1912 models for some mention of what I hoped would be the outstanding feature of the new models, viz., handle-bar control to the magneto. There is no mention of it, and there seems every possibility of my hopes being shattered. Why, oh why, will not all makers follow the example set by some companies in this respect? What makes them think of having the control anywhere else but on the handle-bars? Let them realise how impossible it is for their engines to be given satisfactory treatment on rough twisty hills, or in traffic with this important control in such a ridiculous position. Finally, I cannot help thinking what a difference it would make if *The Motor Cycle* would only use its enormous influence in such matters to bring about a change.

GRATEFUL.

[From time to time we have pointed out the advantage of magneto handle-bar control under certain conditions.—Ed.]

The October Quarterly Trial.

[5941].—Attached is a copy of a letter sent to the secretary of the A.C.U. I consider the case is one involving injustice to certain makes of machines, and is a grievance that should be ventilated.

The A.C.U. must cater absolutely fairly for all makes of machines, and whilst everyone knows that it would not make an unfair discrimination consciously, yet it is certainly its duty to do no injustice unconsciously.

In this case, it has done it in the last three trials, and it should be remedied in the October trials.

COLMORE DEPOT,

F. S. WHITWORTH.

[COPY.] September 28th, 1911.

The Secretary A.C.U.

Post Office, London, S.W.

Dear Sir,—We are in receipt of the entry form for the Auto Cycle Union's Quarterly Trial, and we think of entering one or two machines.

We are surprised to find, however, that the two light-weights for which we are agents, Douglas and Enfield, are expected to climb the hills at twenty miles per hour to get maximum marks—other machines of about equal weight, but of 300 c.c. capacity, can get full marks if they climb at fifteen miles per hour. Every machine that climbs the hill may receive maximum marks, but some are mentioned in the report as having climbed more creditably than others; and it is the point that a 300 c.c. single is classed A1 at fifteen miles an hour while a Douglas has to do twenty to be classed as A1; that I consider unfair.

Seeing that in your rules for the T.T. race all these machines were placed upon equal terms, the 300 c.c. singles, and the 340 c.c. twins, we should have thought they would have been placed on equal terms in a reliability trial.

This distinction seems to us to be a very unfair one, and we ask you to remedy the injustice.

We suggest that fifteen miles an hour should be made the standard for all machines that do not exceed the capacity set for the Junior T.T. Race, that is 300 singles, and 340 twins.

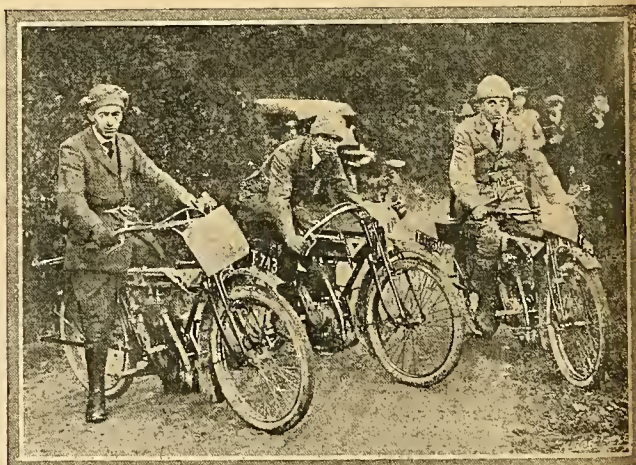
COLMORE DEPOT,

F. S. WHITWORTH, Manager.

SUMMARY OF CORRESPONDENCE.

Regarding an observation in a recent issue that a band brake renders a wheel more difficult to detach, Price and Co. point out that their type of band brake does not make it difficult to remove the wheel, as there are no screws to take out, but merely a shackled hook to take off.

Mr. C. C. Cooke, hon. sec. Herts County A.C., writes: "Re 'Ixion's' remarks on Flexibility Hill-climbs in your issue of the 28th ult., 'Ixion' cannot have been at the biggest open hill-climb of the year, namely, that of the Herts County Club at Kop Hill, on May 6th, 1911, with 250 entries. I think *The Motor Cycle* of following date contained full particulars of this event, which included classes for flexibility only."

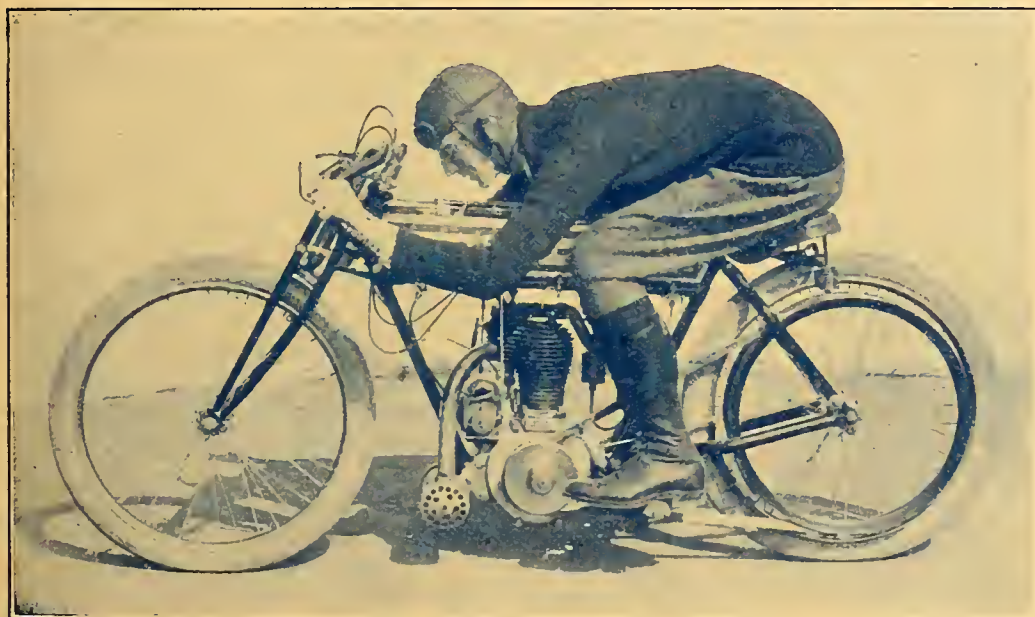


Three South Devon riders who took part in the open hill climb on Grassed Hill, and who put up a star turn on the two corners near the summit. They are: R. Holloway, A. P. Maurice, and R. Broadbent, all riding 3 $\frac{1}{2}$ T.T. Premiers.

MORE WORLD'S RECORDS

on a

$3\frac{1}{2}$ h.p. Rudge



W. Stanhope Spencer on his Rudge.

October 3rd, 1911, at Brooklands.

50 miles - - 44 minutes $34\frac{1}{5}$ seconds.

1 hour - - 65 miles 803 yards.

100 miles - - 1 hour 34 minutes.

2 hours - - 122 miles 210 yards.

Motor Bicycle Catalogue No. 5 post free from

Rudge-Whitworth, Ltd. (Dep. 600), Coventry.

NEW CARBURETTERS: The 1912 B. & B. The Pugh—a new design.

By the courtesy of Messrs. Brown and Barlow, who have just moved into new works at Witton, Birmingham, we were recently favoured with an inspection of the 1912 B. and B. carburetters.

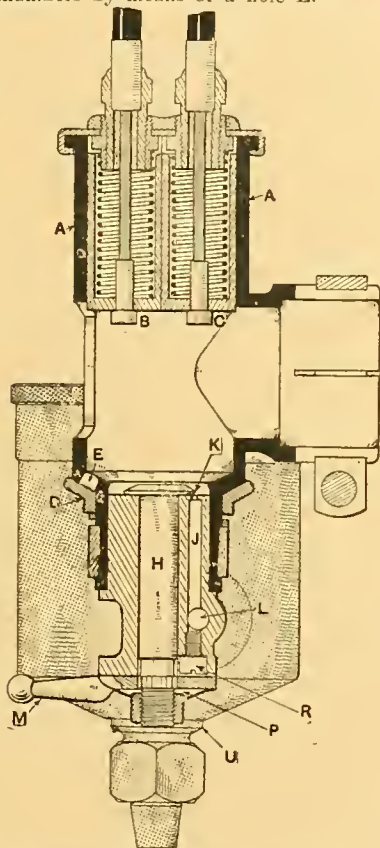
For next year there will be three patterns—the standard lightweight, the standard heavyweight, and the racing model. The specification of the universal types is exactly similar, the difference being one of size and weight. The new carburetter is of the adjustable jet and adjustable main air type, and the variation in the

supply of petrol and air is obtained in the following manner. In the base of the throttle chamber is placed a plug H, which terminates at its upper end in an eccentric mushroom head. This head moves eccentrically over two holes K (one only shown) in the jet tube J, thereby gradually closing and opening the holes, the size of the jet thereby varying from zero to .036, the combined area of the two holes being equal to the jet opening of .051. It will be seen that it is possible to obtain a big variation in the petrol supply, .051 being a very much bigger jet than is usually employed, even for hill-climbing purposes, on a standard 500 c.c. engine. The lever M for controlling the variable jet is keyed on to the eccentric plug by means of keyways and keys cut on the plug and the boss of the lever. Finally the lever is secured to the eccentric plug by a nut and spring washer P, so that by tightening up the nut more or less the correct frictional contact is obtained.

Adjustable Main Air.

The adjustable main air holes E are formed in the base of the throttle chamber, and are closed and opened by a rotatable slide D, which allows the number of holes to be varied from 1 to 8. Supposing that the owner of one of these carburetters wishes to compete in a petrol consumption trial, he would close, say, five or six of the holes in question, turn the lever controlling the variable jet to zero, and gradually open it until the engine was just turning over. So adjusted, the petrol consumption would be very small, but naturally there would be very little power. On the contrary, if he wished to compete in a hill-climbing competition, the air passages would be left fully open and the jet lever placed in the maximum position. With this adjustment the mixture might be too rich, in which case the jet lever would be gradually closed until the correct explosive charge was obtained.

The careful rider asks: How can the jet be removed? Examination of the illustration will show that this is an easy matter. The screw R at the base of the jet tube is taken out, and the jet holes can then be readily cleansed. If necessary, the whole of the float chamber, platform, etc., can be bodily removed by undoing the band clip S, disconnecting the petrol pipe. Provision is made for cleaning the passage from float to mixing chambers by means of a hole L.



Sectional view of jet chamber of the 1912 pattern B. and B. carburetter, which has an adjustable jet controlled by the lever M.

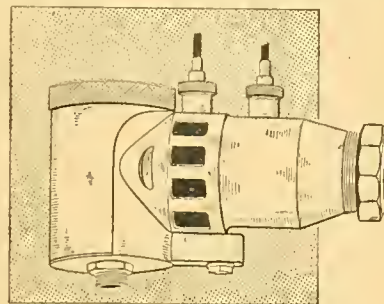
Among the detail improvements to B. and B. carburetters for 1912 may be mentioned: Slides machined from solid D brass bars, keyways cut at the sides of the slides coinciding with pegs in the body of the carburetter; the slides rise and fall truly, and the slides cannot be wrongly assembled, as if a rider attempts to insert the slides wrongly the pegs will not allow them to descend to their correct positions until the keyways are opposite their respective pegs. The same binding screw with a square head is used for attaching the carburetter to the induction pipe, clipping the handle-bar control levers to the bar, and connecting the float chamber to the mixing chamber.

A small pocket spanner is provided which fits the square heads, so that the whole carburetter can be taken apart without the use of any other tool.

The only alteration to the float chamber consists of brazing on the threaded portion U, instead of attaching it by means of a screw and locknut.

Pugh Carburetter.

The special features of the Pugh carburetter (patented) is the duplex spraying jet, which is formed by fitting the nozzle proper into an air cone. This air cone has none of the attributes of a choke tube, but partakes of the nature of an injector, and its action is such that not only can the petrol be raised from practically any level in the jet—experiments having proved it to be possible to spray petrol perfectly with the level five inches and more below the top of the nozzle—but also that the petrol is perfectly atomised, and it emerges from the nozzle in the form of a mist or fog instead of in liquid form. All the air passes through the back of the carburetter, and, passing across the petrol mist created by the sprayer, is



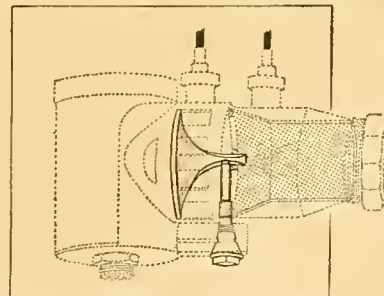
The Pugh carburetter, showing its unusual appearance.

formed into a perfect mixture at all speeds, and the charge enters the engine in the form of gas, i.e., carburetted air.

Owing to the injector action of the duplex sprayer, the question of petrol level becomes absolutely of no account, and the level is set so low in the Pugh carburetter that flooding and consequent waste is impossible.

The Pugh carburetter is fitted with an air control lever, which must be opened only about one-quarter of its range of traverse when starting, but immediately after starting the air valve should be opened to its maximum and left there, all the driving being done on the throttle. It is in practice very rarely necessary to close the air lever.

The rack and pinion handle-bar control is worth mentioning, and the small spring clip on the needle valve (patented). Also

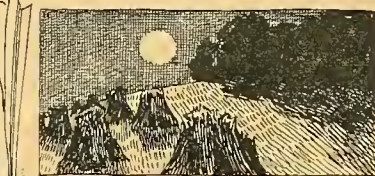


View of interior showing the novel method of atomising the petrol by means of an air cone.

the system of adjusting the Bowden cables, and the fact that the cables may be detached from the carburetter without unscrewing any small nuts or screws, or unhooking or unsoldering nipples.

TIME TO
LIGHT LAMPSCURRENT
CHATSPECIAL
FEATURES

Oct. 5th	...	6.28 p.m.
" 7th	...	6.24 "
" 9th	...	6.19 "
" 11th	...	6.15 "



NEW CARBURETTERS.
STREATHAM CLUB'S OPEN HILL-CLIMB.

FURTHER ADVANCE DETAILS AND
ILLUSTRATIONS OF 1912 MODELS.

Olympia Motor and Motor Cycle Shows.

Arrangements are being made with the various clubs, including the A.C.U., whereby admission can be obtained to Olympia at half price, provided the tickets are purchased through the club's respective secretaries.

October Quarterly Trials.

Motor cyclists living on or near the Quarterly Trials course will be doing a great service to the A.C.U. by volunteering as marshals. Letters should be sent to Mr. Harold C. Pickering, Chief Marshal, Belgrave Garage, 233, Bristol Street, Birmingham.

De Rosier Changes Mounts.

On the 17th ult., at the Riverview Saucer track, Chicago, Jake de Rosier riding a new Excelsior, built especially for him, is credited with making an unofficial world's kilometre record in 23½s., = 96½ miles per hour. The performance was witnessed by 8,000 spectators.

Another Stolen Machine.

A 1910 model Ariel was stolen from a coachhouse at 80, Hill Top Mount, Leeds, on Sunday last. The coachhouse was securely locked and bolted, and the coachhouse gates opened from the inside. The thief cut both panes of glass out of the coachhouse window, also the centre panel of the door, to force an entrance.

The End-to-end Lightweight Record.

On going to press last week we received a telegram signed Merton as follows: 'Beat Land's End to John-o'-Groat's lightweight record by three hours; time, 36 hours 42 minutes.' In the absence of names of any of the checkers or time-keepers, we withheld publication of the telegram pending the receipt of fuller particulars. It will be at once perceived that the time in which the journey is claimed to have been done is three hours better than that accomplished by Eli Clarke on a Douglas, and yet Merton's attempt, of which we were advised beforehand, was made on a 2 h.p. M.R., and during September, when there are nearly twelve hours of darkness. We have since received from Merton some details of the ride, and while we should be the first to congratulate him on achieving such a record, we cannot help feeling more than a little sceptical about his claim, as in no instance does he inform us where he stopped, whom he saw or met until he arrived at his destination, when he pays a tribute to the kind welcome he received from Mrs. Calder, landlady of the local hotel.

A Sensible Recommendation.

A fortnight ago a collision occurred between a motor cyclist and a car at a junction of the Chislehurst-Bromley Road where several similar accidents have occurred. The matter came up for discussion at the last meeting of the local council, and it was resolved to acquire if possible a strip of land and widen the corner, thus lessening the risk.

**New Fifty Miles, One Hour, Two Hours
and Hundred Miles Records.**

On Tuesday, W. Stanhope Spencer, riding a 3½ h.p. Rudge, captured several world's records at Brooklands. He started at 11.39 a.m., followed at minute intervals by W. H. Elce and W. L. T. Rhys. Spencer soon settled down to a steady average of about 66½ m.p.h. At thirteen laps he was 1m. 12s. inside record. At eighteen laps he was holder of the fifty miles record, time 45m. 34½s. In the hour he covered 65 miles 803 yards, previous best J. R. Haswell (Triumph), 63 miles 194 yards. He subsequently captured the 100 miles record, time 1h. 34m. 8s.; previous best J. R. Haswell (Triumph), time 1h. 37m. 52½s., and after stopping to fill up with petrol and oil, Spencer continued for two hours, which record he easily got, covering 122 miles 210 yards in that time; previous best Lee Evans (Indian), 108 miles 1.367 yards.

Banned by the A.C.U.

Fifty-five entries had been received for the Liverpool A.C.C. reliability trial on Tuesday, the list including the names of several leading Coventry trade representatives. The list finally closes this evening.

The 3,000 Miles Engine Test.

2,517 was D. R. O'Donovan's total mileage on Monday evening in his attempt to cover 3,000 miles without touching the engine of his 3½ h.p. Singer with a spanner. It is expected that the trial will conclude this (Thursday) evening.

Five Miles Record at the Crystal Palace.

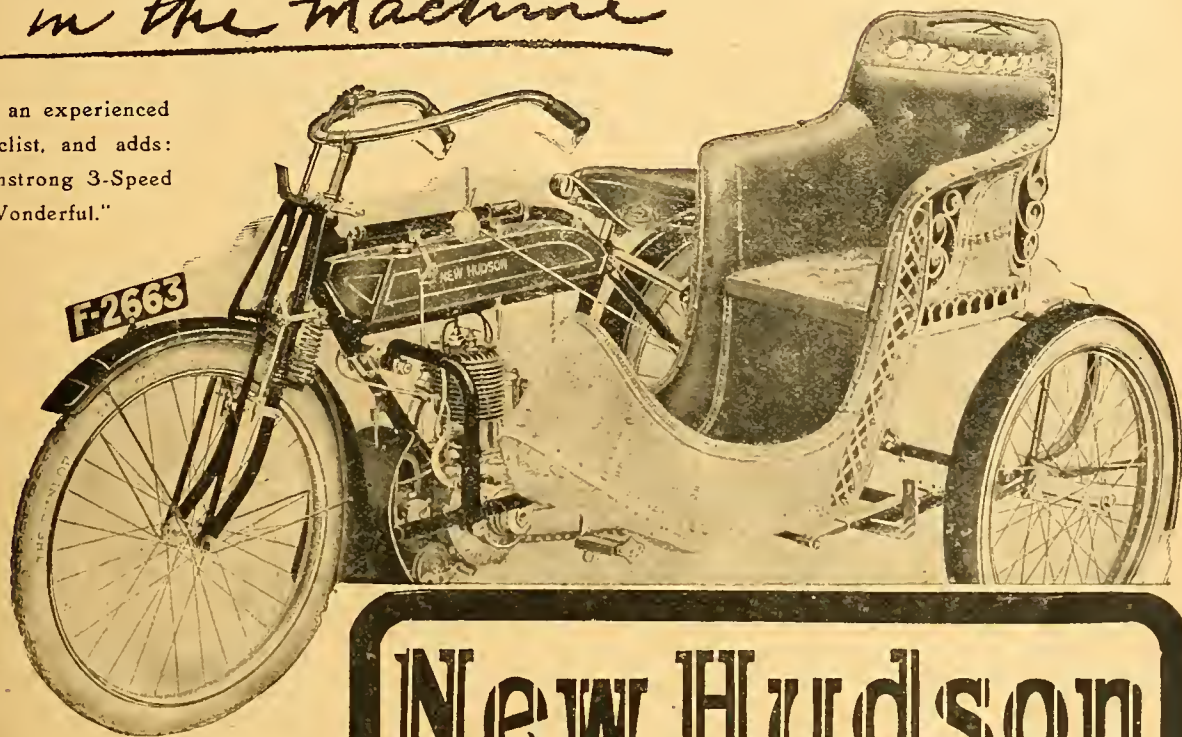
On Saturday last, the Marlborough Athletic Club held a race meeting at the Crystal Palace track, in which there were two races set apart for 76×76 mm. motor cycles, one a five miles handicap, the other an attempt on C. R. Collier's five mile record set up on the same track. In spite of the strong wind and intense cold, Harry Martin rode his J.A.P. the five miles in 1½s. better time than Collier, his time for the five miles being 5m. 58½s. In the five miles handicap the first heat went to Martin with Dayrell on another Martin-Jap second. In the second heat Storey (S.A.E. Co.) beat Chase (Martin-Jap) who had a bad start. In the final Chase redeemed his defeat, Harry Martin retiring.



The first corner on Brasted Hill, on which the Streatham and District Hill-climb was held last Saturday.

*"Not a weak spot
in the machine!"*

So writes an experienced motor cyclist, and adds: "The Armstrong 3-Speed Gear is Wonderful."



New Hudson

The combination of the NEW HUDSON 3½ H.P. MOTOR CYCLE with the ARMSTRONG 3-SPEED GEAR AND CLUTCH gives a reserve of Power and Flexibility of Control not obtainable with single geared machines of any power.

Every New Hudson motor cycle is fitted with the Armstrong 3-speed gear, the strongest, most efficient, and most reliable gear and clutch applied to motor cycles.

"The variably geared machine is the only mount for the rider who wants to go everywhere without a lot of fiddling by the roadside."—*The Motor Cycle*.

THE ARMSTRONG 3-SPEED GEAR. THE GEAR THAT NEVER FAILS. ALL IN THE HUB. NO TROUBLE. ONLY WANTS OILING. Is perfectly reliable and without complications, its action is instantaneous and noiseless, its operation simplicity itself, the gears are changed while travelling without risk of damage—even by rough or careless treatment.

See "The Motor Cycle," Aug. 31st, on The Reliability of Variable Geared Machines.

EXTRACT FROM A LETTER SENT TO US BY A WELL-KNOWN CITY MERCHANT. AN OLD RIDER, OWNER OF VARIOUS MAKES OF MOTOR CYCLES—

"It may interest you to know that I have not had to touch the engine on my 900 miles trip. I have never been stopped on a single hill. THE ARMSTRONG GEAR IS MARVELLOUS. There is not a weak spot in the machine, and I would not exchange it for any other."

Mr. Wm. Ashton Mandale, of Workington, writes us—

"My 2½ h.p. New Hudson Motor Cycle came to hand last Tuesday. Two days later, on Thursday, September 7th, I gave it a trial run up to Keswick, 22 miles away, and I was simply astonished to find that the second and bottom gears were never required even though very stiff hills had to be climbed. The time taken was 36 minutes."

On the same day Mr. Mandale ascended Latrigg Hill, 2,203ft. high, on the approach to Skiddaw, never having ridden a New Hudson machine before. The road is a bridle path, very rough and steep, about 6ft. wide with four hairpin corners. These four corners are really more than "hairpin" because they come to a sharp angle of 45 degrees, and are mostly covered with short slippery grass. One wonders that the rider managed to keep his seat, yet he did, only once being out of the saddle.

"On the last ascent, a gradient of 1 in 3, I failed three times. The fourth time I came to a standstill again, but not before I had disengaged my clutch, thus keeping my engine running. The track that I was now on was barely 18 inches wide, and was really a V shaped gully caused by heavy rains. I had to jam my front brake on, also hold myself from slipping back with my left foot, then accelerate the engine to the full. When I engaged my clutch I did not think for one moment she would get away (on such a gradient as 1 in 3), but she did, and the top was reached."

"May I further say that through the whole of this severe test, I never heard the slightest approach of 'knocking' in the engine, and the little machine brought me home to Workington even better than on the outward journey. Also I am ready at any time to repeat the ride and hope next time to get up without once dismounting."

NEW-HUDSON CYCLE Co., Ltd., PARADE WORKS, **BIRMINGHAM**

In answering this advertisement it is desirable to mention "The Motor Cycle."

Motor Cycling COSTS money.

But probably the only time you begrudge the expense is, when the trouble comes.

The tyres, for instance. If it were not for all the bother with punctures and the constant dread of skidding—the expense would seem even better justified.

A tyre with the strength and excellence of the

TRIPLE STRIPE

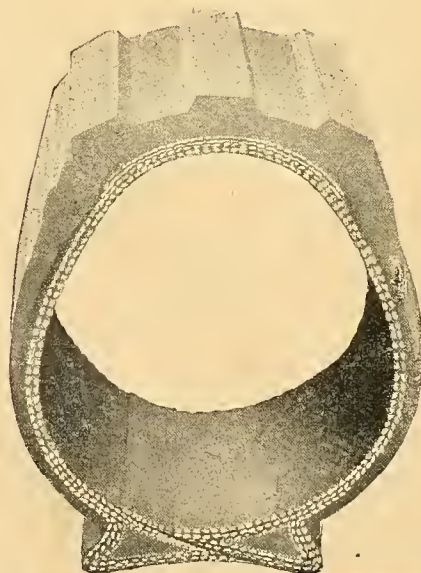
Gaulois

(GOAL - WAH)

MOTOR CYCLE TYRE

Always makes your cycling a great deal easier and takes the worry away.

The satisfaction of knowing that the unusual strength of the Gaulois will keep away the punctures and its stripes will keep away the side-slips would be such a comfort to you on a long greasy run.



Ask your dealer to show you a section of the new Gaulois Triple Stripe Motor Cycle Tyre.

**Gaulois
on
Troubles
off.**

**GAULOIS
TYRES
(1909) Ltd.,
6, Bath Street,
City Road, E.C.**

Next Week.

The Motor Cycle Overseas issue, containing special articles and illustrations of interest to motor cyclists all over the world.

Reduction in Tax.

Motor cycles registered between October 1st and the end of the year are chargeable at half the usual tax, viz., 10s. instead of £1.

A Relay Ride

A motor cyclist relay ride, from Adelaide to Sydney in which a number of riders mounted on mile-a-minute motor cycles took part, has created a great deal of interest in N.S.W.

A Novel Method of Route Marking.

In England we use arrows to indicate the route to competitors in reliability trials; etc. In Western Canada as there are no signposts or convenient points on which to fasten arrows or signs, the organisers of a 400 miles trial used large white beans to mark the course, the beans being distributed by the judges from a motor car.—Daily Paper.

English Amateur going to Canada.

A. Mackenzie-Cott, that enthusiastic rider of a big twin, is sailing for New York next week, and after a brief stay will proceed to Toronto, where he is taking up a post with the Russell Co., who have the Canadian manufacturing rights of the Silent Knight engine. Cott commenced his run of successes in hill-climbing contests whilst up at Cambridge. Early this year he sold his 8-10 h.p. Big Ben-Jap, bought a 7 h.p. twin Indian, sold that, and took delivery of a T.T. Triumph, but he could not resist the charms of a big reserve of power, and subsequently bought another 8 h.p. J.A.P. on which he made fastest time at the Coventry and Warwickshire M.C. hill-climb at Newnham early last month. He has our best wishes in his new venture.

Liverpool A.C.C. and the A.C.U.

With reference to the proposed open hill-climb which the Liverpool A.C.C. announced recently, interesting developments have ensued. It will be recalled that the A.C.U. would not "permit" the contest, but the Merseysiders were very anxious that for once in a way there should be a competition in Wales, and sought to evade the ban of the A.C.U. by means of the following clause in the club's rules: "Any motor cyclist may be admitted to this club as a member for any one month during the year on payment of the sum of 1s." This move has been countered by the A.C.U. by the passing of the following resolution: That any person taking part in this competition, who was not a *bona-fide* member of the Liverpool A.C.C. prior to September 1st, 1911, will be suspended or rendered ineligible to take part in any competition held under A.C.U. rules *sine die*. The onus of proving the date of election will rest upon the person affected. Evidently the A.C.U. does not consider that persons elected to membership for one special competition should rank as members of that club, and bring this forward as a reason for placing the competition under a ban.

The Quarterly Trials Route.

A steam roller is working on the Quarterly Trials route between Halesowen and Hagley Hill, and is likely to be there for some time. We are also advised that competitors would do well to ride with caution through Bromsgrove.

FUTURE EVENTS

Oct. 12.—"The Motor Cycle" Overseas Number.
 .. 13.—A.C.U. Council Meeting at the Imperial Hotel, Birmingham, at 7.30 p.m., to be followed by a Smoking Concert.
 .. 14.—A.C.U. Quarterly Trial (Midland Centre).
 .. 21.—Herts. County A.C. Autumn Open Speed Trials.
 Nov. 20-25.—Motor Cycle and Cycle Exhibition at Olympia.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.

The Manufacturers' Union.

At the second annual meeting of the Manufacturers' and Traders' Union, which was held at the offices of the company in Coventry last week, Mr. Charles Marston announced his retirement from the presidential chair, and Mr. Arthur Brampton was elected president for the ensuing year. The opportunity was taken of presenting the retiring president with a suitable memento of the appreciation of the services rendered during the first two years of the existence of the Union.

Mr. Harry Smith (Rover Co.) was unanimously elected senior vice-president, and Mr. H. G. Burford (Humber Ltd.) junior vice-president.

The cash balance now standing to the credit of the Union amounts to £4,286. Mr. Alfred Bednell, the secretary of the Union, is to be congratulated on the satisfactory state of the balance sheet, and with a strong committee there is every prospect of continued prosperity.

A Stolen Mount.

Three weeks ago, Mr. Percy Butler had the misfortune to have a 3½ h.p. roadster Triumph stolen. The date on the crank case is April, 1910, and the machine has Hutchinson tyres fitted and a Cowey speedometer registering up to 80 m.p.h. Registered NI 41. Mr. Butler would be glad of advice as to its whereabouts at 3, St. Peter's Square, Manchester.

Hill-climb in the Antipodes.

The Larkie trophy was competed for in a hill-climb held by the Motor Cycle Club of N.S.W., on Baden Hill, Coogee. Competitors were handicapped according to previous performances and size of engine used. In the second round W. Miller (¾ L.M.C.) handicap 3s., time 28½s., defeated E. A. Rigg (¾ Triumph) 1s., time 27½s. D. S. Mair (¾ L.M.C.) 8s., defeated Searl (5 J.A.P.), belt broke. H. R. Ludgater (¾ L.M.C.) 10s., time 35s., defeated A. Fair (¾ Kerry-Abingdon) 5s., time 35½s.

Final.—1, H. R. Ludgater (¾ L.M.C.) 10s., time 35½s. 2, D. S. Mair (¾ L.M.C.) 8s., time 38½s. Mr. Ludgater, who is the secretary of the organising club, scored a very popular win. The Larkie trophy will be awarded to the rider scoring the best average in three hill-climbs.

Ladies and Carrier Seats.

The practice of carrying a passenger on the carrier appears on the increase amongst lady motor cyclists. A Brömley (Kent) lady owner of a Hobart Bird is frequently seen with her sister seated on the carrier of her machine, which is painted an attractive grey. Mrs. Hardee, of Greenwich, has made several long runs lately in Kent with a passenger, and at the week-end climbed Westerham Hill with a passenger scaling ten stones, on her two-speed P. and M. She considers it is more pleasurable than driving alone. Another lady was seen riding down Brasted Hill on Saturday after the Streatham hill-climb was over with a male rider on the carrier.



Scene at the foot of Brasted Hill. Competitors assembling for the start. Machines were parked in the field at the right.

HILL-CLIMB AT BRASTED.



C. S. Burney
(3½ h.p. Rudge)
at the corner in
the Streatham
and District
Hill-climb last
Saturday.

THE Streatham and District M.C.C. held a very successful hill-climb on Brasted Hill (situated on the North Downs between Hog Trough and Cudham Hills) on Saturday afternoon last. The programme contained seven classes.

I.—Lightweight touring motor cycles not exceeding 340 c.c.
II.—Single-cylinder touring motor cycles not exceeding 500 c.c.

III.—Multi-cylinder touring motor cycles not exceeding 1,000 c.c.

IV.—Variably geared touring motor cycles not exceeding 500 c.c. singles and 1,000 c.c. multi-cylinder, competitors to make a start seated in the saddle.

V.—Racing motor cycles not exceeding 500 c.c.

VI.—Racing motor cycles not exceeding 1,000 c.c.

VII.—Passenger machines carrying two persons.

The awards were made on time in the racing classes Nos. V. and VI. and on formula in the other classes. The

formula used was $\frac{W}{C \times t^2}$, which is substantially that recommended by *The Motor Cycle*, the cubic capacities being taken from *The Motor Cycle* table.

Brasted Hill is very suitable for the purpose. It begins with a moderate incline and fairly straight, becoming much

steeper near the top, the reputed gradient at the first bend being 1 in 5½. The surface having been swept was quite good. The bends are not sharp enough to be dangerous, but sufficiently acute to enable riders to show their skill and judgment, which some of them most certainly did. A good many riders on the fastest machines found it necessary to cut out more than once. The fastest ascent of the day was made by Godfrey on a 7 h.p. Indian, but Newsome (3½ h.p. Triumph) was only ½s. slower. The Devonshire riders, Broadbear and Holloway, gave a fine exhibition on their Premiers, and took the corners particularly well. Taylor, on the Scott, came up beautifully, but not so fast as many.

Considering the steepness of the hill the sidecar machine showed up well. It was, however, a bit too much for the single-cylinder. T. H. Tessier's "Baby Bat," which was second in the variably geared class, was reported to weigh 220 lbs! Godfrey and Newsome have already been mentioned. The other cracks, Newman, Woodhouse, McMimmies, and Burney put up some fine performances, but the hero of the afternoon was undoubtedly F. W. Barnes, who was first in no fewer than five classes, often by a considerable margin, and again won the D. R. Greig challenge cup for the best performance on a variably geared machine. The Tilley challenge cup awarded for the highest figure of merit made

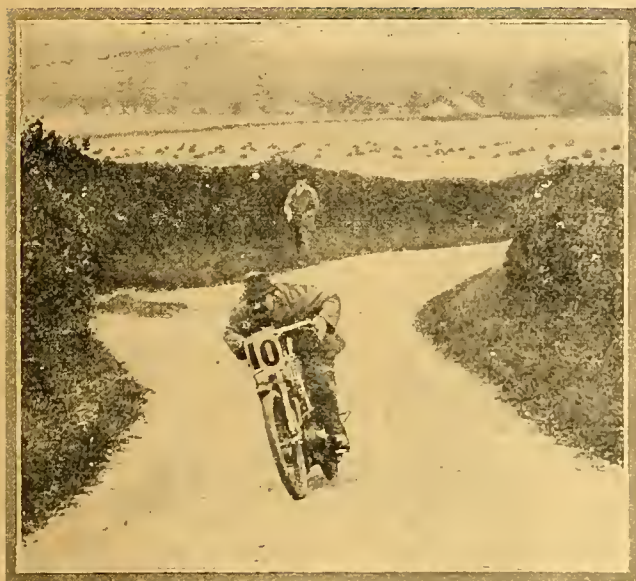
Streatham and
District Open
Hill-climb.

R. Holloway
(3½ h.p. Premier)
on the first bend.

The Devonshire
riders took the
corner without
cutting out or
slackening speed,
whilst leaning
over at acute
angles.



Hill-climb at Brasted.—



Tossier, sen., on the Bat lightweight, with Phelon & Moore two-speed gear, near the bottom of the hill.

by a member of the club (not connected with the trade) goes to E. B. Ware. These and the other awards are subject to the confirmation of the committee. The afternoon's sport was marred by no accident of any kind. Ommamney, on his Rudge, being nearest to it when his machine skidded in the ditch just past the first bend, but he pulled up skilfully. Several competitors had pipes attached to the extra air of their B. and B.'s, which, by means of the inertia of the air would have the effect of forced induction. The Amac C.A.P. and Pugh carburettors were also in evidence. The entries constitute a record for an open hill-climb. There were a fair number of spectators, including Mr. Julian Orde, the president of the club. The results, which were very quickly worked out, were announced the same evening, and are:

CLASS I. Lightweights. (Twelve entries.)

Rider.	Machine and Gear.	Time.	Fig. of Merit.
1. F. W. Barnes	(2½ Zenith, Gradua)	X+14.2	583
2. J. Dudley	(2½ Hobart)	X+19.2	403
3. W. Heaton	(2½ A.J.S., A.J.S.)	X+22.8	353
4. F. Edmond	(2½ Premier)	X+25.8	339
5. H. G. Dixon	(2½ New Hudson, Armstrong)	X+24.6	334
6. T. H. Tossier	(2½ Bat-Jap, P. and M.)	X+36.8	307

CLASS II. Single-cylinders. (Thirty-two entries.)

1. F. W. Barnes	(2½ Zenith, Gradua)	X+15.2	556
2. F. Turvey	(3½ Triumph)	X+10.2	469
3. H. C. Newman	(3½ Ivy-Precision)	X+8	441
4. R. Holloway	(3½ Premier)	X+10	430
5. J. Woodhouse	(3½ Grandex)	X+10.8	427
6. R. Broadbear	(3½ Premier)	X+8.8	418

Fastest time X+7.8 was made by E. W. Cheshire (3½ h.p. Triumph), who was fifteenth on formula.

CLASS III. Multi-cylinder. (Seven entries.)

1. F. W. Barnes	(6 Zenith, Gradua)	X+9	359
2. S. T. Tossier	(4 Bat-Jap)	X+10.8	356
3. G. F. Hunter	(8 Zenith, Gradua)	X+9.6	257
4. A. J. S. Butler	(8 Zenith, Gradua)	X+14.4	210
5. E. B. Taylor	(4 Scott, Scott)	X+26.6	173

CLASS IV. Variably-gearcd machines. (Seventeen entries.)

1. F. W. Barnes	(2½ Zenith, Gradua)	X+21.8	424
2. T. H. Tossier	(2½ Bat-Jap, P.M.)	X+42.2	262
3. C. S. Burney	(3½ Rudge, Rudge)	X+26.2	255
4. P. Weatherill	(3½ Zenith, Gradua)	X+23.6	254
5. G. Griffith	(3½ Zenith, Gradua)	X+28	236
6. G. F. Hunter	(8 Zenith, Gradua)	X+12	228

CLASS V. Racing machines (not exceeding 500 c.c.). (Thirty-three entries.)

Rider.	Machine.	Time.
1. W. F. Newsome	(3½ Triumph)	X+6.4
2. W. G. McMinnies	(3½ Triumph)	X+6.6
3. H. C. Newman	(3½ Ivy-Precision)	X+8.2
4. R. Holloway	(3½ Premier)	X+8.6
5. J. Woodhouse	(3½ Grandex)	X+9
6. F. Turvey	(3½ Triumph)	X+9.8

CLASS VI. Racing machines (not exceeding 1,000 c.c.). (Twenty-seven entries.)

Rider.	Machine.	Time.
1. O. C. Godfrey	(7 Indian)	X+4.6
2. W. F. Newsome	(5½ Triumph)	X+5.4
3. W. G. McMinnies	(5½ Triumph)	X+6
4. A. Moorhouse	(7 Indian)	X+6.6
5. A. J. Luce	(5 Bat-Jap)	X+7.2
6. J. Woodhouse	(3½ Grandex)	X+7.4

CLASS VII. Passenger Machines. (Ten entries.)

Rider.	Machine and Gear.	Time.	Fig. of Merit.
1. F. W. Barnes	(6 Zenith and se., Gradua)	X+19.8	349
2. G. F. Hunter	(8 Zenith and se., Gradua)	X+18	283
3. W. O. Oldman	(6 Bat-Jap and se., P. and M.)	X+33	211
4. E. B. Ware	(8 Chater-Lea and se., Chater-Lea)	X+40.8	167
5. R. G. Nye	(8 Chater-Lea and se., Chater-Lea)	X+51.6	120

THE M.C.C. SPEED JUDGING COMPETITION.

This event, the last of the season, was run off near Potter's Bar on Saturday afternoon last. The course was one of about 5½ miles, and had to be covered three times. The first circuit at 16 m.p.h., the second circuit at 19 m.p.h., and the last at any speed up to and including 20 m.p.h.; each competitor to declare his speed immediately upon finishing. Competitors were divided into two classes—one for those riding motor bicycles and the other for drivers of passenger machines. Results:

Class 1.—1. R. B. Clark (5 h.p. Indian), total error, 21s.; 2. L. A. Baddeley (4½ h.p. Yeledab), 58½s.; 3. H. B. Karslake (4 h.p. Dreadnought), 78½s.

Class 2.—1. B. Alan Hill (3½ h.p. Rudge and sidecar), 177s.; 2. W. Cooper (3½ h.p. Bradbury and sidecar), 192½s.; 3. C. Lowry (8 h.p. Rover), 269s.

Clarke's running was quite remarkable, and his errors for the three circuits were respectively 7½s., 5½s., and 7½s., showing very good judgment. Karslake's old Dreadnought was out on its last competition, and has now retired.

The best lap was ridden by C. C. Cooke (Triumph) with an error of 1s. The medals in Class 1 are being presented by Mr. D. J. Maitland, of Ceylon, an enthusiastic member of the club. Mr. F. T. Bidlake was the timekeeper.



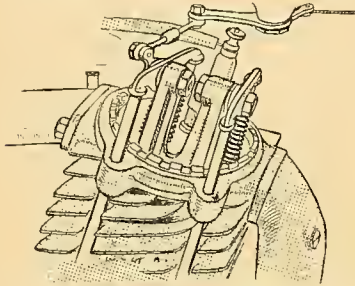
F. P. Johnson (2½ h.p. Humber) starting from Derby Road, Nottingham, in the Nottingham and District M.C.C. 100 Miles Reliability Trial for the Dennis-Bayley shield. The riders on the right are R. A. Johnson (TT Triumph) and H. S. Dawson (3½ h.p. Bradbury).

1912 MODELS.

Further Advance Details of New Pattern Motor Cycles and Accessories.

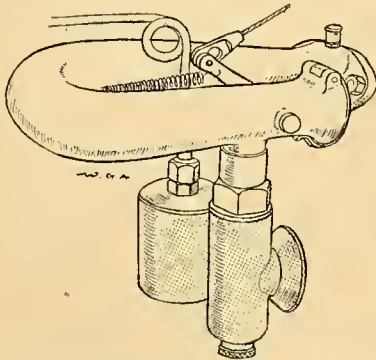
The 2½ h.p. S.I.A.M.T.

THIS interesting little machine, which has recently signally distinguished itself in Italy, the country of its origin, is being handled in England by Mr. Scales, 336, Gray's Inn Road, W.C. In describing any vehicle propelled by petrol vapour it is customary to begin with the engine. In the case



The overhead inlet valve mechanism of the S.I.A.M.T. The engine is inclined and has horizontal radiating fins.

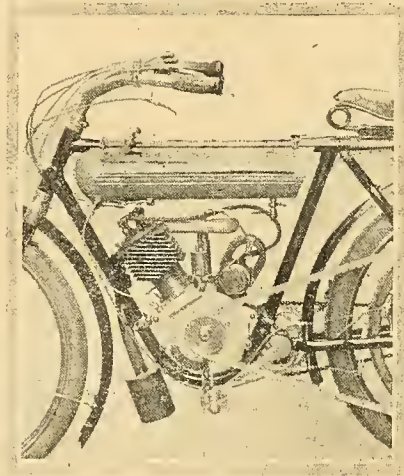
of the S.I.A.M.T. we make no exception, and feel we can safely state that this is the most interesting part of the machine. The cylinder head is of quite an unconventional design, being screwed into the cylinder. It is guaranteed compression tight, carries both valves, which are of the overhead type, the sparking plug, and has radiating fins cast wherever there is space for them. The edge of this detachable head is castellated, and a special spanner is supplied for its removal. To be able to detach the head easily is naturally a great boon; not only



S.I.A.M.T. carburettor showing the bent trumpet-mouthed air inlet.

can the carbon deposit be easily removed from both head and piston, but the whole can be held in a vice while the valves are being ground in. The engine dimensions are 68x72 mm. The radiating fins are, since the engine is tilted slightly forward, cast parallel with the ground. The inlet valve rocker is mounted on an eccentric, and the engine is controlled by its means, as no throttle is fitted. The carburettor is of Italian design, and has an extremely long induction pipe, which it is claimed tends to

better vaporisation. One end of this long pipe is bolted to the cylinder, while the other passes beyond the carburettor and culminates in an open gauze covered end, behind which is a butterfly throttle controlling the air supply. To detach the carburettor it is only necessary to undo the holding on bolt of the petrol pipe and drop the carburettor away from its union

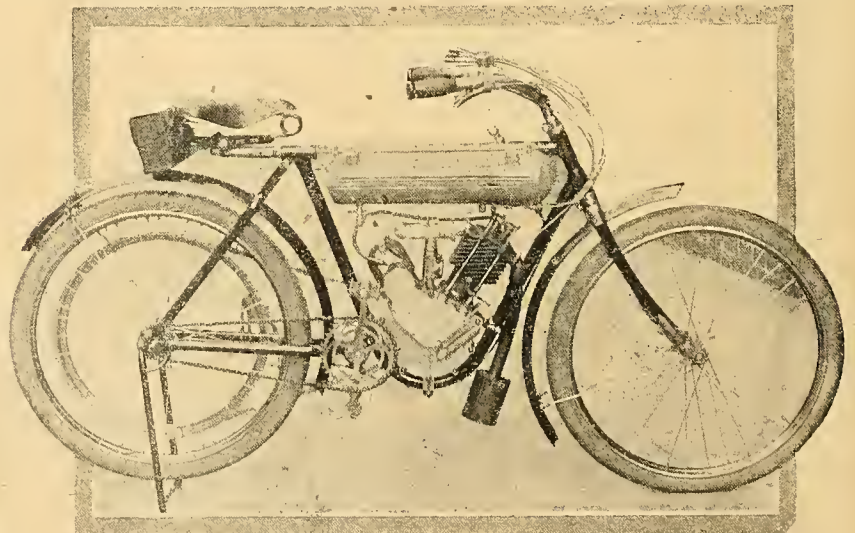


The power unit.

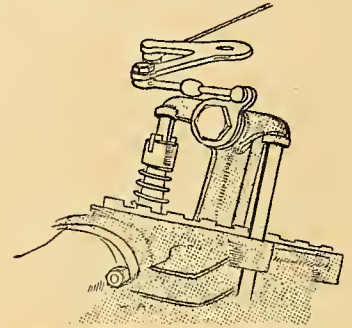
to the inlet pipe. The petrol enters at the top of the float chamber. The high tension magneto is the N.U., and is gear driven.

Triple Lever Handlebar Control.

All control is worked by a Bowden triple lever on the handlebar. An adjustable pedal bracket is provided. Two brakes are fitted, one applied to each side of the belt rim. The levers working these are so placed on the handlebar that both



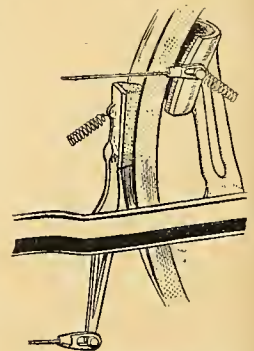
The latest arrival in this country—the S.I.A.M.T.—a successful Italian lightweight.



Eccentric adjustment of the S.I.A.M.T. inlet valve rocker.

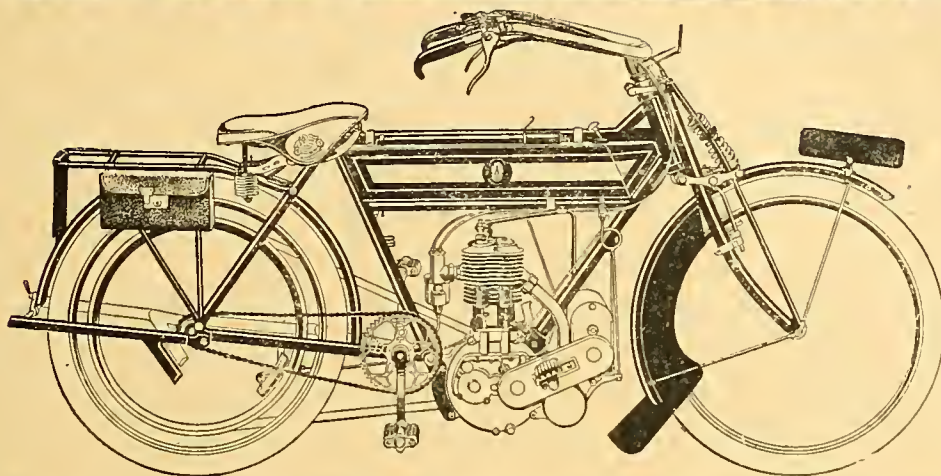
brakes can be brought into action by one grip of the hand. Points of convenience are well studied; these are a tapless oil pump, a good stand, and a sensibly designed pair of spring forks.

Considering that the machine is not specially designed for the English market, it conforms excellently to English ideas. In the recent Mont Cenis hill-climb in the class for machines up to 290 c.c., it won the Stampa Sportiva Cup, and gained the first seven places in the class. The winner's average speed up the fourteen mile climb was 34.6 m.p.h. It also gained a first and second in the Cono Brunate hill-climb. All these wins, we are informed, are records.



Double rear brakes on the S.I.A.M.T., which act upon the belt pulley.

THE B.S.A. MOTOR BICYCLE



The B.S.A. 3½ h.p. Motor Bicycle, Fixed Engine, £50; Free Engine, £56 10s.

There is not a Motor Bicycle on the road giving greater satisfaction than the B.S.A. The letters received from riders testify to its power, silence, and all round reliability. Several correspondents state that the B.S.A. 3½ h.p. has proved to be far more powerful than much higher-powered machines. Let us send you a copy of the Book of the B.S.A. Motor Bicycle, and the name and address of Agent where B.S.A. Motor Bicycles can be inspected.

A Tour through Wales on a B.S.A. 3½ h.p. with Sidecar attached.

Mr. B. D., of Edgbaston, writes:—

"I have just returned from a cycling trip in North Wales, and wish to congratulate you on the excellence of the B.S.A. Motor Cycle used. This machine (which has completed 2,000 miles) took a sidecar (passenger and self exceeding 22 stones in weight) from Birmingham through Bettws, Capel Curig, Beddgelert, etc., singly geared, without failing on a single hill, and has proved most satisfactory as regards its power, comfort, reliability, and general excellence.

"I have had single, twin, and four-cylinder machines of various makes, but none to equal your 1911 3½ h.p. Roadster Model.

B.D., Edgbaston,
29/8/11

Write now for copy of the Book of the B.S.A. Motor Bicycle.

**THE BIRMINGHAM SMALL ARMS CO., LTD.,
102, SMALL HEATH, - - - - - BIRMINGHAM.**

In answering this advertisement it is desirable to mention "The Motor Cycle."

October 2nd.

REDUCTION IN PRICE

OF

Continental MOTOR CYCLE TYRES.

Size.		Covers.		Tubes.	
		Standard.	Rubber N/S, Basket or Rubber Studded Pattern.	Endless.	Butted.
26 x 2	-	22/3	30/-	8/6	11/-
26 x 2 $\frac{1}{4}$	-	27/-	37/6	10/-	12/6
26 x 2 $\frac{1}{2}$	-	29/6	40/-	10/6	13/-

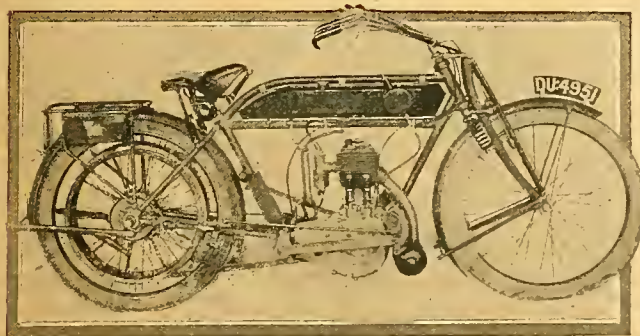
THE CONTINENTAL TYRE & RUBBER CO. (Gt. Britain) Ltd.,

Thurloe Place, South Kensington, S.W.

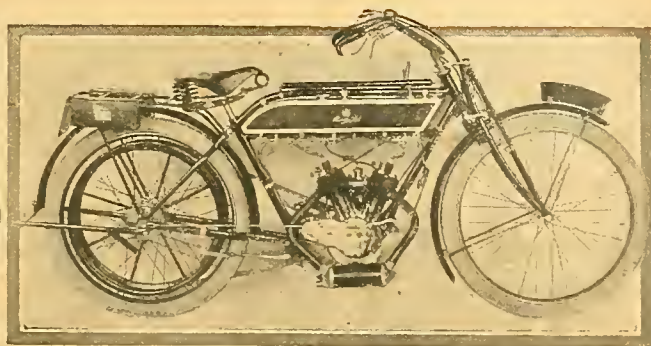
Telephone 4340 Kensington (8 lines).

Tel. Address: "Pneumique, London."

In answering this advertisement it is desirable to mention "The Motor Cycle."



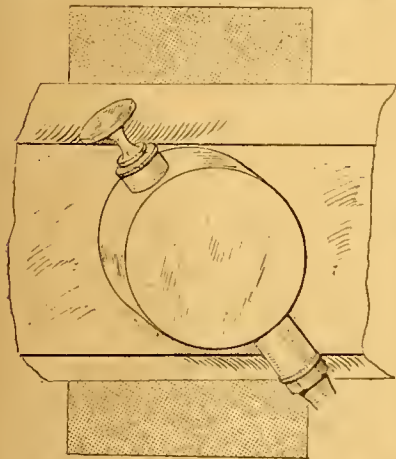
The 1912 model 3½ h.p. Humber, which has been re-designed throughout.



New pattern 2½ h.p. twin Humber in its touring form.

Humber.

The Humber Company have produced an entirely new 3½ h.p. model for 1912 embodying many improvements and refinements. Following the practice of the lightweights, which have met with such success this year, the new 3½ h.p. has a *désaxé* crankshaft. The bore and stroke are 84 x 90 mm. The side by side valves are operated by adjustable tappets, having fibre insertions in the heads. This should go far towards deadening the valve chatter, which is still a defect in many modern motor cycles. A half compression device is now fitted, consisting of a double exhaust cam and operated by the exhaust lift lever. This is so arranged



The separate cylindrical oil tank which is let into the petrol tank on the new Humber.

that a slight movement of the lever brings the half compression cam into action, while a greater movement raises the valve completely off its seating in the usual manner. Placed behind the engine and well protected from mud and dust is a Bosch magneto controlled from the left handle-bar. A large silencer with a simple roll over cut-out is fitted in front of the engine, and an exhaust pipe of ample dimensions is now fixed by an internal nut which adds to the neat appearance of the power unit.

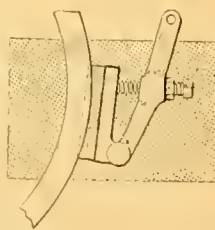
Detail improvements consist of a dropped top frame tube, a front wheel stand, a rear mudguard hinged behind the carrier and an improved stand. The spring forks are on the well-known Druid lines, and have scimitar blade side

members. The petrol tank runs the full length of the top tube, and has a separate cylindrical oil tank let into it. This is a novel and praiseworthy device, as it makes for ease of construction and consequently absence of leaks. The front brake has a simple shoe adjustment, while the angle of the rear brake shoe, which is of the internal V-type, is also adjustable.

This model can be supplied either as a single gear mount (in which case pedals are fitted) or with an improved form of two-speed, in which several points are worthy of notice. The gear is still manufactured under Roc licence. This year there will be three planetary pinions instead of two. The high gear will be operated by an expanding cast iron liner, while the low has a contracting Raybestos lined band. The gear is fitted with ample thrust rings and bearings, and is so constructed as to be oiltight and mud-proof, while having a neat and light appearance.

The whole rear wheel may be easily removed by detaching the gear rods and

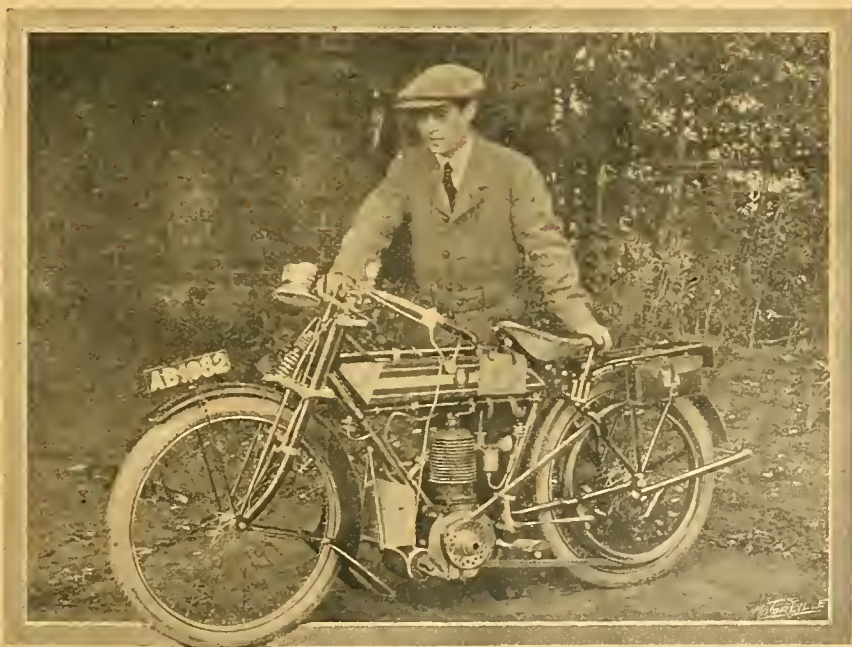
removing three nuts. The two-speed model is fitted with footboards, below which runs a counter-shaft carrying a simple acting cam which prevents the possibility of engaging both gears at once. Neither the 2 h.p. nor 2½ h.p. model has been altered to any great extent, but the company will list a very neat open frame model fitted with the standard 2 h.p. engine.



The method adopted on the new Humber models to adjust the belt pulley brake shoe.

B.S.A.

The first of the 1912 B.S.A. motor cycles was seen on the road recently. It has a dropped frame. We have had a short run on one of these machines, and found the 1912 design of clutch beautifully smooth in action.



The new model 3½ h.p. B.S.A. which, as will be seen, has a dropped top tube giving a very low riding position. This machine was ridden by Kenneth Holden in the last Birmingham M.C.C. competition.

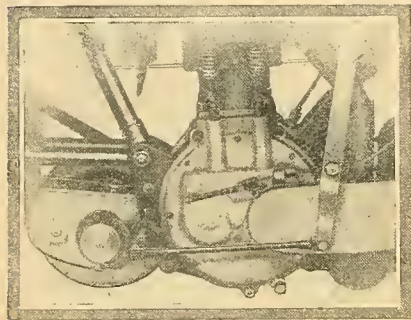
1912 Models.—

Comet-Precision.

Mr. Haydon tells us that it is his intention to market two new models—a 2½ h.p. lightweight with a free engine, and a 4½ h.p. Colonial model with 5½ in. ground clearance.

Calthorpe.

There will be four Calthorpe models for 1912. A 4½ h.p. type for sidecar work, a 3½ h.p., a T.T., and a 2½ h.p. All of these models can be fitted either with a



Another new countershaft gear—the Calthorpe—on which a chain is employed from the engine-shaft and a belt from the countershaft.

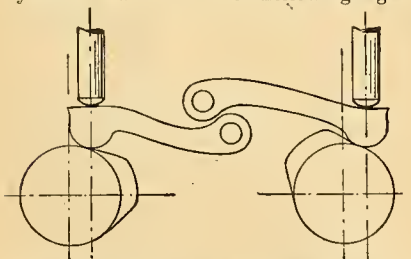
new type of clutch on the expanding shoe principle, or with a new chain and belt counter-shaft two-speed gear, in which the gears are operated by taper friction clutches.

A 5 h.p. Twin A J.S.

A chat with Mr. Stevens elicited the information that next year he will market a new 5 h.p. on the lines of his well-known 2½ h.p. engine, for sidecar work. The 2½ h.p. machine will not be greatly changed. The engine will be modified, but the greatest change is in the fixing of the gear box.

Condor.

The Condor Engine Co. are building a 4½ h.p. single-cylinder engine of 86 × 112 mm., which comprises two unusual features—(1) the oil is fed through the cylinder wall into the hollow gudgeon

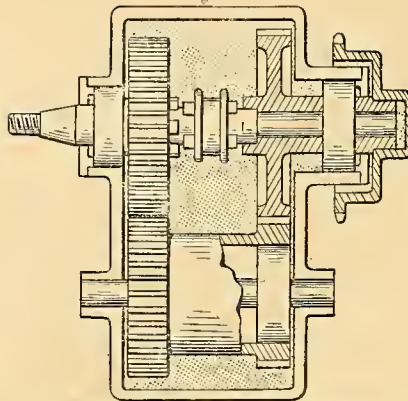


Offset valve gear of the 4½ h.p. Condor engine.

pin, and thence to the hollow big end and (2) offset cam gear, the valve tappets being set slightly to one side of the cam centre so as to do away with some of the side thrust.

Blumfield.

Mr. Blumfield tells us that as this year's engine has been so satisfactory there will be practically no changes in the design of his 1912 engines. He will, however, list several new sizes, making a most complete range. The types for 1912 will include a single-cylinder air-cooled



New Blumfield two-speed gear box. In this design the secondary shaft is fixed and the gears are cut on a drum and revolve on large diameter double row ball bearings. A plate clutch is fitted to the engine-shaft.

3½ h.p., 80×95; a single-cylinder water-cooled 3½ h.p., 80×95; a twin-cylinder air-cooled 4-5 h.p., 67×83; a twin-cylinder air-cooled 5-6 h.p., 67×95; a twin-cylinder air-cooled 7-8 h.p., 80×95; a twin-cylinder water-cooled 9 h.p., 80×95; and possibly a single air-cooled 2½ h.p., 67×83. This year Mr. Blumfield has decided to market for the trade two sets of frame fittings, one for a standard 3½ h.p. type, and another heavier set for sidecar work. This latter set includes a two-speed gear box set behind the saddle tube, and constructed for chain drive in conjunction with an engine-shaft clutch. We were shown a neat lightweight adjustable pulley on the lines of the large Blumfield pulley. It is worthy of note that all Blumfield engines undergo prolonged bench tests with fan brakes, and all the different models have side by side mechanically operated valves.

The Jonsca Two-speed Gear.

This gear, which was seen fitted to a 3½ h.p. Brough at the Brasted Hill-climb, consists of a double belt drive in combination with a selective clutch in the back hub. The pulleys are geared down at the engine-shaft to enable them to give a low gear and yet be of large diameter. The selective clutches, which are of the expanding type, are operated by pedals, and bring the required belt rim into connection with the back wheel, the other running loosely. One of the advantages of this gear is that practically any ratios can easily be obtained. Both gears are, of course, equally direct. Mr. John Scarborough, the inventor, also has a very simple starting device on the lines of a spring steel

The Latest M.M.

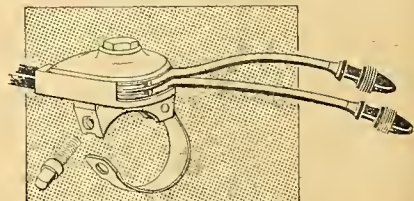
The latest type M.M. motor bicycle sold by Messrs. J. C. Lyell and Co., 113, Great Portland Street, W., is a 4 h.p., 82 by 91.5 mm. The engine has the exhaust valve in front and an automatic inlet valve. The ignition is by Bosch magneto, driven by a train of gear wheels. The gas is supplied to the engine by a Schebler carburetter, which is quite an interesting device.

The 7-9 h.p. V twin is similar in every respect to the above, except that it has two cylinders of the same dimensions as one single, and, of course, has a more strongly constructed frame.

The Excelsior.

The Excelsior Co. have two new 1912 models. The first is a 3½ single-cylinder of 85 bore and 88 mm. stroke, and the second a 4½ single-cylinder of 86×112 mm. Both these models will be fitted with the new Villiers two-speed gear to order.

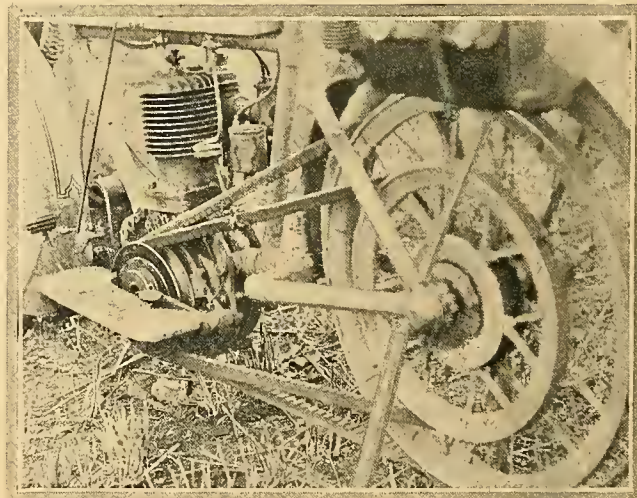
The chief feature of the new engine is the lubrication, the oil being led into the hollow gudgeon and crank pins, and thence direct to the main bearings, which are of phosphor bronze throughout.



The 1912 B. & B. carburetter handle-bar levers, which are longer than this year's and slightly curved.

The valves are fitted with adjustable stems, and the engine, which carries the magneto behind it, forms with the carburetter and silencer an easily detachable unit.

One inch belts, dropped top tubes, and Druid forks with front wheel stands are



The Jonsca two-speed twin belt gear fitted to a 3½ h.p. Brough. It was observed at the Streatham and District M.C.C. Hill-climb.

standard on both models, and the company will manufacture sidecars, under Millford licence, and suitable for their own machines.

SIDECARS AND CHANGE-SPEED GEARS.

THAT many of your correspondents have asked for some private sidecar owners' experiences is my only excuse for writing of mine. It should be understood that I have absolutely no interest whatever in the makers of my machine, a free engine 1910 Triumph. I purchased it second-hand early this year, and have used it regularly ever since for my business, and for a fair amount of pleasure riding; in fact, from March to the present date I have covered 6,069 miles, nearly all of which have been with the sidecar, as even my business rides, with one or two exceptions, are accomplished with it. I have had repeated week-ends of two and three hundred miles in the Ilkley and Harrogate district. In the last ten days I have had 1,100 miles, with nothing worse than a burst butt-ended tube. On the 12th ult. I left Hull for London *via* Lincoln and Peterborough, and had a non-stop run. After a day spent in sight-seeing I returned solo, on the 14th, and had a non-stop run again. Three days later I had a short spin to see if I could detect any faults before starting for London again. There were none, and I returned highly satisfied.

Starting at daylight the next day, I crossed the ferry, and was soon flying along through the cold morning air to St. Albans, which I reached at 5.30 p.m. From here my troubles commenced, as, through mistaking my route, I was cruising about till 10 p.m. I eventually found myself on Mitcham Common, with the petrol given out, but I managed to run two short stretches by tilting the machine so that the petrol ran to the carburettor till every available drop was gone. Then I commenced the heart-breaking task of pushing in search of the "spirit that moves," but all to no

purpose. I was by this time feeling the want of food, as I had made only one stop for this purpose since leaving Hull (Leicester). After numerous wanderings I found myself at Thornton Heath, and here I was able to find a cycle dealer who could supply my need, but by this I was not in a fit state to ride, so I left the machine in his care and set out to walk to South Norwood, and here I might state that I found walking, unfettered by the machine, a very pleasant change. My mileage for the day was 257, about four of which I had pushed. The machine was fully loaded, and I was encased in leather-lined tweed with overalls, so your readers will understand my feelings. After a good supper and sponge down I slept the sleep of the just, next morning, after the cold tub, feeling fit for anything. I went over for my mount and had a spin to Epsom, returning at midday to South Norwood. The next day I was off for home with the sidecar attached, and my wife as passenger, with a considerable amount of luggage. We had a fine run home, and caught the last ferry boat at 10.30 p.m., reaching home at 11, having left Norwood at 10.15 a.m. The next day I made an ordinary visit to Eridlington, and we had as yet not unfasted the tool roll. The total mileage for ten days was 1,100, and the machine is still running, intact as far as the engine is concerned.

I consider these fine achievements for a single-cylinder $3\frac{1}{2}$ h.p. machine in the hands of an entirely amateur driver. In the whole of the 6,000 odd miles I have not been held up with engine troubles, and only had one long stop of note through the contact breaker of the magneto working loose and tearing the keyway.

H.W.J.

CLUB NEWS.

Sutton Coldfield A.C.

The petrol consumption trial took place last Saturday, over a course of 31 miles, half of which was ridden against a very strong head wind. Ten started, and the winner, who used a Howard dual sparking plug, was the heaviest rider, and covered the course on the least petrol. The results on formula are as follows:

1, James St. John ($3\frac{1}{2}$ Triumph), 6448, 162 m.p.g.; 2, H. Mills ($3\frac{1}{2}$ James), 5015, 122 m.p.g.; 3, J. Norton ($3\frac{1}{2}$ Norton), 4771, 142 m.p.g.

Sheffield and Hallamshire M.C.C.

Last Saturday afternoon the members held a very interesting reliability trial for sidecar machines over a course of 110 miles of fairly hilly country. Owing to the cold many of the sidecars contained gentlemen, though the ladies were well represented by Mrs. Bradbury Mrs. Stacey, Mrs. Short, Mrs. Stevenson, and Miss Greaves. J. Haslam, 6 h.p. Zenith and sc.; S. Donovan, 6 h.p. Zenith and sc.; H. Short, 6 h.p. Chater-Lea and sc.; — Stacey, $3\frac{1}{2}$ h.p. Rudge and sc. The competition fully demonstrated the reliability of the sidecar as a safe passenger carrying device.

Stockport and District M.C.

On the 23rd ult. the third hill-climb was held at Woodhead, the result being based upon time only, the fastest competitor in each class riding in the final, in which each competitor's time was equalised by handicap.

The class winners were: Lightweights—W. Heaton, $2\frac{1}{2}$ A.J.S.; singles—F. C. Cooks, $3\frac{1}{2}$ T.T. Triumph; sidecar—H. Greenhalgh, 5 Rex. F. C. Cooks made the fastest time, but in the final had to give the lightweight 40 secs. and the sidecar 52 secs., and was beaten easily by W. Heaton.

The next and last hill-climb of the year will be on October 15th at Woodhead.

Woolwich, Plumstead, and District M.C.

A speed-judging and reliability competition, open to members who had not won a prize this year, took place on the 1st inst., when eleven members started, and all covered the distance without a stop except one, whose belt came off. S. Lloyd (8 h.p. Matchless and sidecar) secured the first prize, only 34 sec. over time; H. Marsh (6 h.p. Riley tricar) was second, 45 sec. over time; and J. Richards (6 h.p. Matchless and sidecar) was third, one minute under time.



Some competitors at the start of the Sheffield and Hallamshire M.C.C. Reliability Trial for sidecars.

Club News.—

Manchester M.C.

The club's closing run was held on Saturday last to "The Ship" Hotel, Styal, Cheshire, in cold and unsettled weather. There was a good attendance of members and friends. After the club photo had been taken in front of the hotel, the party thoroughly enjoyed some impromptu gymkhana events in an adjoining field. After tea the prizes were distributed and an enjoyable smoking concert was held.

Coventry and Warwickshire M.C.

The closing run on Saturday will take the form of a speed-judging contest, and four prizes are offered. Entrance fee, 1s., will be collected at the starting point, Davenport Road. The start is at 2.30 p.m., and tea will be taken at the Bath Hotel, Leamington Spa.

The case in which Mr. G. H. Spicer was involved on the return journey from Aberystwyth in the August competition was dismissed at the Machynlleth Court on Wednesday of last week.

Birmingham M.C.C.

The third annual flexibility climb took place on Saturday, the 23rd ult., at Red Hill, near Alcester, the winner turning up in J. H. Percox on a $3\frac{1}{2}$ h.p. Alldays, the difference between the time of his fast climb and his slow climb being 2m. 7s. R. W. Duke, on a $3\frac{1}{2}$ h.p. Zenith-Gradua (gear fixed in one position), was second with a difference of 1m. 52s., Seymour Smith, on a $3\frac{1}{2}$ h.p. Norton, being third with a difference of 1m. 50s. The autumn reliability trials, held annually on the knock-out principle, have been postponed till November 4th, as there are several events in October which would interfere with the trials.

Leicester and District M.C.C.

Results of hill-climb held on 28th September at Kettleby Hill, near Melton Mowbray:

Tourist Class.—1, S. F. Fisher ($3\frac{1}{2}$ Triumph); 2, H. Petty ($3\frac{1}{2}$ Rex); 3, A. L. Barker (4 Clyde-Jap).

Tourist Trophy Class.—1, J. Dignan ($3\frac{1}{2}$ Triumph); 2, S. F. Fisher ($3\frac{1}{2}$ Triumph); 3, D. M. Patterson ($3\frac{1}{2}$ Triumph).

Open Class.—1, J. Dignan ($3\frac{1}{2}$ Triumph); 2, W. Canham (6 Matchless twin); 3, G. W. Hillyard (6 Zenith-Gradua twin).

Sidecar Class.—1, W. Canham (6 Matchless twin); 2, G. W. Hillyard (6 Zenith-Gradua); 3, E. Folwell ($3\frac{1}{2}$ Bradbury).

Lightweights.—1, J. W. Chapman ($2\frac{1}{2}$ A.J.S.); 2, G. W. Main (2 Humber).

J. Dignan ($3\frac{1}{2}$ Triumph) made fastest time of the day, viz., 50.3 m.p.h.

Forthcoming Event.—Edwards Cup: Third round (reliability trial), October 14th, 2.30 p.m.

Surrey M.C.C.

The annual hill-climb, which was postponed from September 13th, will be held next Saturday, October 7th. The rules will remain as already published, and all awards, including the Zenith Motors Ltd. gold medal for best performance of the day, will be made on A.C.U. formula. The hill will be within ten miles of Guildford; competitors must meet at headquarters not later than 2.30 p.m.

Bristol B. and M.C.

A competition is being held on Saturday, October 7th, with the Bath club, for teams of six solo and one passenger machine. The start, finish, and dinner (for which the losers will pay) will be at the Lamb and Lark Hotel, Keynsham, and a special entertainment is to be arranged. Anybody wishing to be present should write to P. Grout, of Warmley, near Bristol.

North Middlesex M.C.C.

The proposed run to Westcliffe for the 24th ult. unfortunately had to be cancelled on account of the weather.

The chief event of the year, the members' reliability trial for the handsome silver challenge cup presented by the Premier Cycle Co., takes place on October 8th. The route from the Gatehouse, Highgate, proceeds through Brockley, Aylesbury, Banbury, Edge Hill, Stratford-on-Avon, up Sunrising, Wellesbourne, Banbury, Bedford, and Hatfield, about 190 miles in all. Luncheon at Stratford-on-Avon. Prospective members are eligible for this competition and accepted at one year's subscription up to February, 1913. Hon. sec., D. G. Blakey, Heathfield, Great North Road, Highgate.

Purley and District M.C.C.

On Saturday last, a speed-judging contest was held over an unknown distance, the prize being a pair of Kempshall tyres, presented by the manufacturers. A car left Purley Corner at three o'clock, laying a confetti trail, and competitors had to follow by this trail at a set speed, drawn by each one separately on a ticket. The trail proved difficult to follow, no fewer than nine out of twelve starters failing to pick it up from the commencement. The three who finally tracked the car to its destination, which proved to be Pol Hill, near Sevenoaks, were: 1, W. G. Fowler (7 h.p. Indian), error 4.12 m.p.h.; 2, O. K. Meredith ($3\frac{1}{2}$ h.p. Bradbury), error 6.32 m.p.h.; 3, S. J. Taylor ($2\frac{3}{4}$ h.p. Douglas), error 8 m.p.h. The last-named, in addition to losing the trail at one point, was twice stopped by belt breakages. The distance was twenty-six miles. The thanks of the club are due to the donors of the prize, and also to Mr. Jago, who kindly acted as trail-layer. In view of the large number who failed to finish, it has been suggested that the contest should be repeated, but this has not been definitely decided on.



Competitors and spectators watching the start of the lightweights in the closing event of the Manchester M.C.

When the ZENITH-GRADUA ... is NOT BARRED. ...

In the M.C.C. Hill Climb at Sundon,
on Saturday, Sept. 9th, five firsts,
one second, and two third places
were secured by

The Victorious

Zenith- Gradua

Class I.—

F. W. Barnes on Zenith-Gradua .. 1st on Time.
" " " .. 1st on Formula.

Class III.—

F. W. Barnes on Zenith-Gradua .. 1st on Time.
" " " .. 2nd on Formula.

Class IV.—

F. W. Barnes on Zenith-Gradua .. 1st on Time.
" " " .. 1st on Formula.

Class II.—

G. Griffiths on Zenith-Gradua .. 3rd on Formula.

Class V.—

F. W. Barnes on Zenith-Gradua .. 3rd on Time.

The Zenith-Gradua also tied for fastest time of the day.

Particulars of these Machines sent on request.
ZENITH MOTORS, LTD.,
WEYBRIDGE.

A. S. L.

MOTOR CYCLE

Although the "A.S.L." Motor Cycle is the greatest advance in motor cycle construction ever known, it comes to you only after severe tests, and you are not asked to experiment.

It entirely does away with one of the greatest faults of the motor cycle—vibration.

Riding on an "A.S.L." machine is an entirely new sensation. No shocks of any kind are felt, both wheels being sprung. The rider is literally "riding on air."

Long journeys can be accomplished at high speed without fear of fatigue.

The air-spring, consisting of a piston working in an air-tight cylinder, simply designed and made, presents no complications. Its great advantage lies in the fact that it can be pumped up like an ordinary tyre to suit the rider's weight.

A.S.L., Ltd., CORPORATION ST.,
STAFFORD.

Telephone—156, Stafford. Tel Address—"Airsprings, Stafford."

"RIDING ON AIR."

C.D.C.

NOW—the 100 miles record has been beaten—Again it is our pleasure to announce another victorious achievement of our "LYSO" Rubber Belt.

—AT BROOKLANDS, Sept. 23rd, the 100 Miles Record Race was won by Mr. J. R. Haswell riding a $3\frac{1}{2}$ h.p. Triumph, fitted with a

"LYSO" Belt

and he covered the distance in 97min. 52secs.—and in the hour nearly 63 miles. In addition "LYSO" Belts were used on the Ridges, Bat-Jap machines; 2nd, 4th, 5th, 6th places, and many others in this Race.

—A splendid record like

100 miles in 1 hr. 37 m. 52 $\frac{2}{5}$ s.

wants some making—and some equalling—and one of the most satisfactory conclusions of the Race is the proved "RELIABILITY" of the Belt that stands such a strain!

—It's the "LYSO"—that's saying everything—and the knowledge of that fact will convince you of the importance of its presence on *your* machine.

—Always buy "LYSO'S" in future—you can't do wrong.

LYCETT'S, "The Saddlery," B'ham.



R.H.S.

Club News.—

Torbay and District M.C.C.

A speed trial will be held on October 14th at 2 p.m. A.C.U. speed formula will be used. Engines of any size may enter, and weight will not be taken into account. A special prize will be presented by Mr. R. Holloway for fastest time on a single cylinder. A members' hill climb will take place on October 21st at 2 p.m., when a special prize will be given for the best performance by a member who has not won a prize during the year.

Edinburgh and District M.C.C.

This club held a competition on the 23rd ult. to decide the winner for the year of the Sharp Trophy. The competition took the form of a fast and slow speed contest on Dolphinton Moor, and a hill-climb on Manor Hill, Peebles. There was a fair entry, but the slow speed contest seemed to be a great stumbling block, as three competitors only were left to compete on Manor Hill, namely, J. R. Alexander, A. H. Alexander, and Sandeman, riding 7 h.p. Indians. After the competition it was found that A. H. Alexander was the winner of the trophy, his brother having held it for the previous year. The weather was dull, and during the competition several showers of rain fell.

Blackburn M.C.C.

This club held its first competition—a hill-climb at Rivington Pike, near Bolton—on the 16th ult., the weather conditions being ideal. Each competitor was allowed two runs up the hill, the fastest to count. The following are the results:

LIGHTWEIGHT CLASS.

1. W. Snape (2½ h.p. Enfield) ...	61½s.
2. — Beech (2½ h.p. Torpedo) ...	68½s.
3. — Robinson (2½ h.p. Enfield) ...	72½s.

500 c.c. CLASS.

1. J. Thorne (3½ h.p. T.T. Triumph) ...	43½s.
2. H. Walsh (3½ h.p. Rover) ...	44s.
3. H. Fletcher (3½ h.p. Rudge) ...	50s.

UNLIMITED CLASS.

1. J. Allsupp (6 h.p. Matchless) ...	43½s.
2. J. Thorne (3½ h.p. T.T. Triumph) ...	43½s.
3. H. Walsh (3½ h.p. Rover) ...	45s.

Mr. W. W. Wilkinson presented a gold medal for fastest time of the day, and other valuable prizes were given by Blackburn tradesmen.

It is decided to hold a speed-judging competition on the 21st inst., when three valuable prizes will be awarded.

Westmorland M.C.C.

An informal run to York will be held on October 7th and 8th, starting from the Commercial Hotel at 2 p.m. on the 7th, and staying at York till the Sunday afternoon.

Woolwich, Plumstead, and District M.C.

Another very successful hill-climb took place on the 24th ult. at Star Hill. There were fifteen competitors. As before, it was carried out on the "knock out" principle, which provides excellent sport. The first prize, a gold medal presented by Mr. H. A. Collier, was won by H. Hill (3½ h.p. Rudge); second prize, value of entrance fees, by A. Wilson (3½ h.p. Triumph); and a special prize for the first novice, an inner tube presented by Mr. F. J. Ellis, went to H. Cork (Matchless).

Furness M.C.C.

The first reliability trial arranged by this club was held on the 17th ult. Considering the club was only started about three months ago, the trial was very successful. The competitors, thirteen in number, started from Barrow, and checked in turn at Newby Bridge, Kendal, Coniston, Greenodd (secret check), and again at the starting point, thus completing an eighty-mile course. The results were as follows: 1, Dr. F. E. Daniels (2½ h.p. Douglas); 2, W. Bradbury (2½ h.p. Douglas); 3, J. Brazington (3½ h.p. N.S.U.). The prizes were presented by Messrs. J. Lucas, Ltd., and Douglas Bros.

Lincolnshire A.C. (Motor Cycle Section).

The petrol consumption test held by the above club on Saturday, the 23rd ult., proved to be another very successful competition, although the entry was not quite so large as might have been wished.

After weighing in, dealing out the petrol, and sealing the tanks, a start was made from South Park, Lincoln, at about 3.30, where the competitors had to return after covering a thirty-five mile course, and have the remaining petrol drawn from their tanks and measured.

The following are the positions of the first five, subject to confirmation by the committee.

Fig. of Merit.

1. J. E. Harston (4 h.p. Champion-Jap) ...	433
2. L. G. Dawson (3½ h.p. Bradbury) ...	414
3. S. E. Walker (3½ h.p. New Hudson-Jap) ...	389
4. W. Cartwright (3½ h.p. Bradbury) ...	382
5. F. Richardson (3½ h.p. B.S.A.) ...	362

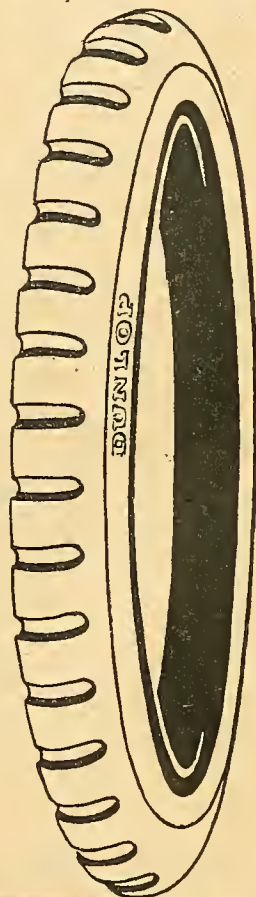
It is interesting to note that the winner's petrol consumption works out at 160 miles to the gallon.



A snapshot in Cheshire last week-end where a number of Manchester motor cyclists held a series of friendly races on a secluded stretch of road.

On the subject of

ADEQUATE TYRING FOR TRICARS.



Much dissatisfaction would be prevented if tricarists with high-powered machines would see that the Tyres fitted are likely to be able to stand the strains imposed.

7,015 MILES ON THE BACK WHEEL OF AN 8 H.P. "BAT."

(Extract from letter 5861 in "The Motor Cycle," Sept. 7th, 1911.)

"I bought a 650 by 65 mm. grooved Dunlop last summer. I put the tyre on the back wheel of my 8 h.p. Bat, driven solo throughout, and it stayed there for 4,280 miles, the first puncture occurring just before 3,000 miles. I had the tyre retreaded and relined by the Dunlop Co., and put it on the back wheel of my new 8 h.p. Bat at Easter. It is now worn down to the canvas, but has completed 2,735 miles all on the back wheel, of which 1,655 miles have been with sidecar. The tyre has thus a mileage of 7,015 on the back wheel of an 8 h.p. twin to its credit.

I have driven fast over Lancashire and Yorkshire roads, the Devonshire Hills and Lake District passes. . . . The wonderful wear of tyres on my machine enables me to run it at less cost than a 3½ h.p."

G. ARTHUR GREYSON.

DUNLOP

TRADE MARK

To us Mr. Greyson wrote concerning this tyre :—

"I have never before sent a testimonial to any firm; I feel sure that it is deserved in this case. . . .

I ride on rough by-roads and travel fairly fast, so I think the results obtained are more than satisfactory. . . .

It does not slow the machine so far as I am aware, and this statement is borne out by the fact that I made the fastest time of the day in both the Kirkstone Pass and Shap Fell hill climbs at Easter, averaging 59 m.p.h. up Shap from a standing start, and 50 up Kirkstone. Altogether I am thoroughly satisfied, and when I want a new tyre I shall not consider anything else but a Dunlop similar to the one I have at present."

THE DUNLOP PNEUMATIC TYRE CO., LTD.,
ASTON, BIRMINGHAM; ALMA STREET, COVENTRY.

BRANCHES : London, Nottingham, Manchester, Newcastle, Bristol, Leeds, Liverpool, Glasgow, Dublin, Belfast.

THE FLEXIBILITY AND ACCELERATION OF THE MODERN CARBURETTER.

The greatest difficulty in producing a satisfactory carburetter has always been to make the carburetter flexible and to obtain good acceleration. In other words, (1) to be able to obtain the maximum power needed on a powerful racing machine and still get (2) slow running, and further, (3) to be able to get the

for racing are more or less freaks, and no good for ordinary work. It is, therefore, with pleasure that we have noticed exceptions. For instance, C. R. Collier used an absolutely standard pattern Amac carburetter when he obtained the speed of 91.37 miles per hour, and with the same sized jet he is able to run quite slowly.

Three special features are claimed by the makers of the Amac to account for this, namely:

1. Multiple spraying nozzle.
2. Variable adapter.
3. Straight through draught.

1. Multiple Sprayer.

The advantages of this are quite obvious. It is of course better to divide up the petrol supply into several streams as evenly as possible amongst the air supply, as by doing this a much more homogeneous mixture is produced than if the petrol were supplied in one single stream. This has, of course, been done previously in different ways, as, for instance, in the old Longuemare carburetters, but the Amac design is an improvement, as too small orifices are likely to get choked and are difficult to regulate. The petrol supply is regulated through one single hole at the bottom of the mixing chamber and is then split up through the sprayer.

2. Variable Adapter.

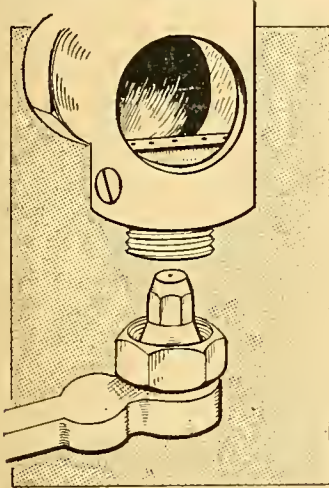
This is another feature which helps considerably in giving a good mixture. It is important that the air as it is passing the sprayer or nozzle should have a certain velocity, and that all the air should pass by the sprayer or nozzle to

give good results. With an ordinary air valve it is not possible to keep the speed of the air high when the engine is running slowly, the result being that the best mixture is not obtained, and liquid petrol is taken into the engine, and also remains clinging to the passages and preventing quick acceleration.

3. Straight Through Draught.

By this arrangement, all the air passes just above the sprayer, thus making for good mixture and efficiency. All turns and bends in the air passages are bad practice.

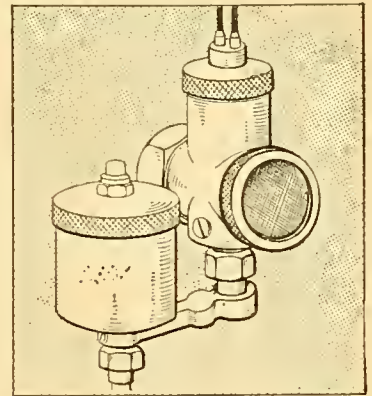
The Aston Motor Accessories Co. have only altered the design of their carburetters in detail.



Showing single nozzle below and five-spray holes above on the latest Amac.

correct mixture anywhere between these two points immediately and without difficulty.

It is the general opinion of the average motor cyclist that all carburetters used



The 1912 pattern Amac.

HINTS AND TIPS FOR MOTOR CYCLISTS.

By ROAD RIDER.

CARRYING BULKY SPARES.

377. One way to carry a spare cover is to turn it inside out, roll it round the rear end of the petrol tank, and buckle a broad strap round it. It is then quite out of the way, and serves instead of knee grips. Rubber belts may be similarly attached, their ends being wired to the frame tube. Leather belts should not be carried, as they ooze grease on one's breeches. They are best looped round the handle-bar or strapped to the carrier. If they are carried outside on the machine and not folded up in a case the dust they collect gives them a better grip. Butt-ended tubes are probably safest if wound tightly round the handle-bar, and those with button-over-the-valve joints may be very neatly packed in this fashion. A strip of felt tied over them provides ample protection.

FREEING A SEIZED ENGINE.

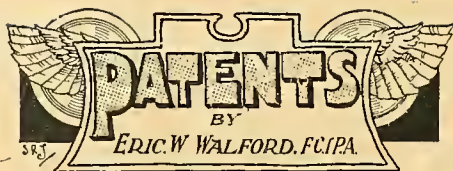
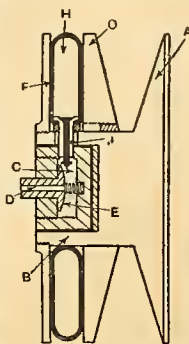
378. Seized engines are perhaps a little commoner than usual this year owing to the vagaries of concealed automatic pumps, but the average amateur makes a great mistake if he fancies that a seized engine is necessarily a workshop job. In engine seizures due to under-lubrication the lower bearing of the connecting rod (commonly called the big end) is almost always the part to suffer; it is the first to be starved of oil, and

generally seizes and becomes immovable before any other detail of the engine has suffered appreciably. The great point in a seizure is to commence the freeing process immediately, before the parts have time to cool and solidify together. In bad cases two metal surfaces may become almost welded together if they are allowed to cool after a seizure. Paraffin is the best releasing agent. Should an engine "stall" on the road, miles from a human habitation, try to keep the engine revolving by hand power, meantime injecting torrents of oil with the pump. The best way is to revolve the engine backwards, and if it is immovable with the back wheel on the road, let down the stand, and pull the belt backwards. By this treatment the engine may often be freed sufficiently for the machine to be driven to a place where paraffin can be obtained. If the engine cannot be freed without paraffin, endeavour to get the piston into the right position for removing the cylinder. *i.e.*, at the bottom of the stroke with the connecting rod at the back of the slot in the crank case top. Then remove the cylinder and procure paraffin. If the seizure is so bad that the piston cannot be moved, the first dose of paraffin must be applied above the piston, *via* the valve or plug orifices. The paraffin will take a long time to penetrate down into the crank case and reach the big

end, and the quantity which gets through will not be sufficient wholly to loosen the connecting rod. Be satisfied if you can move the rod enough to get the piston lowered so that the cylinder will come off. Force should only be applied very gingerly, as there is a risk of stripping the timing gear. As soon as the cylinder is off fill the crank case full of paraffin and leave it for ten minutes to soak between the seized surfaces. After this delay it should be easy to revolve the engine, and gradually the big end will work quite free. When it is absolutely free drain off the paraffin and pour in half a pint of oil. Then revolve the fly-wheels by hand until the fresh oil has formed a good film between all working surfaces. Reassemble the engine, and oil it very freely for fifty miles. It may not be necessary to send the engine to the factory afterwards, but as a rule, after such a seizure looseness amounting to three or four-thousandths of an inch will exist on the crank pin or the big end bush or both, and will make its presence felt by a "knock," especially when the engine is running light down hill, but the journey or tour may be safely completed before proper repairs are put in hand. The cause of the seizure should be identified before proceeding. It may be due to forgetfulness on the rider's part in respect of lubrication

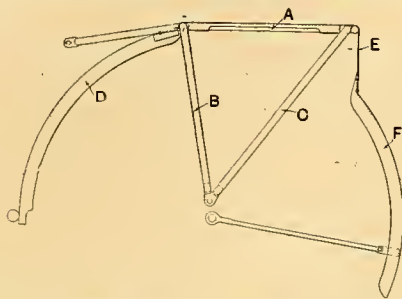
An Adjustable Pulley.

By this invention the movable flange of an adjustable pulley may be operated by pneumatic or hydraulic means. The fixed pulley flange A is formed with a boss B, within which is arranged a rotary delivery chamber C. The chamber is supplied with air (or liquid) under pressure by means of a delivery pipe D, the face E of which is adapted to form a non-return valve to prevent the escape of the air. A collar F is fixed on the boss B, and between this and the movable pulley flange G is arranged an expansible chamber H, which is provided with a valve J, by which the air admitted to the chamber C may pass to the chamber H. It will be seen that, as the pressure in the chamber C rises, it forces out the valve J and expands the chamber H, moving the pulley flange G inwards. When it is desired to lower the gear (by moving the pulley flange G outwards), the valves E and J are opened by slightly moving inwards the feed pipe D, allowing the air to escape and permitting the belt pressure to move the pulley flange outwards.—A. P. and C. W. Cairns, No. 12,201, 1910.



Combined Luggage Carrier and Mudguard.

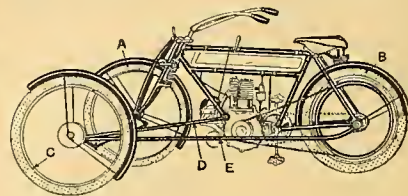
This is the construction fitted to the Rudge-Whitworth motor cycles. The carrier A is of tubular formation, and is supported by stays B C. As it is to form part of the mudguard, it is covered with



sheet metal, which is extended forward and has riveted to it the segment of mudguard D. At the rear the sheet metal is bent over at E to form the number plate, at the lower end of which is riveted the rearmost segment of mudguard E.—J. V. Pugh and Rudge-Whitworth, Ltd., No. 17,975, 1910.

A Novel Sidecar Frame

This invention relates to a construction of tricycle having two front steering wheels and one rear driving wheel. It is intended for the support of a sidecar, and is stated to possess considerable



advantages over the ordinary type as at present generally used, in which the sidecar wheel is arranged in line with the driving wheel. In the patent under notice, the wheels A and B are in track, and may be those of an ordinary machine. The wheel C is supported by rods D E, the connections of which may be easily detachable. The wheel C is linked to, and steerable with, the wheel A, and in the case illustrated is of the type in which the steering pivot is contained within the hub. The wheel A may also be of this type if required. It is obvious to every constructor that the rake and lead of the pivot pin lying in the hub of the wheel C should correspond to the set of the steering head of the machine to which the attachment is fixed.—P. L. and J. Renouf, No. 10,381, 1910.

Quick Detachable Sidecar Joints.

The registered design No. of the joints made by Maude's Motor Mart, and illustrated on the 21st ult., is 577,163.

Tyre Successes.

Dan Bradbury, secretary of the Sheffield and Hallamshire M.C.C., writes to the makers of the tyres fitted to his Norton motor bicycle, and says that he has had splendid results with Clinchers this year, winning many club prizes, among others the Hutton shield for a 360 miles reliability trial.

Retreading Up-to-date.

A correspondent has sent us a cover which he found two motor cyclists repairing a few days ago. The riders were of the opinion that a thin strip of canvas attached to the tread would improve matters. Evidently their knowledge of the friction set up between the tyre and the road was very limited, as the narrow strip of thin canvas was soon reduced to rags. The cover has been sent us for inspection, and presents a very sorry spectacle.

Consistent Running.

An extraordinary instance of consistent running was disclosed at the hill-climb organised by Cowbridge motor cyclists, and referred to on page 1015 last week. Dr. Templeton, on a 2½ h.p. Royal Enfield, won the 2½ h.p. class. Mr. Homfray on a similar machine won the open handicap, two Royal Enfields being left in the final. The finishes were exceedingly close, there being two dead heats between the riders of these machines, and when being run off for the last time there was only the length of a wheel between first and second.



Maps of the British Isles.

We have received a set of three maps, viz., England, Scotland, and Ireland, which Messrs. Percy Butler and Co., 3, St. Peter's Square, Manchester, are issuing free to policy holders as an advertisement. The set of maps, which are of the folding kind suitable for pocket use, may be obtained for one shilling.

The Strength of Sidecar Axles.

The growing number of accidents due to breakages of sidecar axles has led Messrs. Mills and Fulford, one of the pioneer sidecar manufacturers, to demonstrate to us that the breakages are in no way associated with the well-known Millford sidecar attachments, but are confined to the so-called cheap sidecars. Mr. W. H. Fulford left with us a sample axle for our scrutiny, and we have had it photographed together with a foot rule to give some idea of its substantial proportions. A correspondent this week draws attention to a weakness of some sidecar axles in that the cone is screwed on to the axle. It may here be mentioned that in the case

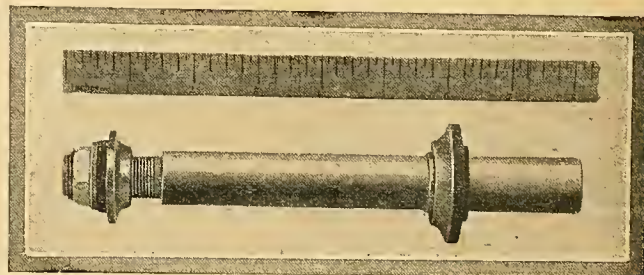
of the Millford sidecars the axle is tapered and the cone wedged into position. One may have every confidence in riding in a Millford sidecar with the knowledge that an axle of ½ in. diameter is used.

Cylinder Repairs.

Weldings, Ltd., Lionel Street, Birmingham, undertake the repair of broken cylinders, and can even successfully repair a cylinder the flange of which has been completely broken away. The flange is welded on, and afterwards the welded portion is reground to suit the existing piston.

New Sheffield Garage.

Sheffield and touring motor cyclists who enter Sheffield from the Derbyshire side will be interested to know the long-felt want of a supply and repair garage has just been filled by the opening of the International Engineering and Motor Co.'s



The ½ in. diameter Millford sidecar axle.

new garage in Millhouses near the city boundary. Sheffield was one of the few places where the touring motorist had trouble in finding supply stations.

STRENGTH & SPEED.

"KINGSBURY,"

HARLESDEN ROAD,
WILLESDEN GREEN, N.W.
September 26th, 1911.

Messrs. The R.O.M. Tyre Co., Ltd.,
31, Brooke Street, W.C.

Gentlemen,—

You will be pleased to know that I have been awarded the special prize for best passenger performance in the recent Essex Motor Club London to York and back 24 hours' run. My Bradbury Sidecar Combination weighed over 600 lbs. with passenger and luggage, yet the Rom tyres (2½ in.), with which all three wheels were shod, were not touched during the 400 miles.

Yours truly,

(Signed) A. T. STANTON.

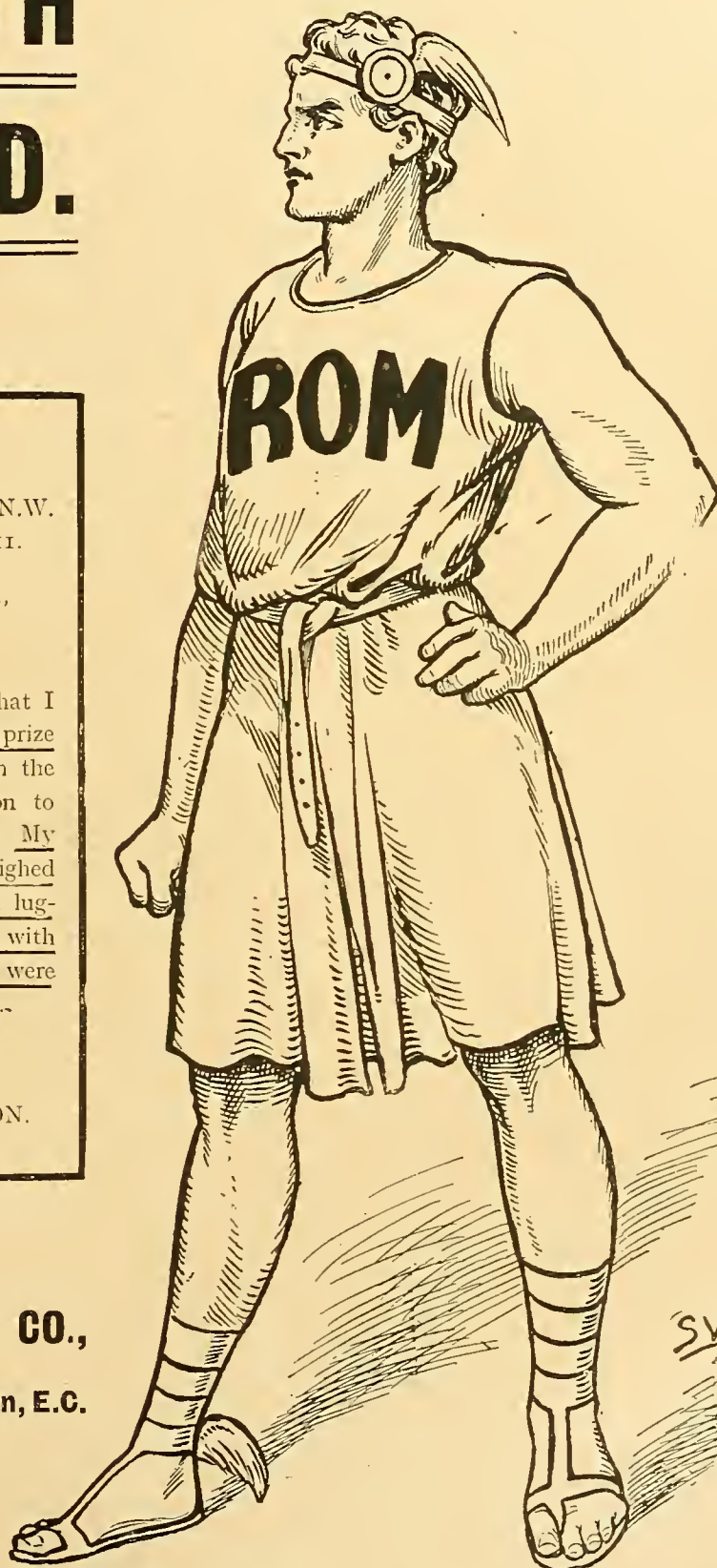
ROM TYRE & RUBBER CO.,

LTD.,

31, Brooke St., Holborn, London, E.C.

Telephone:
Holborn 1513.

Tel. Address:
"Romdom, London."



In answering this advertisement it is desirable to mention "The Motor Cycle."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmorland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants Channel Islands.

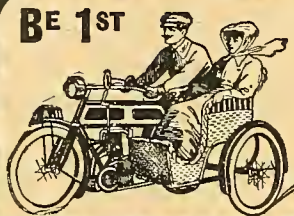
SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

BE 1ST



With
the
Best
1912
Model.

BOOK THE EXCHANGE NOW.

Arrange to change your present machine for any improved 1912 Model of latest and best make with or without Sidecar, to be delivered at opening of 1912 Season.

We make most exceptionally liberal allowance for your present mount, save you all trouble of Winter storage, and guarantee delivery at the opening, when 1912 Improved Models will be in the greatest demand.

WRITE FOR
DETAILS OF
EXCHANGE
SYSTEM &
LIST OF

A SIDECAR WILL ENABLE
YOU TO DOUBLE YOUR
MOTOR CYCLING PLEASURES
BY SHARING THEM.

TO-DAY'S BARGAINS, WHICH INCLUDE:

4446.	2½ h.p. 1911 Three-speed NEW HUDSON 38 Gns.	
4447.	2½ h.p. 1910 ROYAL ENFIELD	£22 10
4448.	3½ h.p. 1911 Standard BRADBURY	£37 10
4457.	6-7 h.p. 1911 T.A.C.	£55 0
4459.	2½ h.p. 1910 Standard DOUGLAS	£29 0
4460.	6 h.p. 1911 ZENITH GRADUA	55 Gns
4461.	3½ h.p. 1908 P. & M., two speeds.	£25 0
4462.	3½ h.p. 1909 Tourist REX	£22 10
4466.	3½ h.p. 1911 ARIEL, variable gear	£35 0
4468.	3½ h.p. 1911 Free-engine TRIUMPH and Sidecar 50 Gns	
4469.	2 h.p. 1911 Lightweight HUMBER with Armstrong three-speed gear	£36 10
4471.	4 h.p. ROC, free engine	£18 10
4475.	3½ h.p. 1911 F.E. PREMIER	£42 10
4479.	7 h.p. 1911 Tourist REX	40 Gns
4431.	5-6 h.p. 1911 T.T. BAT	£47 10
4432.	5 h.p. 1909 Tvin REX DE LUXE	£32 10
4434.	5-6 h.p. 1911 Twin BAT	£47 10
4435.	7 h.p. 1910 Two-speed V.S.	£42 10
4438.	5 h.p. 1911 Twin REX DE LUXE	£45 0
4437.	3½ h.p. 1910 Two-speed HUMBER	£32 10
4439.	2½ h.p. 1909 DOUGLAS	£22 0
4443.	2½ h.p. 1911 DOUGLAS	£34 0
4444.	1½ h.p. 1909 WOLF	£12 10
4415.	3½ h.p. 1911 BRADBURY	£40 0
4418.	2½ h.p. 1911 MOTOSACOCHE	£32 10
4420.	3½ h.p. 1911 Free-engine PREMIER	£42 10
4380.	4 h.p. 1910 SCOTT	£45 0
4381.	3½ h.p. 1910 Two-speed HUMBER	£35 0
4357.	2½ h.p. 1910 ROYAL ENFIELD	£25 0
4361.	3½ h.p. 1911 Free-engine BRADBURY	£42 0

WAUGHOP'S

LONDON'S ONLY
MOTOR EXCHANGE IN
THE HEART OF THE
CITY.

OFF FLEET STREET,
NEAR LUOGATE.

Phone: 6777 Holborn.
Wires: "Opifcer, London."



NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 100, c/o 'The Motor Cycle,' Coventry"; or it "London" is added to the address, then to the number given, c/o 'The Motor Cycle,' 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Illife and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmorland.

PHELO and Moores, new 1911 models, nnerated, ready for immediate delivery.—Walkers, Fishburn, Ferryhill.

TRIUMPH, late 1910, excellent condition, just overhauled; £35, a bargain.—Cyril Walker, Wooler Rd., West Hartlepool.

DOUGLAS, 1911, done 1,500 miles, in splendid condition, complete with accessories; £30 lowest.—Hodgson's Garage, Main St., Keswick.

1911 Scott, in splendid order, not done 4,000 miles, complete with F.R.S. lamp, and Cowey speedometer; £50.—Dr. McIntyre, Braudon, Durham.

4 h.p. Rce, magneto, Chater-Lea frame, 26x2½ tyres, B. and B. carburettor, footboards. Very fast, perfect order; £27.—Box 8,264, The Motor Cycle Office, Coventry.

3 h.p. Fafnir, Chater-Lea, accumulator, torpedo tank, lamp, and spares good tyres, very powerful and fast; £21.—Box 8,265, The Motor Cycle Office, Coventry. Photos on application.

1911 Model 3½ h.p. Triumph, £48/15; 3½ h.p. Scott, £60; 3½ h.p. Ariel, £50; 2½ h.p. N.S.U., £40; now ready for immediate delivery.—Perry Motor Co., Ltd., Northumberland St., Newcastle-on-Tyne.

SECTION II.

York and Lancashire.

1908 Triumph, perfect condition; £25/10.—Carruthers, 21, Linden Grove, Leeds.

1911 3½ h.p. Lincoln Elk free engine; £28.—Taylor, 76, Newland Av., Hull.

1911 3½ h.p. Lincoln Elk, ridden very little; £30.—F. Hayes, 21, Waverley St., Oldham.

LATE 1910 Phelon and Moore, like new, all accessories; £44.—50, Beverley Rd., Hull.

1910 T.T. Triumph, good condition; £33.—Particulars, Adams, 42, Portland St., Southampton.

1911 Bradbury, condition new, very little ridden, tools; £38.—Hart, 359, Oxford Rd., Manchester.

1911 Royal Enfield, 2½ h.p., 2-speed, free engine.—Parkinson and Co., Rawtenstall, Lancashire.

1911 T.T. Triumph, condition as new; any trial; £41.—Nuttall, Hillfield, Farnworth, nr. Bolton.

WOLF, 1910, 2 h.p., Druids, Amec, splendid condition, less stand; £16.—83, Tynan St., Liverpool.

1908 Triumph, splendid condition, lamp, horn, backrest and spares; £30.—23, Arthur St., Rotherham.

1908 3½ h.p. N.S.U., magneto ignition, h.b.e. B. and B., excellent condition; £14.—65, Hidden St., Bolton.

1911 Triumph, clutch model, Palmer cord, lamp, horn, all spares perfect; £47.—45, Wigan Lane, Wigan.

£9 Per H.-P.

Brand New 4 h.p. N.S.U. Model de Luxe, single-cylinder, spring forks, magneto, H.B. control, stand, carrier, tools, No. plates. Ideal for sidecar work.

List Price, £48; Our Price, £36.

Two-speed Gear, £5 15s. extra.

Exchanges entertained. £3 allowed for push cycle.
Special prices to cash buyers.

5 h.p. PEA DE LUXE, 1910, two speeds	£42 10
5 h.p. PEA Twin, 1910	£29 10
5 h.p. G.B. NALA, 2-speed, magneto	£25 10
3 1/2 h.p. BRADBURY brand new, 1911	£44 10
3 1/2 h.p. REX, 1909, Tourist	£22 10
3 1/2 h.p. REX, 1909, two speeds	£32 10
6 h.p. Twin N.S.U., 2 speeds, spring forks	£29 10
5 h.p. N.S.U. Twin, two speeds	£27 10
3 1/2 h.p. N.S.U., two speeds, 1908	£20 0
3 1/2 h.p. N.S.U., 1908, magneto	£17 10
3 1/2 h.p. N.S.U., 1908, magneto	£16 10
3 1/2 h.p. HUMBER two-speed, 1909	£29 10
3 1/2 h.p. HUMBER, two speeds, 1910	£33 10
5 h.p. Twin REX, magneto, two-speed gear, with sidecar	£30 0
3 1/2 h.p. HUMBER, 1911, two speeds, like new	£45 0
3 1/2 h.p. QUADRANT, magneto	£16 10
3 1/2 h.p. N.S.U., 1910, two-speed gear	£32 10
3 1/2 h.p. REX, Roc clutch, magneto	£21 0
5 h.p. Twin REX, magneto, free engine	£16 10
2 1/2 h.p. CLEMENT-GARRARD Lightweigh	£7 10
2 1/2 h.p. KERRY, 26in. wheels	£9 10
3 h.p. HOBART, low built	£8 10
3 h.p. MITCHELL, spray	£6 10
3 h.p. NOBI E, vertical engine	£7 10
2 1/2 h.p. F.N., 1910, two-speed model	£28 10
2 1/2 h.p. HUMBER, chain drive, low frame	£4 10
3 h.p. N.S.U., M.O.V.	£12 10
2 h.p. MINERVA, M.O.V., h.v. control	£5 10
5 h.p. Twin REX, with forecar	£12 10

TRICARS AND CARS.

9 h.p. DARRACQ Car, three speeds	£19 10
16 h.p. EAGLE Four-cylinder, five-seater	£32 10
1 1/2 h.p. STEVENS' Tricar, Roc two-speed	£17 10
1 1/2 h.p. REX Twin, Fit-all two speed	£17 10
BEDELIA Car (1911), 5-7 h.p., twin, magneto, cost £93	£57 10
6 1/2 h.p. DE DION, two-seater, genuine De Dion throughout	£28 10

MISCELLANEOUS.

Carburettors—1 ougemare and F.N.	4/6
New Amac Carburettor, H.B. control	15/-
Long Handle-bars, drop ends	5/6 and 6/6
Coronet Silencers, up to 5 h.p.	3/3 and 4/4
XL'ALL Spring Forks	9/6
Groskin Belling: 110, 94, 110, 104, 110, 114	
Wide Mudguard, 3in., 2/3; 4in. 2/11 pair.	
Handle-bar Watches, with holders	4/3
Magneto Handle-bar Switches	2/1
Mabon Free Engine Clutch, suit 3 1/2 h.p. Brown	27/6
Handle-bar Mirrors	3/-
Powell and Hanmer 1/1 Lamp	14/9
16 Guinea Lowen Sidecar	25 0
Nearly New Coronet Sidecar	23 10
Farrar's Halfcar Sidecar	23 10

PUSH CYCLE PRICES.

We have a few Accumulator Models which we have taken in exchange for new machines. They are in running order, and complete with belt, coil, and accumulator. We wish to clear, and offer them at ridiculous prices.

2 1/2 h.p. MINERVA	£4 15
2 1/2 h.p. DE DION, vertical engine	£4 10
2 1/2 h.p. WERNER, very low	£4 10
2 h.p. ARIEL, M.O.V.	£5 10
2 1/2 h.p. STANDARD, vertical engine	£4 15

We will allow full price paid for these in part payment for better machines within six months from date of purchase.

Booth's Motorie

Keighley Mills, Bedford Street North, Halifax.

el. 1062.

MOTOR BICYCLES FOR SALE.

ENFIELD, 1910, just overhauled, belts, P and H. all spares, like new: £29.—Imman, 94, Pinstone St., Sheffield.

1 1/2 h.p. and 2 1/2 h.p. Minervas, perfect running: £5 and £9, or best offers.—Wilton, 40, Dickinson St., Manchester.

TRIUMPH, 1911, free engine, perfect condition. £45.—Morris, 32, Fairbourne Rd., Levenshulme, Manchester.

PHOLON and Moore, 1911, March, geared for sidecar, perfect condition: £50.—Gammam, High St., Doncaster. Tel: 93.

5 h.p. Twin Antoine, magneto, 2 speeds and free. Amac, h.b.c. Whittle belt: £16/10.—Griffiths, 204, Deane Rd., Bolton.

£18.—3 1/2 h.p. Rex, 1908, cylinder, piston, and spring forks 1910.—Particulars, Holmes, Hglue Lodge, Cottingham Rd., Hull.

DOUGLAS, 1910, guaranteed perfect: £27; Bradbury standard, new, wanted, cash adjustment.—Senseall, Janova Hall, Barasley

F.N., 4-cyl., 1911, 5-6 h.p., June, do 50, excellent condition: £38.—Geoffrey, Kelsall, Herby Lodge, Prestwich, Manchester.

TRIUMPH (Dec., 1909), splendid condition, Lucas lamp, horn, tools, etc.: £32.—931, A-bton Old Rd., Fr. Openshaw, Manchester.

REX, 1910, in good condition, complete with lamp. All necessary spares, etc.: £32.—Snigden, 6, Bolton St., Low Moor, Bradford.

£3.—Humber motor cycle frame, engine, wheels, sprockets, low, new condition: bargain.—Blackburn, Atlas Lane, Birminghame.

1910; Free Engine Triumph, good condition, tyre nearly new, Lucas lamp, horn; 40 guineas.—Clare House, Baker St., Hull.

3 1/2 h.p. Clarendon, X'Pall, Whittle, Amac, h.b.c., new. Palmers; bargain. £10.—Spink, Oypsey Lodge, St. John's Walk, Bridlington.

1911 T.T. Triumph, complete with lamp and spares, absolutely like new, special engine: £40.—Houghton, Fishmonger, Rotherham.

5 h.p. Twin Rex, late 1907, Bosch magneto, 1911 and B., h.b.c.; offers wanted. — No. 8599 The Motor Cycle Offices, Coventry

MOTO-REVE 2 1/2 h.p. Twin, Drums, magneto and engine just been overhauled by makers: £18, or nearest offer.—Snape, North St., Wetherby

1910; Bradbury, splendid condition, will guarantee perfectly sound in every respect: £32. — James Bartley, 11, Walnut St., Southport.

MOTO-REVE, late 1909, 2 1/2 h.p. twin lightweight, good condition; owner getting sidecar.—Wilkinson, Dolphinholme, Beverley High Rd., Hull.

N.S.U., 1911, perfect condition, 6 h.p. twin, 2-speed free engine, with Millford sidecar: £45.—Crossley & Harrison, 73, Bold St., Liverpool.

REX, 1909, 5 h.p., spring forks, magneto, Whittle belt, complete with sidecar: £32.—Green and Co., 1,073, Chester Rd., Stretford, Manchester.

MOTO-REVE, 2 h.p., 1911, not run 300 miles; cost £37, accept £27.—Green and Co., 1,073 Chester Rd., Stretford, Manchester

2 1/2 h.p. J.A.P., magneto, low built, B. and B., nearly new Dunlop on back, just overhauled, new cylinder and piston: £12.—209, North Rd., Preston.

1 1/2 h.p. Lightweight, good climber, fully licensed, vertical shaft 90°, or exchange good sidecar, lathe, or gramophone.—16, Chessum Rd., Bury, Lancashire.

MOTOSACOCHE, 1911, 2 1/2 h.p. free engine, only ridden 30 miles, horn, lamp, tools, perfect order. £32.—Box 7,600 The Motor Cycle Offices, Coventry

1911 2 1/2 h.p. 2-speed F.N., used trial runs only, £34; 1911 Bradbury, shop-used, what offers: £10 2 1/2 h.p. Moto-Reve, £18.—Motor Agency, Bailiffe Bridge.

1911 Premier, F.E., 2 speeds, cost £60 2 months ago, spares, guaranteed perfect: £52; Montgomerie sidecar also for same.—Slater, Pharmaceutical Chemist Wigao.

TRIUMPH, T.T. roadster, Lucas lamp, horn, watch, 2 handle-bars, spares, etc., all in splendid condition, would ride reasonable distance: 38 guineas.—Leach, 87, Wallgate, Wigan

1911, 5 h.p. Rex de Luxe, Whittle, new F.R.S., complete accessories, guaranteed: £50, lowest; consider modern lightweight part exchange.—Beesley, Charles town Rd., Blackley.

SEPTEMBER, 1910, Humber 2-speed, sidecar, Jones speedometer, watch, mirror, exhaust whistle, lamp, generator, horn, cost £65; exceptional sacrifice, £37/10.—E S Hey, Ltd., Normanton.

B.S.A., new, 200 miles only, no better machine procurable: £45.—E. S. Hey, Ltd., Normanton.

REX 5-6 h.p. Twin, accumulator, sidecar, good order: buying lightweight: 17 guineas.—E. S. Hey, Ltd., Normanton

YOU Find the Wife, we find the furniture, and take your motor in exchange; good value allowed.—Furnishing Stores, 1 High St., Normanton.

CORONET SIDE CARS

MODEL C.—£7 2s. 6d.



MODEL A.—£5 5s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest cor pattern mudguards. Wicker, cane, or coach-built bodies. Child's reversible seat. Excellent upholstery.

NOTE front arm which grips main tube of sidecar, which is the only correct mechanical method—nothing lopsided about this attachment.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURY'S, etc. Discounts to Agents.



TEE BEE SEAT-PILLAR
5/- each.

TYRES. TYRES. TYRES.

Dunlops, 28x2, beaded, 14/9; wired	10/6
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28x2 1/2 tubes 6/9; 28x2, 6/9; Butted	7/9
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GENUINE MICHELIN TYRES.

26 x 2 14/8	28 x 2 16 9 beaded
26 x 2 1/2 17/-	28 x 2 1/2 18 3
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26 x 2 12/3	28 x 2 13/- wired
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R.O.M.'s, SHAMROCKS, PALMERS, etc.

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1 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
3 h.p. ROVER, water-cooled, M.O.V.	£25 0
3 1/2 h.p. N.S.U., M.O.V., with gear-driven magneto, brand new from makers	£11 10
5 h.p. Twin SAROLEA, good order	£6 15
9 h.p. DARRACQ, water-cooled	£12 0
3 1/2 h.p. BROWN, M.O.V., with magneto	£27 10
4 h.p. CORONET M.O.V., air-cooled	£4 5
3 1/2 h.p. AUTOMOT 22 0	2 CYCLONE, m.o.v. £1 15
13 h.p. MINERVA £1 8	3 1/2 h.p. BROWN .. £5 15
3 h.p. QUORANT £3 0	2 1/2 h.p. MINERVA.. £2 8
2 1/2 h.p. TRENT .. £1 18	2 h.p. ANTOINE .. £1 8
2 1/2 h.p. DE DION .. £2 5	3 1/2 h.p. REX M.O.V. £3 15

Exchanges entertained.

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We have a large stock of the best makes from 59/6. Your old coil and acc. taken in exchange.

NEW CARBURETTERS FOR OLD.

22/- and your carb. secures a new 1911 B. and B. with h.b. control.

20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control. Delivery per return.

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All machines marked thus * at Halifax Depot.

QUADRANT, 1911 model, as new	£39
SCOTT, two speeds, magneto	£30
P. & M., 3½ h.p., 1910 model, good condition	£45
N.S.U., 6 h.p., 1911 model, two speeds, sidecar	£55
REX, 1911, 5 h.p., M.O.V., gold medal winner	£35
REX, 1910, 5 h.p., two speeds, magneto	£42
REX, 1911, 7 h.p., two speeds, excellent order	£51
REX, 1911, 7 h.p., two speeds, very fast	£49
RUDGE, 1911, 3½ h.p., clutch model	£47
BAT, 1911, 8 h.p., overhead valves, very fast	£50
F.N., 1910, 2½ h.p., two-speed model	£28
REX, 5 h.p., magneto, very fast	£24
REX, 1910, 3½ h.p., Tourist, very good order	£28
TRIUMPH, 1909, 3½ h.p., standard model	£32
ARIEL, 1910, 3½ h.p., footboards fitted	£30
ZENITH, 1911, 3½ h.p., equal to new	£55
MINERVA, 1911, 8 h.p., P. and M. two-speed	£48
MINERVA, 4½ h.p. twin, spring forks	£20
N.S.U., 1908, 5½ h.p., two speeds, perfect	£30
REX, 1911, 5 h.p. de Luxe, brand new, in stock	£53
REX, 1911, 5 h.p., cone clutch, new, in stock	£53
REX, 1911, 3½ h.p., Tourist, new, in stock	£45
REX, 1911, 3½ h.p., cone clutch, new, in stock	£50
TRIUMPH, 1908, 3½ h.p., XL All saddle	£34
REX, 1907, 5 h.p., free engine, spring forks	£18
F.N., four-cylinder model	£16
TRUMP-JAP, 1911, 4 h.p., as new	£35
KERRY, 5 h.p., twin, green finish	£17
F.N., 5-6 h.p., 1911 model	£28
N.S.U., 3½ h.p., 1908, magneto	£20
PEUGEOT, 3½ h.p., Chater frame, Bosch	£19
ALLDAYS, 3 h.p., magneto, low built	£15
MOTOSACOCHE, 1911, ladies' model, as new	£26
REX DE LUXE, 5 h.p., clutch model	£24
ARIEL, 2½ h.p., lightweight model	£10
ROVER, 3½ h.p., 1911 clutch model	£45
GRIPPEN, 2½ h.p., a beauty, touch 25	£7
ANGLIAN, 2½ h.p., good running order	£6
N.S.U., 2½ h.p., 1909, lightweight	£22
F.N., 4½ h.p., 1909, four-cyl.	£23
REX, 5½ h.p., 1907, clutch model	£24
*FAFNR, 3 h.p., 1907, speeds	£15
*ARIEL, 2½ h.p., thoroughly overhauled	£11
*REX, 1909, 5 h.p., Tourist, good order	£29
*MOTO-REVE, 1910, 2½ h.p. model	£22
*TRIUMPH, 1909, 3½ h.p., good order	£34
*BRADBURY, 1911, 3½ h.p., magneto	£39
*REX, 1910, 3½ h.p., Tourist model	£28
*N.S.U., 3½ h.p., Tourist model	£22
*REX, 5 h.p., 1909½, Speed King	£30
*HUMBER, 1909, 3½ h.p., two-speed	£30
*TRIUMPH, 1907, 3 h.p., magneto	£19
*ANTOINE, 5 h.p., twin, footboards	£15

CARS, etc.

BEDELIA Car, 4½ h.p., 1911 model	£40
REX Litette, 5½ h.p., models, new	£50
REX Litette, 5 h.p., magneto, two speeds	£30
REXETTE, 5½ h.p., two speeds, open frame	£22
BROWN, 3½ h.p., two speeds, air-cooled	£16
FORD Car, 10 h.p., twin, two speeds	£18
STAR Car, 9 h.p., three speeds	£25
MONTGOMERY Sidecar, child's seat	£7
MILLFORD Castor Wheel, like new	£6
FORECAR, with tyres, aluminium finish	£2

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Telephone 552. Mayfair
Telegrams 'Ab-dicate' London
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Telephone, 433. National
Telegrams 'Petrol' Halifax
(LISTS POST FREE)

MOTOR BICYCLES FOR SALE.

3½ h.p. 1909 Minerva, 1911 cylinder and piston.
Bosch magneto, h.b.c., spring forks, new Dunlop
belt, studded tyres, splendid running order: £17.—Dr
Hall, Hope Hospital, Salford.

1911 Motosacocche, 2½ h.p., good condition, 2 spare
covers and tube; £30: exchange for Triumph or
other good make, cash adjustment.—Bateson, 1, Cam-
bridge St., Saltburn-by-the-Sea.

ZENITH-GRADUA, 3½ h.p., 1911, perfect condition,
winner hill-climb and reliability trial, many spares,
done 4,000 miles, cost £56 March; £45: owner buying
twin.—Frain, Scainton, Yorks.

TRIUMPH, 1911, new July, equal new, perfect, £42.
many spares; Pit-all 2-speed gear, to fit, £2/10;
sidecar, cost £14, sell £7: the lot, £50.—Edmonds.
"Stourton," Clifton Lane, Rotherham.

TRIUMPH, 1911, free engine, and Montgomery rigid
sidecar, run 2,000 miles, equal to new, with canter,
lamp, Lucas horn, and numerous spares: £60.—O S.
Smith, 24, Lothian Rd., Middlesbrough.

TRIUMPH, standard, 1909, excellent condition
throughout, carefully used, Palmer cords, Auto-
clipse lamp, mirror, spares, 1911 piston and rings: £33
—Letters, R. Bailey, 131, Lovely Lane, Warrington

1909 Triumph, 1911 tank, handle-bars, and stand,
just been rebuilt throughout, nearly new tyres
and belt, Lucas lamp, etc., spares, splendid condition
and very fast: £33, no offers.—Hodgkinson, Addingham.
Ilkley.

THE Best Bargain of the Week.—Genuine June 1911
3½ h.p. Tourist Rex, latest model, all refinements.
Druids, cantilever, glass fillers, etc., fully guaranteed,
run 400 miles only: accept £30, must sell.—London
House, Dinnington, Rotherham.

ONE 7.9 h.p. Motor Cycle, Chater-Lea frame, Amac
carburettor, perfect running order, h.b.c., good
sidecar machine: will accept a reliable second-hand free
engine model or lightweight as part exchange.—W A
Thurbon, jun., 7, Queen St., Redcar.

END of Season Sale: no reasonable offer refused.—
1911 free engine Triumph, new: 1911 T.T.
roadster, Dunlops, new: 1911 Bradbury, done 1,000
miles, £36. 1909 standard Triumph: 1909 T.T. Tri-
umph: exchange: and orders booked now for 1912 Tri-
umphs and Matchless motors.—Cross, Rotherham.

1911 Ariel, 3½ h.p., easy starting device, free engine,
variable gear, spring seat-pillor, complete with
Lucas King's Own lamp and generator, Nightingale
whistle, and horn, new Dunlop belt, not ridden 2,000
miles, guaranteed perfect: cost £55, accept £45, or
wear offer: owner giving up riding.—Apply, Exley, High
St., Knaresborough.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby
Stafford, Shropshire, Montgomery, and
Merioneth.

TWIN Rex, 5 h.p., 1911, free engine, used few tri-
als only: £42.—Below.

DOUGLAS, single speed, 1911 model, brand new, and
unused: £35.—Below.

HUMBER, 2-speed, 1911, Montgomery sidecar, 1,000
miles, as new: £44.—Below.

TRIUMPH, free engine, 1909, perfect, £35: several
other Triumphs from £20.—Below.

TWIN Euclid, new condition, £24: Quadrant, 1909
4 h.p., Bosch magneto, £16.—Oswald Parker, Mel-
bourne, Derby.

HUMBER Lightweight, nearly new: £28: any trial:
genuine.—11, Stafford St., Walsall.

1911 James, 3½ h.p., ridden 200 miles, absolutely as
new: £36.—Leigh, Radford, Stafford.

1910 5 h.p. Twin Rex, Roc 2-speed: £38: wanted.
3½ h.p. Hammer.—Moore, College St., Long Eaton

3½ h.p. J.A.P., new 3 weeks ago, lamp, tools, etc.: cost
£22: £22/10, sacrifice £43/10.—141, Monk St.,
Derby.

MOTOSACOCHE, magneto, very fast, good climber,
very reliable, spares: £22.—J. George, Church
St., Oswestry.

ALLEN S JONES, Beddgelert, invites enquiries for
1912 machines, as he is going to the show; ex-
changes entertained.

ZENITH-GRADUA, 3½ h.p., in stock for immediate
delivery.—Sole district agents, Paskells, Ltd., 250,
Stafford St., Walsall.

BRADBURY'S.—All models in stock for immediate
delivery.—Sole district agents, Paskells, Ltd., 250,
Stafford St., Walsall.

TRIUMPH, 1908, excellent condition, recently re-
built, lamp, horn, spare Whittle: £25.—P Brown,
Breton Rd., Runcely.

TRIUMPH, 1910, T.T. Roadster, very fast, condition
excellent, lamp and spares: 36 guineas quick sale.
—H Wardle, Whitthurch, Salep.

ENFIELD, 2½ h.p., chain drive, 1911, £45 model, do
50 m.p.h., sample machine, little used, unscratched:
bargain, £35.—King, High St., Alfreton.

ENFIELD Lightweight, perfect, as new: 27 guineas:
wanted, first-class sidecar machine, give cash and
Enfield for same.—Langton, Rochester, Stoffs.



REMEMBER

The value of your present machine is depreciating
week by week.

Why not exchange now or at the end of the season
for a 1912 model?

We can allow far better prices than those which rule
in April, and, if you wish, advance you a big part
of the allowance in cash.

Why not write, or, better, call and discuss with us.

ANY MAKE.

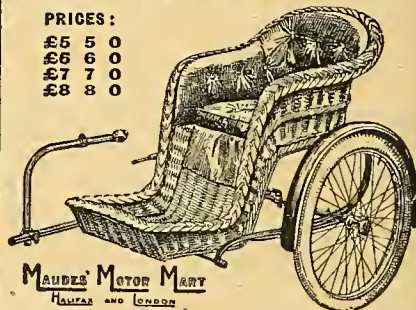
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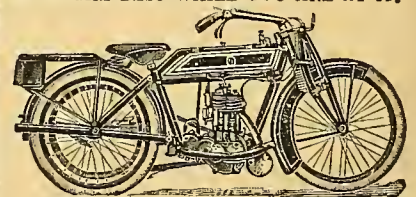
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Just the thing for winter riding.

We make a special chassis (bare) for winter usage,
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Complete with tyre.

HAVE THE BEST WHILE YOU ARE AT IT.



R XES! REXES!! REXES!!!

We have a few brand new 1911 Models. If you
would save money, write us.

3½ h.p., cone clutch	£40.
5 h.p., ditto	£44.
5 h.p., DE LUXE	£54.

FULLY GUARANTEED. CALL AND INSPECT.
SPECIAL PRICES.

LOOK OUT FOR THE 1912 GRADO-GEAR

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GIVES ALL GEARS FROM 3½ to 1
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Fit any machine.

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**LARGEST REX DEALERS,
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HALIFAX.**

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Telegrams: "Perfection."

SECOND-HAND MACHINES IN STOCK.

1911 3½ h.p. Tourist Rex, done 750 miles	£32 10
1911 5 h.p. Rex, clutch model	£39 10
1911 3½ h.p. Rex, clutch model	£37 10
1911 5 h.p. Two-speed Rex de Luxe	£47 10

THESE ARE ALMOST EQUAL TO NEW.

NEW 1910 MACHINES. REDUCED PRICES.

1910 3½ h.p. Magneto Rex	28 Gns.
1910 3½ h.p. Magneto Rex, Cantilever seat	34 Gns.
1910 5 h.p. Twin Rex, grand sidecar mount	36 Gns.
1910 5 h.p. Rex de Luxe, 1911 fittings	49 Gns.

These machines all bear maker's guarantee.

OTHER SECOND-HAND MACHINES.

1910 3½ h.p. T.T. Triumph, grand machine	£38 10
1910 7 h.p. Rex de Luxe, two speeds	£43 0
1910 7 h.p. Twin Rex	£37 10
1910 Twin Rex, special M.O.V. engine, very fast	£29 10
7 h.p. Dot, Roc, two speeds	£38 10
1910 5 h.p. Rex de Luxe, fine sidecar machine	£32 10
1910 3½ h.p. Rex, very fast, special machine	£27 10
1909 Twin Rex de Luxe, two speeds	£34 10
1908 Twin Rex de Luxe, wants attention	£16 10
3½ h.p. Tourist Rex, smart and good	£24 10
1908 3-6 h.p. Rex Lightweight, magneto	£17 10
1907 3½ h.p. Magneto Rex, spring forks	£19 19
5½ h.p. Twin N.S.U., free engine	£23 0
5½ h.p. Twin Rex de Luxe, Roc clutch, spring forks	£24 10
Brand New 3½ h.p. Rex, spring forks and pedals	£31 0
Magneto Triumph, spring forks, specially low	£25 0
3½ h.p. Rex, very good order	£8 10
Four-cylinder F.N., magneto, spring forks	£18 18
F.N. Magneto Lightweight	£16 10
3½ h.p. Magneto Quadrant, spring forks	£20 0
2½ h.p. Eclipse, low frame, wants attention	£3 10
5 h.p. Quadrant Tricycle, free engine	£5 0
2½ h.p. Quadrant Tricycle, running order	£3 15
3½ h.p. Wolf, Stevens engine, h.b. control	£12 10
2½ h.p. Royal, very smart, runs well	£8 0

PASSENGER COMBINATIONS.

7-9 h.p. Two-speed Peugeot, Montgomery sidecar ..	£44 10
5½ h.p. Twin Rex de Luxe, magneto ignition, Roc clutch, handle starting, and new rigid sidecar ..	£27 10
5½ h.p. N.S.U., free engine, N.S.U. sidecar, very smart turnout	£33 10
Brand New 5 h.p. Two-speed Twin Rex de Luxe and new 1911 de Luxe sidecar	£54 10
Two-cylinder Daimler Car, in running order, to clear ..	£14 10
7-9 h.p. Two-speed Free Engine Dot, and Montgomery sidecar	£44 10

6 GUINEA DE LUXE SIDE-CAR, merely very slightly soiled, and bearing usual guarantee. Clearance price £4 19 6

Exchanges quoted for 1912 Bradbury and Rudge Models.

MOTOR BICYCLES FOR SALE.

1911 Rover, new last July, with sidecar, lamp, horn, Veeder cyclo-meter, tools, spares; £50, complete; sell with or without sidecar.—Fithon, Parr's Bank, Sandbach.

NORTON, late 1910 3½ h.p. touring, recently overhauled, winner numerous hill-climbs, touring and dropped handle-bars; £32, or near offer.—Macdonald, Criche, Matlock.

ROYAL Enfield, 2½ h.p., 1910, as new, adjustable puller, Whittle belt, Lucas acetylene lamp, horn, tools, spares; £27, or near offer.—Price, 42, Bath Rd., Wolverhampton.

BRADBURY, 2½ h.p., h.b.c., new cylinder and piston, new Watawata, accumulator, good tyres, splendid condition, lamp, horn; £10/10.—F. Hill, Birchwood Collieries, Alfreton.

3 h.p. N.S.U., magneto, new 1911 B. and B. fitted, h.b.c., in perfect order, £14; 2½ h.p. Excelsior, £5; 2½ h.p. Bradbury, in nice condition, £9.—W. Spau, Astor, Nantwich, Cheshire.

MINERVA, 3½ h.p., 1908, Amac, h.b.c., magneto, footrests and carrier, tyres new, engine lately re-bushed and overhauled, lamp, horn, and all spares; a bargain, £17.—Rev. Owen, Hope, Mold.

SPECIAL Bargain.—3½ h.p. Triumph, Bosch magneto, new belt, covers, etc., just overhauled at a cost of £5/10. 1910 B. and B., guaranteed perfect running order; first cheque for £23 secures.—Brown, Gloucester Rd., Stonegravel, Clesterfield.

1909 Triumph, just had new cylinder and piston fitted, and thoroughly overhauled at the works, brand new spare tyre, lamp, generator, and all accessories, very fast; can be seen or tried any time; £30.—Hoffman, Wichester, Whitechurch, Sulph.

BRADBURY, 1910, condition perfect, new belts and rear tyre end of last month, spares include mirror, horn, tools, little used Dunlop tyre and belt; £29, no offers; or with almost new rigid sidecar and apron, £32/10; seen any time.—D. Noble, 53, George St., Altricham.

BRAND New Calthorpe, Precision engine, £38; 1910 3½ h.p. Premier, £27; 1910 Scott, in splendid condition, £38; 1911 3½ h.p. clutch model Rex, £35. 1911 3½ h.p. L.M.C. T.T. model, £34; new sidecar, complete with tyre, £24/19/6; real good sidecar aprons, 5/9 to 12/6.—Hough and Co., Walsall.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

REX DE LUXE 1910 Twin, 2 speeds, perfect; any trial; £38.—159, Leam Terr., Leamington.

1910 Premier Two, in good condition, tyres as new; £30, or offer.—Evans, 9, Heath Terrace, Leamington.

1909 Triumph Motor Cycle, in splendid condition; £30.—Apply, 166, North St., Upper Stoke, Coventry.

2½ h.p. Brown, B. and B., h.b.c., Whittle, good tyres, £1 new accumulator, reliable; £10.—Porter, Toynton, Spilsby.

TRIUMPH, 1909, perfect condition, good tyres and belt; £33.—Glenroy, Wake Green, Moseley, Birmingham.

TRIUMPH 1911 T.T. Roadster, with accessories and spares; £40.—Apply, Belgrave Garage, Bristol St., Birmingham.

3½ h.p. 1910 Twin Coral, magneto, Druid forks, £2 perfect order; photo; £20.—7, Broad Walk, Stratford-on-Avon.

1911 Clutch Triumph, practically new, lamp, spares, guaranteed; £40.—D. J. Cadmore, c/o Post Office, Stratford-on-Avon.

TRIUMPH, standard, 1909, everything splendid condition; approval, cash offers.—Taylor, 5, Victoria Terrace, Warwick.

ZENITH-GRADUAS, 3 h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester.

DOUGLAS, Model D in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester.

3½ h.p. Standard Excelsior, Druids, two tanks, filters, horn, spares; £26; seen any time.—41, Westminster Rd., Coventry.

3½ h.p. Rex de Luxe, 1909, 2 speeds, free engine, quantity spares, condition as new; £30.—Copley, St. Catherine's, Lincoln.

3½ h.p. Alldays, Roc 2-speed, delivered last June, perfect condition; must sell; £40, or best offer.—180, Leopold St., Birmingham.

TRIUMPH, 1909, standard, re-commissioned, plated, new tyres, belt, re-bushed this July; cash offers.—Snell, 24, Leicester St., Leamington.

TRIUMPH, 1910, free engine, Lucas lamp, speedometer, horn, spares, perfect condition; £43.—Brooks, Park Av., Handsworth.

TRIUMPH 1911 T.T. Roadster, perfect condition. First; £42; lamp, spares, etc.; offers.—Box 8,606, The Motor Cycle Offices, Coventry.

INDIAN, 5 h.p., free engine, clutch, G and J. tyres, list price £59, used few times; £45; as new.—Reath's Garage, Ltd., Birmingham.

TIME SAVERS



Satisfactory repairing of punctures without the aid of vulcanizing is now rendered possible by the aid of

THE CHEMICO RELIANCE PATCH

Besides being a great saver of time it is also a big factor in expense saving.

ing, bringing the item of puncture repairing to a very appreciable minimum.

CHEMICO RELIANCE PATCHES are a combination of vulcanized and unvulcanized rubber, the face of which is pure para. The tenacity with which the patches cling to the tracture is wonderful. Heat will not affect same—or rather it has no detrimental effect—for the hotter the tyre becomes, the tighter the patch will hold.

VULCANIZING ENTIRELY SUPERSEDED.

Oval, Square, or Rectangular, from 1/- to 20/- per dozen.

THE "CHEMICO" RELIANCE STIFF-BACK PATCH

is an improved form of para faced patch and has entirely eliminated the annoyance of curling up. Each patch is mounted upon a cardboard backing which compels it to lie flat when solutioned, and is therefore easily applied to the tube. The backing is removed after patch is in position.

In Oval shape only, from 1/3 to 13/6 per dozen.



THE CHEMICO ROLLER OUTFIT

is absolutely noiseless, unbreakable, and everlasting. Its contents are inserted in separate pockets to ensure silence, and is kept closed when not in use by concealed springs. The most perfect motor cycle outfit yet produced.

Price 3/- each.

THE COUNTY CHEMICAL CO., LIMITED, Bradford Street, Birmingham.

LONDON: 43, Gt. Eastern St. MANCHESTER: 235, Deansgate. GLASGOW: 128, Renfield St. DUBLIN: 30-40, Golden Lane. CARDIFF: Womaby St.

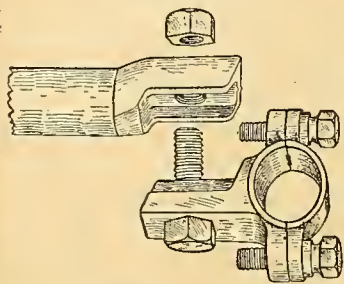
LAUGHED AT!!!

We were actually laughed at, when (nearly 12 months ago) we commenced fitting **XTRA STRONG** axles to our sidecars.

OUR judgment, however, was correct. Other makers are slowly falling into line. **NUF SAID !!!**

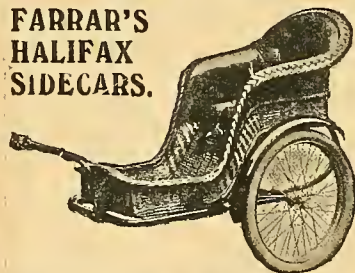
All Farrar's Sidecars are now fitted with special **Quick DETACHABLE JOINTS**

as illustrated below.



This is our Model de Luxe. Complete £5 : 5 : 0 Complete

**FARRAR'S
HALIFAX
SIDECARS.**



Absolutely the finest value on the market.

LESS POWER.

It is admitted by experts that, owing to the unique design, far less power is required to propel Farrar's Sidecars than any other style on the market. NOTE OUR front arm which grips the Sidecar CENTRE. Nothing loosed about this attachment.

All our Sidecars are now fitted with cranked back axles, refinements found on very few other makes.

MODEL "DE LUXE" £5 5
MODEL "C" with cane body £6 0
MODEL "D" with coach-built body £7 0
MODEL "E" with reversible child's seat £5 10
ALL COMPLETE WITH MUGGUARD AND TYRES.

Discount to the Trade.
Delivery from stock to suit TRIUMPHS, REXES, P. & M's, N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE.
SPRUNG LIKE A CAR.

Sole Agent for Australia and New Zealand:
Mr. T. HARRIS, Hunter Street, SYDNEY, N.S.W.

MISCELLANEOUS BARGAINS.

Brand new 4 h.p. N.S.U. engine and Bosch magneto £11 11
New 1911 B. & B. Carburettors, h.b. control 25/- 5/- allowed for old carburettor.
Longuemare, B. & B., F.N., & others from 5/- each
Powell and Hanmer Generator 7/6
Special Heavy 26x2 1/2 Tubes, guaranteed 7/6

**FARRAR'S
MOTOR EXCHANGE,**
19, 21, 23, 25, Hopwood Lane,
HALIFAX Two minutes from G.P.O.)

Telephone 919.

MOTOR BICYCLES FOR SALE.

F.N. Lightweight Motor Cycle, 2h.p., Bosch magneto, spring forks, splendid condition; £15/10.—Brown's, 12, Bull Ring, Birmingham.

WOLF 2h.p. Lightweight, Stevens engine, magneto ignition, equal new: bargain, £14/10.—Brown's, 12, Bull Ring, Birmingham.

BROWN 3h.p. m.o.v. Motor Cycle, Bosch magneto, h.b.c. carburettor, Continental tyres; bargain, £15/10.—Brown's, 12, Bull Ring, Birmingham.

JAMES, 3h.p., 1911 perfectly new, magneto, Druid spring forks, Palmer cord tyres, grand motor; list £48, accept £38/10, exceptional bargain.—Brown's, 12, Bull Ring, Birmingham.

MINERVA Motor Cycle, 3h.p., m.o.v., magneto ignition, spring forks, B. and B. h.b.c. carburettor; bargain, £15/10.—Brown's, 12, Bull Ring, Birmingham.

RUDGE-WHITWORTH (June, 1911), free engine, tyres as new, does 125 to gallon, Rex exhaust whistle; £46/10.—Clark, 28, Much Park St., Coventry.

MINERVA, 4h.p., magneto, h.b.c. Roe free engine, 2 speeds, automatic lubrication. X-Mall spring forks; any trial; £28.—95, Tintern Rd., Witton, Birmingham.

BRADBURY, 1909, standard, perfect condition; climb anything, Chinchera, all spares and accessories; £28.—F. W. Kilbee, 35, Wrayby St., Briggs, Lincs.

TRIUMPH, 1909, free engine, unused in 1910, with accessories, total mileage under 2,000; cash offers, approval, bargain.—Meguyer, 68a, Regent St., Leamington.

2 1/2 h.p. J.A.P., splendid order, all spares, h.b.c., Dunlop studded tyres, almost new; £12; owner going abroad; will bring within 30 miles.—61, Spout St., Coventry.

RUDGE 1911 Clutch Model, standard equipment, excellent condition, lamp, generator, horn, tools, and spares; £38.—No. 8,323, The Motor Cycle Offices, Coventry.

1911 Triumph, standard, not ridden 50 miles, guaranteed as new; sacrifice £44.—Clifford, Eastwood. Book your orders with us for your 1912 Triumphs, Bradburys, etc.

TRIUMPH, June, 1910, clutch, at present undergoing thorough overhaul at Triunpa works; appointment arranged; £40.—P. W. Johnson, 22, St. George's Rd., Coventry.

TRIUMPH, 1908, cylinder just been re-bored, and new piston fitted. Dunlop belt, lamp, horn, has been carefully ridden; £30, offers considered.—Dance, 26, Wood St., Northampton.

1909 Motocacoe, magneto, Druids, new Whittle belt, plating and enamel as new in splendid going order; £13/10 for quick sale.—S. Hodgkinson, 148, Queen Victoria Rd., Coventry.

6 h.p. Twin Advance, Chater-Lea fittings, nearly new, only ridden 200 miles, complete kit, spares and accessories; a bargain for quick sale, £38.—Burdett, Northampton Rd., Market Harborough.

1911 New Models at best cash offers; approval.—£514 3h.p. Ariel, clutch, variable gear, spring seat; £524 Enfield, 2-speed, clutch; also 3 second-hand 1909 Triumphs, 1 clutch; cash or exchanges.—Holt and Co., Leamington.

TRIUMPH, 1910, 3h.p., standard, condition absolutely perfect, Kempshall tyre on back, only done 250 miles, spare belt, complete kit of tools, belt pump, horn, etc.; expert examination invited; £34/10.—Johnson, Arden Villa, Berkswell.

PASSENGER Model 4h.p. Quadrant, 1909 1/2, Bosch, B and B (1911), Palmer, Continental, new lin. Dunlop belt, re-bushed thru-out, new piston fitted, low, powerful, sell cheap, or exchange lower power.—Willow St. Bakery Leicester.

F.N., 4-cyl., 1911, only done 1,000 miles, 2 speeds, free engine, bought June, all spares, new Englebert tyres, new Lomax non-skid, 2 spare tubes, Rosinard exhaust whistle, a perfect bicycle, runs beautifully; will accept £45.—Morgan, c/o Phenician, Ltd., Finch Rd., Handsworth, Birmingham.

TRIUMPH, 1907 model, overhauled at works late 1910, new Palmer cord back, Palmer cord front, new belt, new Lucas headlight, Bosch magneto, h.b.c., machine in excellent order throughout; only wants seeing and trying; owner buying lightweight; bargain, £26.—G. J. Kitchen, Tuxford, Notts.

B. H. DAVIES has for sale his 3h.p. 1911 T.T. Rudge, gold medal winner in Scotch and Harrogate trials, with all spares, Kempshall tyres, spare pair racing wheels with wired-on Dunlops, adjustable pulley, and N.S.U. rear, Nightingale whistle, engine and gear just overhauled by makers, now better than new; price £42.—Letters only, 15, Royal Terrace, Northampton.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

1911 T.T. Roadster Triumph, nearly new, with spares; £43.

1910 Triumph Roadster, complete with spares, F.R.S. lamp, speedometer, etc.; cost £65, accept £39.

3 h.p. Locomo Elk, just been overhauled at makers, magneto, and h.b.c., guaranteed; £20; all spares; any trial or examination on either machine.—A. J. Young, Newmarket.

8 ONLY!!!

Our stock of Moto Reves has dwindled down to 8 only. **MOTO-REVES**—Handy in grease. Free from vibration. Splendid hill climbers. All have magneto ignition and H.B. control, and Druid spring forks.

All complete, with toolbag, tools, and inflator.
1910 2 1/2 h.p. Twin, fine order £24 0
1910 2 h.p. Twin, soiled only £28 10
1910-11 2 1/2 h.p. Twin, done 100 miles £26 0
1911 Single-cylinder, record machine £22 0
1908 2 h.p., fine value £18 0
1909 Twin, very fine order £20 0
1911 2 1/2 h.p. Twin, three-speed gear £38 0
1911 Special Single-cyl., done 200 miles £22 0

SINGLE-CYLINDER REXES.

3 1/2 h.p., 1910, with 1911 spring forks £35 0
3 1/2 h.p., 1910, black finish £32 0
3 1/2 h.p., 1910, grey finish £32 0
3 1/2 h.p., 1909, Tourist, very good £28 0
3 h.p., 1908, Featherweight magneto £18 0

TWIN-CYLINDER REXES

5-6 h.p., 1910 Amac, H.B. control, vary tics £16 10
7 h.p. de Luxe, two speeds, M.O.V. £48 0
5-6 h.p., 1908, two-speed, and sidecar £32 0
5-6 h.p. de Luxe, clutch model £24 0
5-6 h.p., two speeds and free engine, Bosch £28 0
5-6 h.p. de Luxe, 1908, two-speed model £28 0
5-6 h.p. de Luxe, 1908, two speeds, special, good £29 10

5-6 h.p., 1908, two-speed de Luxe, 1909 engine £32 0
5-6 h.p., 1907, Lloyd's variable gear, Bosch £23 0

N.S.U.'s N.S.U.'s N.S.U.'s

5 1/2 h.p., two speeds, Bosch, B. & B. carb. £25 0
Or with sidecar complete £28 0
5 h.p. Twin, Bosch magneto £19 0
One ditto, H.B. control £19 10
1908 Lightweight, Bosch magneto £17 0

OTHER MAKES. OTHER MAKES.

1911 New Hudson, three speeds £47 0
3 h.p. Triumph, M.O.V., very good £18 0
3 1/2 h.p. Fafnir, M.O.V., grand goer £12 0
3 h.p. Singer, Bosch, V belt drive, B. & B. £18 0
3 1/2 h.p. Minerva, M.O.V., B. & B. carb. £14 0
3h.p. Quadrant, Bosch, B. & B., spring forks £16 0

I.E.A.C. INATIN'S.

5-6 h.p. Clutch Model Rex and new sidecar £29 0
5-6 h.p. Two-speed 1908 Rex and Sidecar £33 0
One ditto £32 0
7-9 h.p. Two-speed Rex and Sidecar £53 0
All fitted with Magneto and Spring Forks.

TYRES. TYRES. TYRES.

26x2 1/2 Hutchinson heavy T.T. covers 25/-
26x2 and 26x2 1/2 in. wired-edge covers 12/6
Continental, rubber non-skids, 26x2 1/2 or 2 1/2 30/-
Hutchinson, ribbed tread, 26x2 1/2 in. 18/6
Continental, beaded, 26x2 18/6
Tubes, all sizes, guaranteed 9/6

£4 DOWN SECURES ANY OF THESE. BALANCE 6 WEEKLY.

3 1/2 h.p. Brown Bicar, 26in. wheels £12 0
3 1/2 h.p. Fafnir, M.O.V. £12 0
3 1/2 h.p. Minerva, M.O.V., B. & B. carb. £14 0

£6 DOWN SECURES ANY OF THESE. BALANCE 7/6 WEEKLY.

3 h.p. Quadrant, Bosch, magneto, H.B. control £16 0
5-6 h.p. Twin Rex, H.B. control, variable pulley £18 10
3 h.p. Singer, Bosch magneto, h.b. control £16 0
4 1/2 h.p. N.S.U., Bosch £19 0
1908 N.S.U. Lightweight, Bosch magneto £17 0
3 h.p. Triumph, M.O.V., 26in. wheels £18 0
1908 Magneto Rex, low and smart £18 0
5-6 h.p. Twin Rex, Bosch magneto £21 0

CARS AND TRICARS.

5 h.p. Humber Car, two-seater, good goer £22 0
6 1/2 h.p. Peugeot Car, two-seater £35 0
5 1/2 h.p. Rextette, two speeds, a beauty £24 0
6 h.p. Rover Tricar, good goer £17 0

MISCELLANEOUS BARGAINS.

Rigid Sidecar, 26in. wheel 51/-
Farrar's Sidecar, 26in. wheel £4 0
Coronet Sidecar, coach-built £4 17 6
F.R.S. Lamp, mirror back 2/8
Bosch Magneto for V twin £3 15
Bosch Magneto for 3 1/2 h.p. single £3 5
Vertical Frame, with 26in. back wheel, etc. £1 15
Prested Accumulators, new, 15 amp. 9/6
Tricar Frame, suit 6 h.p. engine 35/-
Lycett's Tubular Carriers, new 4/11
New Lycett's Saddle, coil springs, L/109 15/-
New Frame for vertical engine 30/-
New Prested Midget Trembler Coils 15/6

Farrar's Motor Exchange

19, 21, 23, 25, Hopwood Lane,
Telephone 919. **HALIFAX** (Two minutes from G.P.O.)

MOTOR BICYCLES FOR SALE.

1911 Hamber Lightweight, brand new, unsoiled; £29/10.—N. 602, The Motor Cycle Offices, C.V. entry.

3-h.p. Triumph, tyres, belt, enamel, and plated parts practically new; £15/10.—P. Riddelsell, Boxford, Suffolk.

1911 Free Engine Triumph, new; what offers?—Hoare, 12, Victoria Rd., Linslade, Leighton Buzzard.

1911 A.J.S., 2½ h.p., 2-speed, free engine, perfect condition, delivered July; £35.—White, St. Anbun's, London Rd., Lowestoft.

1909 7½ p. Twin Minerva, magneto ignition, spring forks, Mabon clutch, excellent condition; £25.—E. Criswell, Newmarket.

1911 3½ h.p. Bradbury, N.S.U. 2-speed, with sidecar, complete; nearest to £48 secures.—Leigh, 43, Ellisley Av., Cambridge.

3½ h.p. Quadrant, new Palmer and Dualop, spring forks, new Browa-Barlow, h.b.c., new Lyso; £10.—Victor, Fyson, Soham.

DOUGLAS, 1911, model D, also 2-speed free engine model, ready for delivery; 1911 2½ h.p. M. Motosacoché, reduced price; cash or terms.—Albert List, Ipswich.

4 h.p. 1910 Roe, Bosch, Druid forks, 2 speeds, free engine, handle starting, Whittle, h.b.c., spring footboards, excellent order, including tyres; bargain, £29/10.—Booker, Wretham, Stoke Ferry, Norfolk.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

BRADBURY Free Engine Model, brand new, best offer in seven days secures.—Glover, Pershore.

1911 Free Engine Triumph, absolutely like new, scarcely ridden at all; £50.—Green, Haverfordwest.

DOUGLAS, model D, 1911, delivered in May, for sale, in perfect order; price £32.—Forsyth Grant, Newcastle Emlyn.

3 h.p. N.S.U., magneto, spring forks, and B. and B., perfect condition and running order; £15 lowest.—Lee, 30, Conway Rd., Cardiff.

TRIUMPH, 1911, only done a few miles, as good as new, all on, £41; also Dualop motor suit, cost 2 guineas, accept £1/5.—Taylor, Vine Inn, Lye.

ARIEL-J.A.P. 6 h.p. Twin, splendid condition, new A. Dualop, climb anything, very low, B. and B. carburettor; £20, or nearest offer, a bargain.—Appy, 20, Middle St., Pontypridd.

4 h.p. Twin N.S.U., 1910 model, 2-speed and free engine, not run 2,000 miles, tyres splendid condition, machine scarcely soiled, complete with Mills-Fairford sidecar; cost £58/10, lowest price £27/10, a genuine bargain.—Ambler, Albion House, Llundrindod Wells.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

TRIUMPH in grand order, magneto; price £22.—Pitt Fordridge.

1911 Douglas, 2-speed, perfect condition; £38.—Wesley, 9, Victoria St., Bristol.

MOTOSACOCHE for sale, or part exchange for twin Douglas.—C. B. Barnard, Whitechurch, Hants.

3 h.p. N.S.U., magneto and spring forks, excellent condition.—Lovesey, 23, Berkeley Sq., Clifton, Bristol.

3½ h.p. Stevens, will take sidecar; £4; would exchange for good 2-speed or sidecar.—57, Whitehall Rd., Bristol.

3½ h.p. Rex, splendid condition; £18, or best offer.—Thurmer, Grove Lane, Winkfield, Bracknell, Berks.

MOTOSACOCHE, late 1909, perfect condition, bought 1911 model; £18.—Aylward, Lockerley Mills, Romsey.

1910 Douglas, recently overhauled makers, lamp, horn; £25/10.—Primrose Villa, Candelmas Lane, Beaconsfield.

1911 Free Engine Triumph, almost new, perfect in every respect; £48; no offers.—Little, Clavelly, Fleet, Hants.

5-h.p. 4-cyl. F.N., 1908½, in good running order, new tyres; £19; exchange.—Gordon Judd, Bart n Stacey, Hants.

DOUGLAS, 1910, practically new condition, complete, spares; £28/10, or nearest offer.—145, Fisherton St., Salisbury.

MOTOSACOCHE, 1910, excellent order, free engine, spares, accessories; £22.—Sanders, Tattenham Rd., Brockenhurst, Hants.

1909 Triumph, 3½ h.p., free engine, splendid running order, recently overhauled, tyres good; owner wants light car.—Thomason, Yarmouth, Wight.

DOUGLAS, 2½ h.p. twin, 1910, lamp, horn, spare new belt, etc., as new; sacrifice, £27/10.—C. I., Norfolk Terrace, Surly Hall Rd., Clewer, Berks.

SIDECAR MACHINES.

J.A.P.-CHATER-LEA, 5 h.p.	£22 10
BRAITHVAITE, 1909, 3½ h.p., two-sp'd	£23 0
REX, Twin, 5 h.p., four-speed	£28 0
N.S.U., 4 h.p. twin, two-speed	£29 0
BRADBURY, two-speed, 1911, as new	£42 0
F.N., 4-cyl., 4½ h.p.	£25 0
N.S.U., two-speed, 5 h.p., twin, 1910½	£40 0
J.A.P.-CHATER-LEA, 4 h.p., free engine	£26 0
J.A.P.-CHATER-LEA, 10 h.p., racer	£40 0
P. and M., 1910, perfect order	£45 0
ZENITH, 6 h.p., late 1909, Gradua gear	£40 0
REX, 5 h.p., fine order	£27 10
REX, twin, 5 h.p.	£25 0
P. and M., 1910, splendid order	£50 0
BAT-J.A.P., 1910	£36 0

ACCUMULATOR MACHINES.

£3 down and 5/- per week for any of these models.	
N.S.U., Twin, 3½ h.p.	£12 0
FAFNIR, 3½ h.p., free engine	£12 10
ARIEL, 3½ h.p.	£10 0
REX, 3½ h.p.	£10 0
MINERVA, 1½ h.p., h.b. control	£6 10
HUMBER, 3½ h.p.	£9 0
R. and P., 2½ h.p., h.b. control	£7 0
HUMBER, 2½ h.p.	£8 0
MINERVA, 1½ h.p.	£6 10
KERRY, 2½ h.p., useful model	£7 10

Also several more equally as cheap.

LAMPS WILL BE WANTED.

Special Separate Generator	12/6
Special Bracket, Separate Generator	22/6
1911 F.R.S. Latest	58/6
1911 Lucas Latest	55/- and 50/-
1911 Lucas Lightweight	35/-

State wants, as we have largest stock in the world, and make good allowance for old one off Lucas and F.R.S. lamps. Silver or ebony finish.

SPECIAL LINES.

100 Motor Cycle Saddles (new)	8/11
1000 Brand New Inner Tubes, all sizes	4/11
Waterproof Suits complete	12/11
Cowey 1911 Speedometer, new	£3 10
Jones 1911 Speedometer, new	£2 15
Ajax Heavy Tyre	35/-
MORECAMBE Studded, new pattern	19/11
Heavy MORECAMBE Studded, new pat.	23/11
50 Odd Tyres from 13/6 to 17/6 to clear.	
Mabon 1911 Free Engine	£2 5
Large Side Bags	6/11
Swan-neck Seat-pillar	2/9
Special Strong Carrier	4/5
E.I.C. Plugs, 2/6 size	1/1
Magnets, S.H., all sizes	£3, £3 5s., and £4
Parker Self-contained Lamp	15/11
Special Bracket Separate Generator Lamp	23/6
F.I.E.N. Magnets	£3 4 11
Sidecar Aprons, ready to fit	6/11
Special Twist Horn	3/11
New F.R.S. Generators	7/-
Exhaust Cut-outs	2/11
Handle-bar Mirrors	2/9 and 4/6
Tube and Belt Cases	5/11
Rubber Belts, 7½ ft. x 1 in.	5/11
Special H.B. Watch Holders	10½d. and 1/11
New Self-contained Lamp, large size	13/11
Tubes, all sizes, brand new	6/11 and 8/11
Leather and Steel-studded Bands	19/9
S.H. Lucas Lamps, complete	30/-
B. and B. Carburettors, h.b. control, 1911	23/-
Trembler Coils	6/11
Non-trembler Coils	6/9
Carbide Carriers, post free	1/10
Rubber Goggles	1/5
Brass Exhaust Whistles	2/11
T.B. Handle Starter	10/6
S.H. F.R.S. Lamps, complete	25/- and 35/-
Garner's Whistles, post free	12/6
Lamp Brackets, all patterns	1/11
Horn Grips	1/11
Assorted S.H. Carburettors, h.b. control	12/6
S.H. P. and H. Generators, complete	7/8
S.H. Parker's Generators, complete	6/9
New Generators	4/11
Holland Motor Cycle Suits	6/6
Tan Gauntlet Gloves, 4/6; lined	4/11
S.H. Whittle from 1/- to 2/9 per foot.	
Triumph Compression Domes	2/2
Dry Cells	4/8 and 6/6

New Specification List now ready, post free.

HITCHEN'S MOTOR EXCHANGE CO., LTD.,

Euston Road, MORECAMBE.

Telephone 112. Wires Motor Morecambe

As continual dropping wears away the stone, so are we hoping; by telling the same story week by week, and year by year, to wear away the prejudice of the public against trading with us because we are dealers.

As a matter of fact, we can do far better for you than any private seller, and fifty times better than three-quarters of the people who advertise as private sellers, but who are nothing more than private Motor Brokers or small Push Cycle Dealers, writing from their own or somebody else's private address. Beware of these people.

The following are a few reasons why trading with a respectable firm of dealers is more advantageous to you than bothering with the small fry who are continually posing, through the medium of the paper, with having something to sell wonderfully cheap.

By dealing with us, you are dealing with a firm who have a reputation to uphold, and who prefer, at all times, not to do business with you if it cannot be done in a straightforward manner. Also, in trading with us, you are dealing with the only firm in the world who advertise week by week, and year by year, to send you anything you want on approval against cash; and if the thing does not suit you allow you to return it within three days and have your money back in full. Please note! We don't send goods without the cash, as our staff of book-keepers is limited; therefore don't be insulted when we refuse. By-the-by, we will open a credit a/c with you with pleasure on receipt of references.

Another thing: We advertise in our own name. We don't write on plain note paper, and make you believe we are a private seller, and tell you we are going abroad, selling under doctor's orders, or tell you a pretty fairy tale about being in financial difficulties, while, at the same time, we are in the trade. We may refuse to take exchanges in the way of bull pups, poultry, prize canaries, and many other things which we are offered; but if you offer us a motor cycle, we will always try and accept same in exchange for another one; or, if you want to dispose of your motor cycle for cash, we will sell it for you on a five per cent. commission, and make you a cash advance at once.

Don't forget us for next year's model. We have contracted for a larger supply than ever before, and we have close on 500 coming through from the makers. These we shall be pleased to dispose of on Cash, Deferred, or Exchange terms, and await your kind orders. Specification list awaits postcard. So long, b'boys, while Thursday.

GREAT 1911 REDUCTIONS.

DOUGLAS, two-speed, Model E	£43 0
TRIUMPH, free engine, 2 in stock	£55 0
DOUGLAS, Model D	£35 0
TRIUMPH, standard, 2 in stock	£48 15
ZENITH-GRADUA, 5 h.p.	£65 0
BAT-J.A.P., 8 h.p.	£55 0
HUMBER, two-speed	£45 0
BRADBURY, two-speed	£50 0
SCOTT, 1911, two-speed, 2 in stock	£60 0
ZENITH-GRADUA, 3½ h.p.	£50 0
P. and M., 1911, two-speed, 2 in stock	£60 0
BRADBURY	£45 0
BAT-J.A.P., 5 h.p., free engine	£57 10

S.H. LIGHTWEIGHTS.

MOTO-REVE, 1910½, twin	£23 0
MOTO-VELO, 1911, single-cyl.	£27 10
F.N., 2½ h.p.	£12 10
F.N., 1½ h.p.	£15 0
DOUGLAS, 1910, fine order	£29 0
MOTOSACOCHE	£14 0
MOTOSACOCHE, free engine	£20 0
SIMMS, 1½ h.p.	£10 10

HIGH-CLASS SOLO MACHINES.

BRADBURY, 1910, fine order	£35 0
GRIFFINER, 3½ h.p., free engine	£17 10
SINGER, 3 h.p., magneto	£12 10
N.S.U., 3½ h.p., M.O.V.	£15 0
TRIUMPH, 1910, Mabon clutch	£35 0
REX, 3½ h.p., M.O.V.	£15 0
SINGER, 3½ h.p.	£18 10
REX, 1910, 3½ h.p., splendid order	£28 0
SIMMS, 2½ h.p., magneto ignition	£14 10
TRIUMPH, 1909	£32 10
N.S.U., 3 h.p.	£16 10
BROWN, 1909, 3½ h.p., free engine	£25 0
SIMMS, 3 h.p., magneto	£12 10
BROWN, 1909, twin, 5 h.p.	£29 0

MOTOR BICYCLES FOR SALE.

1911 Free Engine 3½ h.p. Premier, Cetolite lamp, horn, parts, new July last, done less than 1,000 miles, splendid condition; £42/10.—Naylor, Chertion, Hants.

HUMBER Lightweight, 1911, 2 h.p., slightly shop-soiled, never used perfect throughout; will accept £32 lowest; man wanted for new models.—Below.

SECOND-HAND Motor Cycles, all makes in stock, at lowest possible prices; second-hand list free per return.—Morris Motor Cycle Garage, Oxford.

LADY'S Singer, 1911, 2 h.p., free engine and Armstrong 5-speed gear, almost new, had little use, perfect condition throughout, Dunlop rubber-studded tyres, new belt, Bosch magneto, Druid forks, P and H lamp and generator, cost £52, private owner; accept £40.—Morris Motor Cycle Garage, Oxford.

EYLES and Eyles, 113, St. Aldates, Oxford, have in stock Bat, 4 h.p., 2-speed, free engine; B.S.A., 3½ h.p., free engine; and Premier, 3½ h.p., free engine; also sidecars.

3½ h.p. 1907 Brown, in excellent condition, plating and enamel as new, h.b.c., adjustable pulley, new belt and tyre, all accessories; £14. — 360, Waterside, Chesham.

B.S.A., 3½ h.p., everything as new, Lucas lamp, tools, horn, passenger chair, etc.; owner going abroad; for immediate sale, £39, bargain.—Box 8,593, The Motor Cycle Office, Coventry.

LATEST Model 1911 4-cyl. 3-speed T.A.C., run only 500 miles, take sidecar and passenger anywhere, exceptionally reliable model; cost £80, best offer accepted.—A. Ward, Home Farm, Ascot.

4-CYL. 4½ h.p. F.N., 1909, magneto, spring forks, footrests, just been overhauled, tyres and tubes new, with lamp and tools; £24; any reasonable offer accepted.—52, Monmouth Rd., Bishopston, Bristol.

TRIUMPH, 1911, clutch model, perfect condition, Clincher front, Michelin Trident back, both nearly new, Lucas lamp and generator, Brooks leather touring bar, tools, spare valve; £45.—Harris, 97, Holwell, Oxford.

TRIUMPH, 1911, standard model, perfect condition throughout, Lucas lamp, P and H generator, horn, mirror, watch, carbide carrier, spares, including Whittle belt, had careful use; bargain, £40.—R. A. Bishop, 72, Kingston Rd., Oxford.

DOUGLAS, 1910 (September), lamp, generator, horn, tools, spare belt, valves, etc., lately retired, cyclo meter, mud screws, Brooks padded saddle, large valve, indicator, excellent condition; £28.—Douglas, c/o Wait James, Gloucester.

T.T. Triumph Roadster, bought new early 1910, very fast, condition throughout as new, new belt, new spare cover, and Rushmore lamp never been used, tools, etc.; any trial or examination: complete, £32/10 or exchange powerful 2-speed.—H.S., "The Homestead," Filton, Bristol.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent and Sussex.

WILTON Cycle Co.

VICTORIA, S.W.—Book your 1912 machine now; guaranteed dates for deliveries.

WILTON.—Clyons in stock, 2-speed, chain drive, easy starting device, etc.; first cheque secure.

WILTON.—Bradburys in stock, any model.

WILTON.—Matchless: sole S.W. agency; immediate deliveries.

WILTON.—Clyon: sole S.W. agents; trial by appointment; immediate delivery.

WILTON.—Liberal exchanges; instalments arranged.

WILTON.—1911 new Kerry-Abingdon, standard, 3½ h.p., slightly soiled; £5 reduction.

WILTON.—1911 new Moto-Reve, 2½ h.p. slightly soiled; £5 reduction.

WILTON.—New Enfield, 2½ h.p.: £10 reduction; post card will secure lists.

WILTON.—Clyon, 1911 combination, as new, spring wheel, sidecar, 2 lamps, Smith speedometer, spring seat, sundries, guaranteed: cost £90, £70.

WILTON.—1911 Kerry-Abingdon, 2-speed, and best sidecar, Lucas lamp, all requirements, and spares; £50, cost £70.

WILTON.—1910 V.S., 5 h.p., new tyres, Whittle, fine order; £27/10.

WILTON.—1909 Sarolea, Chater-Lea, Druid fork, Bosch magneto, 4 gears, B and B carburettor, new Rom tyre, new sidecar; £35.

WILTON.—1910 models, Excelsior, Moto-Reve, F.N., etc., good order; £25 each.

WILTON Cycle Co., 110, Wilton Rd., Victoria Station, London, S.W. Phone 5115 Westminster.

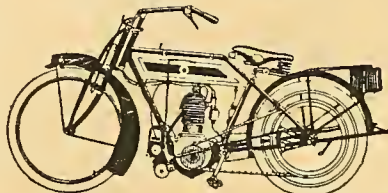
3½ h.p. Rex, £9; 2 h.p. Minerva, £5.—22, Rockley Rd., Hammersmith.

£9.—2 h.p. Peugeot, low, h.b.c., perfect condition.—63, Bangalore St., Putney.

1911 N.S.U., 3½ h.p., magneto, h.b.c., spring forks; £26.—234, Belsize Rd., N.W.

ONLY £31

REMEMBER IT'S A
BRAND NEW 3½ h.p.
TOURIST REX.



SPECIFICATION.—84½ bore, 89 stroke, spring forks, very low dropped frame, pedalling gear, ball bearings to engine-shaft, Bosch high tension magneto, handle-bar control, foot and hand brakes, ¾ in. rubber canvas belt, extra wide improved mudguards, 26×2 in. Continental tyres, footrests, number-plate, tools, toolbag, stand, and carrier.

Sold under maker's catalogue guarantee.

NOTE.—Reduced Price, £31 0

Two-speed gear £5 15 extra.

SECOND-HAND MACHINES.

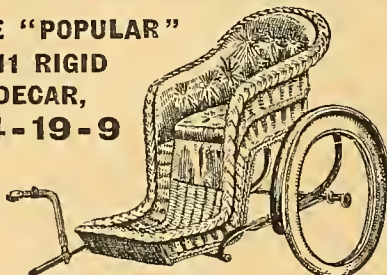
CASH, EXCHANGE, OR EASY PAYMENTS.

1910 T.T. TRIUMPH, almost equal to new	£39 10
Twin REX DE LUXE and Sidecar	£27 10
MOTO-REVE, magneto, Druids	£19 15
2½ h.p. ROYAL, very fine condition	£8 0
QUADRANT, 3½ h.p., magneto, spring forks	£24 11
F.N. Lightweight, magneto, spring forks	£19 11
REX Twin, 5½ h.p., spring forks, last	£19 10
QUADRANT Trike, low, good	£6
1909 3½ h.p. Tourist REX	£27 10
1911 3½ h.p. Free-engine REX	£37 10
1911 Twin REX DE LUXE	£47 10
REX Magneto Lightweight, adjustable pulley	£16 10
1910 7 h.p. Twin REX, M.O.V.	£37 10
5½ h.p. N.S.U., free engine and sidecar	£33 10
Magneto TRIUMPH, spring forks, very small	£25 10
Twin REX DE LUXE and Montgomery Sidecar	£25 0
REX, 1910, 3½ h.p., "hot stuff"	£23 10
1910 TWIN REX, M.O.V.	£29 10
4½ h.p. 4-cyl. F.N., magneto	£19 10
3½ h.p. REX, vertical engine, trembler	£12 10

A CALL WILL REPAY YOU.

THE "POPULAR"

1911 RIGID
SIDECAR,
£4-19-9



"Superbe" type, with best tyre, aproa, etc. .. £6 6 0
Ditto, with reversible child's seat .. £7 0 0
Ditto, with best coach-built body .. £12 6 0
Improved Quick-detachable joints are fitted to all models.
Prompt Delivery to suit Rexas, Triumphs, N.S.U.'s, Indians, and any other make.

Discount to Trade. Exchanges entertained.

Collier's Motories,
WESTGATE, HALIFAX,
ENGLAND.

MOTOR BICYCLES FOR SALE.

1910 3½ h.p. Premier, Mabon, free engine, splendid condition; £32/10.

1911 3½ h.p. Rudge and sidecar, splendid order; £38/10.

1911 3½ h.p. Rudge, 2-speed, with or without sidecar, complete; £43/10.

TWIN Moto-Reve, had little use; bargain; £20.

1911 3½ h.p. Bradbury, 2-speed, grand condition, fine sidecar machine; £37/10.—Moseley and Son, 70, St. Ann's Rd., Harrow.

FOR Sale, 3½ h.p. Rex, in good running order; cheap.—128, St. John's Rd., Holloway.

FOR Bargains in second-hand motor cycles, write, The Ketco Motories, Smarden, Kent.

TRIUMPH, 1909, good order, lamp included; £28.—Matthews, Earls Colne, Essex.

TRIUMPH, 1905, good condition, new tyres; a bargain, £15.—Pyrke, Bromley, Kent.

5 h.p. Rex de Luxe, 1909, 2-speed, good condition; £30.—785, High Rd., Leytonstone.

P. and M., 2-speed gear, for immediate delivery, and Scotts—Rey, 5, Heath St., Hampstead.

5 h.p. Red Indian, good tyres, perfect condition, fast; £36.—Bye, 44, Herbert Rd., Wembley.

INDIAN, 7 h.p., 2-speed, blue, one month old; £65.—Wheatley, 10, Dermody Gardens, Lewisham.

3 h.p. Triumph, magneto, standard model, first-class running order; £17/10.—29, East St., Barking.

N.S.U. Twin, magneto; seen any time; bargain, £14/10.—36, Stroud Green Rd., Finsbury Park.

SCOTT, 1911, brand new, for immediate delivery, and P. and M.—Rey, 5 Heath St., Hampstead.

MINERVA, 3½ h.p., Amac carburettor, tyres as new; any trial; £16.—36, Harlingham Rd., Fulham.

MOTO-REVE, 1910, 2½ h.p. twin, equal new; £22/10.—Shaw, 13, Garcia Terrace, Fulwell, Sunderland.

MOTOR Cycle, 1½ h.p., just overhauled, good condition, low riding position; £6.—Freach, Newhaven, Sussex.

1911 Douglas, 2-speed, new May, fine condition, runs as new; £39.—Rose, motor Works, Uxbridge.

SINGER Moto-Velo, 1911, new May, perfect order, Whittle, lamp, horn.—Hicks, 57, Duke St., Chelmsford.

3½ h.p. Rex, Longueuram carburettor, good tyres, £45/10; sidecar, 22/6.—5, Kingcroft Rd., Harpenden.

PREMIER, 3½ h.p., late 1910 model, tyres and general condition perfect, lamp, Whittle, etc.; £28.—Verrey, Pinuer.

3½ h.p. 1909 Triumph, and Millford sidecar, all accessories, just overhauled; £34.—29, East St., Barking.

INDIAN, 5 h.p. twin, 1910, Rom tyres, guaranteed perfect; £40.—M., 89, Cromwell Rd., South Kensington.

3½ h.p. Excelsior Motor Cycle, everything good, very fast.—D'Arcy House, Hendon Lane, Church End, Finchley.

BRAND New Calthorpe Motor Cycle, never used; to be sold a sacrifice.—Storey, 110, Albany St., London, N.W.

DOUGLAS, 1910, done 900 miles, like new, spares; £29; seen by appointment.—Cameron, 103, Eaton Sq., S.W.

TRIUMPH, 3½ h.p., late 1908, in splendid condition, and all accessories; £24.—5, Station Rd., Edgware, Middlesex.

6 h.p. Jap-Ariel, 2-speed, accumulator, Montgomery sidecar; £15; giving up.—Standen, North St., Carsbalton.

3½ h.p. Chase, Chater-Lea, up to date, good condition; £4 bargain, £12/10.—White, Park Terrace, Worcester Park, Surrey.

1911 Rudge, uncrated; must be sold by October 4th, unexpected departure; £42.—70, West Hill, Wandsworth.

1 h.p. Zedel, low, grey, overhauled, engine new, going order; £6/10.—Garrard, Colindale, Colindale, Hendon.

3½ h.p. 1910 Rex (lat), free engine, clutch model, 32 Cantilever seat, tyres good, all spares and tools; £38.—Below.

4 h.p. 4-cyl. F.N. Magneto Tri-cycle, like new, tyres good, enamelling and plating perfect, all spares and tools; £17.—Below.

4 h.p. Noble Tri-car, free engine, 4 speeds, coach-built forecar, painted French grey, a splendid mount; £18.—Below.

3 h.p. Kelecom, engine perfect, tyres sound, ready for the road; £5.—Below.

1909 Motosacoche, magneto, Druid forks, tyres good, all spares and tools; £16; all machines at greatly reduced prices to clear; cash or exchange.—F. Mebes and Sons, 154 and 156 Gt. Portland St., W.

4 h.p. Ariel, low, fast machine, climb anything; £11; any trial; only wants seeing.—Paver, 13, George Lane, Lewisham.

MOTOR BICYCLES FOR SALE.

19 Douglas, perfect condition, just overhauled £24; after 7 p.m.—56, Palbrouga Rd., Southfields, S.W.

TRIUMPH, 1910, Cowey, horn, spare cover and tube £25; perfect.—56, Palbrouga Rd., Southfields, S.W.

13 h.p. Minerva, Chater-Lea, sidecar, perfect; bargain £213; open to expert inspection.—40, Egremont Place, Brighton

14 h.p. F.N., geared pulley, in excellent condition, spare h.a. tube, spare valves, etc.; £15.—Motorist, 4 Lloyds Av., E.C.

31 h.p. Quadrant, perfect condition, new tyres, two brakes, bar control; bargain, £15.—Wilson garages, Watford.

WANDSWORTH—Griffon, 5h.p. twin, genuine Zed engine, magneto, spring forks, runs well; cheap £18/10.—Below.

WANDSWORTH—V.S., 1909, 5-6h.p. twin, magneto 2 speeds, Triumph forks, splendid order; £29.—Below.

WANDSWORTH—Humber, late 1909, 3h.p. magneto, 2 speeds, nearly new, hardly used; £29/15.—Below.

WANDSWORTH—F.N., latest 1911, 6h.p., 4-cyl. magneto, drip feed lubrication, as new; £28.—Below.

WANDSWORTH—F.N., latest 1911, 6h.p., 4-cyl. magneto, automatic carburettor, like new; bar gain, £36.—Below.

WANDSWORTH—Roc, 4h.p., m.o.v., magneto, 1 speed, nice engine clutch perfect; £25.—Below.

WANDSWORTH—Bat, spring frame and fork 4 h.p. Stevens engine, very powerful; bargain £12/15.—Below.

WANDSWORTH—Griffon, 3h.p., beauty; extra che p £11/10.—exchanges.—Wandsworth Motor Exchange, Ebor St., Wandsworth.

TRIUMPH 1911, little ridden, new tyres, all accessories, very powerful; £38.—20, Aberdeen Rd. Highbury, N.

£33/10—Late 1910 T.T. roadster Triumph, just overhauled, guaranteed no faults.—18, Griffiths Rd., Wimbledon.

KERRY—ABINUDON, bought August, spares, whistle perfect, uncracked; £38.—Steyler, 81, Vane Rd., Sydenham, S.E.

MOTO—JACOBE, running order, Palmer and Dunlop, spring forks, 2 belts and spares; £12.—Railway Side, Barnes.

1909 V.S., 5-6h.p. twin, adjustable pulley, h.b.c., new steel studded Road; bargain, £6/10.—6, Chertwood Rd., Putney, S.W.

RAVEN—Bargains for cash.—Kerry, 3h.p. Palmer cord tyres, Whittle belt, footrests, electric head light, very low; £10.

RAVEN—Minerva, Continental tyres, m.o.v., long bars very low, fine condition; £9.

RAVEN—Lightweight Minerva, spring forks, brake, very low; £6/10.

RAVEN Motor Mart, 71, Osunburgh St., Albany St. N.W.

1910 Free Engine Triumph, new back tyre and belt in good condition; nearest offer £42.—Foginton Bridge St., Godhams.

1911 3h.p. 2-speed Humber, Rom tyre, Whittle belt lamp, horn, sidecar; £45.—G. R. Phillips, St. George's Hospital, S.W.

1911 Triumph, new end of June, Cowey speedometer, spare belt, valve, etc.; £42; or offer.—35, Lynn Rd., Kilburn, N.W.

1911 J.A.P., Bosch, Barlow, Palmers, drip lubrication, show machine, new end; £73 lowest.—84 Lodenhurst Rd., Clapton.

£4/5—2h.p. motor-cycle, Palmer tyres, engine, carburettor and accumulator like new.—Speechley 5, Church Rd., Acton.

2h.p. Lincoln Elk, June, 1911, been 1,000 miles, perfect; £25.—Reynolds, Cintra, Woodcut Alley Rd., Putney, Surrey.

D. and M., 3h.p., 1910, in absolutely perfect condition, Kempshall 2 in back, extras; £47/10.—Mith, Nanlands, Stammer.

3 S.A., standard, new July, 1911, not ridden 300 miles, perfect condition, with accessories; £41.—54 Gabriel's Rd., Crickwood.

2h.p. Lightweight Minerva, B. and B. carburettor, h.b.c., engine and tyres excellent order, good climber; £—Buckle, Mopham, Kent.

1h.p. M.C.C., free engine, B. and B., h.b.c., low 22 long bars, in splendid running order; £13.—31 Len Rd., Stoke Newington.

MINERVA, 2h.p., Dunlops, Longuemare, h.b.c., low machine, m.o.v., in perfect order; £7/10.—Woodte, 90, High St., Toxtun.

1911 Bradbury, splendid condition, accessories, £37; also Stewart speedometer, £3; seen after six.—Allegby Rd., Forest Hill.

1h.p. De Dion, Chater frame, B. and B. carburettor, 2 Dunlop belt, new pulleys, long bars, low; £8/10.—Luton Rd., Walthamstow.



'ALL-METAL' SWITCH.

No. 430, 1 way, 2/3 each
„ 435, 2 way, 2/9 „



'EBONITE' SWITCH.

No. 404, 1 way, 3 - each
„ 407, 2 „ 4/ - „
„ 406, 1 „ 3/6 „
(Latter with plug).



SPECIAL COILS.
(Guaranteed.)

PLAIN TYPE.
No. 3, 1-cyl., 13/6 each.

TREMBLER TYPE.
No. 70, 1-cyl., 15 - each.

The most efficient and economical coil on the market.



HELLESEN DRY BATTERIES.

For motor cycles, tricarcs, and cars.

FLASH SIZE.
PRICE 6/6 EACH.

Write for Special Catalog.



Accumulators.

The best in every way, yet by far the cheapest.

4-volt sizes.

20-amp. ... 12/-
40-amp. ... 17/6
60-amp. ... 24/-

Fully guaranteed.





ADHESIVE INSULATING TAPE.
Neatly packed in strong tin box.
A Convenient Necessity.
Price only 3d. per tin.

EVERYTHING GUARANTEED.
SEND FOR CATALOGS—FREE.

A. H. HUNT,
115-117, CANNON STREET,
LONDON, E.C

MOTOR BICYCLES FOR SALE.

DOUGLAS (late 1909), 2h.p., splendid condition, lamp, spares, and all accessories; £22.—Shillan, 57, Atherton Rd., Forest Gate.

MINERVA, 2h.p., excellent condition, new Michelin back tyre, engine only 18 months in use; £12; trial.—9, Inchmery Rd., Catford.

1h.p. Hurst, Mahon, Amac, h.b.c., footboards, 32 whistle, splendid order and condition; £10/10.—Peacock, 2/4, High Rd., Balam.

2h.p. Eysink Motor Cycle, low, fast, reliable, comfortable, spring forks; £9/10.—Mann, 41, Victoria Grove, Stoke Newington, N.

F.N., 12h.p., Bosch magneto, engine and tyres as new, F.R.S. 1911 h.p. spares; £16.—Devitt, 93, Clarendon Rd., South Chingford.

REX 1909 Magneto Lightweight, good tyres, in perfect running order, condition absolutely as new; £17/10.—C. 130, Claxton Rd., S.W.

J.A.P., 4h.p. (1908), Chater No. 6, magneto, Whittle, re-bored, new piston, really excellent condition; £22/10.—27, Melbourne Rd., Ilford.

MOTO REVE, 2h.p. twin 1910, new Kempshall, 1911 Smith, 50, Cicada Rd., Wandsworth.

£4 over 50, Dunlops, magneto, as new; £25, no bars.—Genn, Ravenswood Rd., Balam.

2h.p. Bradbury, 2-speed gear, 1910 model, splendid condition, gear recently fitted, bargain, £36/10.—Grazed, 73 Church St., Camberwell.

2h.p. Kerry, spring forks, r and tank, long handle-bars, new order, new belt, tyres in good condition; price £11.—Putney Garage, High St., Putney.

GREAT Clearance Sale of 30 magneto machines from £15, send for list.—Dunlons and Wadden, Brooklands Motor Cycle Exchange, Weybridge.

ARIEL Motor Bicycle, 3h.p., perfect condition; sale £26/10 or exchange; owner gone abroad.—T. Edinborough, Fyfield, Temple Fortune, Hendon.

£5/10—2h.p. Zed, h.b.c., button tubes, good covers, Whittle belt, adjustable pulley; also Unito cumpler, £6.—Colebrooke, 9, Clifton Rd., Watford.

REX, 1909, 5h.p., recently overhauled, B. and B., Bosch, footboards, good tyres, smart machine; £28.—Hodd, 2, Hart Rd., Wincmore Hill.

TRIUMPH, 1910, free engine, only used occasionally, lamp, horns, spare belt in case, etc.; accept £29, bargain.—51, High St., Tunbridge Wells.

1911 Humber Lightweight, ridden 600 miles, tyres and button-tube tubes as new, lamp, horn, tools, etc. £31.—N. Tawse, Sharncliffe, Rixley, Kent.

BAT, 1911, 5-6h.p. twin, perfectly new condition. J.A.P. adjustable pulley, new spare tyre, etc.; £49.—Dare, The Hut, Woodford Green, Essex.

8h.p. Twin Matchless, new magneto, tyres, and belt, spare belt and pulley, little used, fine condition; £50 for quick sale.—Cornack, Palace, Clacton.

TRIUMPH, 1910, free engine model, fitted with horn lamp generator and spare Watawata belt; £39.—C. Moss, 1, St. George's Mews, Primrose Hill.

3h.p. Pafair, Chater-Lea, new cylinder, new rings, adjustable pulley, 1910 Amac, splendid order; £15.—Harris, Clifton Villa, Walspole Rd., Woodford.

2h.p. Rex, 1908 model, magneto, B. and B., h.b.c., Albion free engine, dropped bars, spares, good condition, any trial, £16.—5, Brailford Rd., Brixton.

1911 Brown, accumulator ignition, Palmer cords, spare cover, valves, etc., splendid order; £15.—Ernest Rorford, Turnford Hall, Boxbourne, Herts.

3h.p. Rex, new accumulator and trembler, B. and B., h.b.c., footboards, new unpunctured tyres, set and climbs well; £12.—Peacock, Rottmangean.

EAGLES—Triumph Standard, late 1909, little used, equal to new, Dunlop non-skid tyres, Crown speedometer, Antoclipse lamp, numerous spares; £32/10.

EAGLES—N.S.U., 6h.p. twin, late 1909, Bosch magneto, m.o.v., spring forks, 1 in. Shamrock belt, speed gear and free engine, only run 1,000 miles; £37/10.

EAGLES—Minerva, 4h.p. twin, Chater-Lea fittings, Whittle belt, 1911 N.S.U. 2-speed gear; £21.

EAGLES—N.S.U., 3h.p., Model de Luxe (1910), gained gold medal in 1910 6 Days' Trials; £27.

EAGLES—Douglas 2h.p. Twin, late 1910, had little use, nearly new; £27/10.

EAGLES—We have a few brand new single-cyl. N.S.U.'s, just delivered, magneto ignition, m.o.v., improved carburettor, h.b.c., Shamrock belts, 1911 spring forks, and other improvements, complete tool case, full set of tools, stand, etc.; 3h.p. £27, 3h.p. £31, net cash; deferred payments arranged.

EAGLES and Co., High St., Acton, N.S.U. West London district agency.—Immediate delivery of 1911 models; liberal allowances for machines in part payment. Tel.: 556 Chiswick.

TRIUMPH, 1909, Cowey speedometer, lamp, spares, machine little used and in first class condition; £31.—T. K. 119, Breakspere Rd., Brockley, S.E.

1909 Moto Reve Twin, 2h.p., Druids, new tyres, lamp, horn, mirror, stand, and carrier, perfect in every detail; £16/10.—16, Stockwell Park Crescent, S.W.

MOTOR BICYCLES FOR SALE.

DE MON, 2½ h.p., Whittle, Continentals, in good condition, spare valve, and piece of belt, reliable, and sound; £11; seen after 7 p.m.—9, Clarence Rd., Croydon.

£14, or offer.—1907 Rex, 3½ h.p., 1911 B and B, Helleson ignition, Clyno pulley, Watawata, spares; trial in sidecar.—Hedges, 252, Ashmore Rd., Paddington.

TRIUMPH, standard, 1909½, splendid condition; lamp, horn, watch, Whittle, spares, go anywhere; nearest 33 guineas.—"Windy Neck," Higher Drive, Purley.

2½ h.p. Bicycle, £5 lately spent on overhauling, etc., perfect, climbs Westerham; sacrifice, £8/10; seen our time, trial.—Thomson, 77, Handcroft Rd., West Croydon.

IF You Want Bargains in second-hand motor cycles, you can get them at Wauchops's—Wauchops's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

5 h.p. T.T. Rex, overhead mechanical inlet, Bosch, Amac carburettor, automatic, vapour and pump lubricators, perfect condition; £33.—12, Vauxhall Bridge Rd. Tel.: Victoria 4353.

BAT-J.A.P., 7-8 h.p., 2 speeds, Whittle, Mabon, whistle, Cowey, 25 Kempshall on back, Palmer cord, £19 Fulford sidecar; cost £120, £60.—518, Kingston Rd., S.W.

3½ h.p. Fafair, No. 6 Chater-Lea, Bosch, variable pulley, Watawata, Rom steel studied tyre, headlight, etc., splendid order, very fast; £18.—Hardy, 396, Hackney Rd., E.

PREMIER, 3½ h.p., cost, Feb., 1911, including King Road lamp, etc., £51; sacrifice, £32, lightweight or tripart part.—StuFord, Hamlet Rd., Southchurch, Southend-on-Sea.

LA BRUTUS (De Dion pattern), 2½ h.p., Chater frame, perfect order, new belt and Michelin, new Amac; sacrifice, £10; appointment.—W., 3, Downhills Park Rd., Tottenham.

FOR SALE, 2½ h.p. twin Royal Enfield, practically new as sent from makers, only used twice, 2-speed, free engine; accept £46.—No. 8,588, *The Motor Cycle Office*, Coventry.

3½ h.p. M.M.C., low frame, just enamelled, Amac, 32 h.b.c., footboards, Whittle, splendid condition, fast; bargain, £10.—"Ellesmere," South View Drive, Westcliff-on-Sea.

3½ h.p. J.A.P., Chater-Lea frame, B. and B. carburettor, capable of doing 60 miles an hour on Brooklands, complete as new; £27.—R Ward, High Rd., Byfleet, Surrey.

SPECIAL to Bargain Hunters—Nye's offer a late 1910 standard Triumph, for £33/10; 1911 2-speed Humber, good as new, £36/10; cash only.—Gray's Inn Rd., Holborn, London.

32 h.p. Chater-Lea-Antoine, magneto, 1911 B. and B., all h.b.c., Mabon clutch, just been re-enamelled; £22, or near offer.—Cass's Motor Mart, 5, Warren St., Phone 3624 Mayfair.

TRIUMPH, 1909, fine condition, Lucas lamp, generator, horn, spare valve and tube, Palmer cord back, all tools; £29/10.—Franco-British Garage, Young's Corner, Hammersmith.

MINERVA, 3½ h.p., Chater 17 in., 1911 B.B., spring forks, excellent order, sidecar (trailer converted); offers, exchange magneto, cash adjustment.—Anstey, Fire Station, Southwark.

1911 3½ h.p. Standard Bradbury, new, not taken out of crate, owner cannot take delivery; accept £43/10 for quick sale.—Ewart Morgan, 21, Bryanstone Rd., Crouch End, London, N.

GENUINE Bargain—3½ h.p. Ariel, spring forks, Bosch magneto, B. and B. h.b.c., Whittle belt, adjustable pulley, very reliable; £17.—After 6 p.m., E. S. Allen, Wandale Court, Beddington, Croydon.

BARGAIN—Fafair-Chater-Lea, 1911, B. and B., Davidson's tank, footboard, Chater spring forks, 21 cm tyre, lamp, all spares, perfect order, only built this year; £20.—Motorist, 53, Highgate Hill, N.

5 h.p. Chain-driven 2-speed 1911 Clyno, perfect condition, very little used, extra heavy Kempshall, Cowey speedometer, £55; a bargain; private owner—8,590, *The Motor Cycle Office*, 20, Tudor St., E.C.

3½ h.p. Brown, magneto, spring forks, 2-speed gear, £2 18/10; 2½ h.p. Hobart, 1911, nearly new, £25; 5-7 h.p. twin, very fast, £17; 1910 Moto-Reve, £17/10.—The Croydon Motor Mart, 86, South End, Croydon.

1911 Bradbury, 3½ h.p., special picked engine, will take sidecar anywhere, delivered in June, not done 600 miles, complete with lamp, horn, etc.; sacrifice, £37.—Williamson, Sandy Cove, Sandfield Rd., Thornton Heath.

7-8 h.p. V.S., 1910, 2 speeds, B. and B., Lucas headlight and generator, Mills-Fulford spring wheel sidecar with magnificent art cane side entrance family body, the whole of interior upholstered; 48 guineas.—337, Burdett Rd., London, E.

1911 3½ h.p. 2-speed Humber and 8-guinea sidecar, seat 2, spare tube and cover, watch, trip cyclometer, Garner whistle, automatic back rest, 2 lamps, tyres like new, heaps of spares; this machine was purchased in May, receipt shown, been little used; £45/10 the lot; owner bought car—106, Carysfort Rd., Stoke Newington, N.

Many Bargains.

SINGLES—(Soiled).

1911 3½ REX - - - £40 0 0

1911 3½ T.T. TRIUMPH, run only 100 Miles - - - £44 0 0

1911 3½ HUMBER, Two-Speed - - - £45 0 0

1911 3½ B.S.A. - - - £43 0 0

1911 3½ ARIEL - - - £38 0 0

TWIN.

1911 7 h.p. INDIAN, Two-Speed, BRAND NEW - - - £69 0 0

1911 6 h.p. MATCHLESS, unscratched - - - £45 0 0

1911 6 h.p. TWIN REX DE LUXE, Two-Speed, etc. - - - £48 0 0

5 h.p. PEUGEOT ROC, Two-Speed - - - £32 0 0

5 h.p. PEUGEOT, Chater Lea Frame, Two-Speed, Magneto £23 0 0

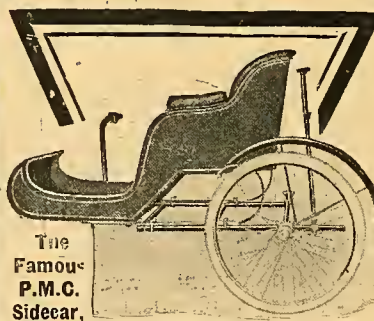
REX—J.A.P.—1911 MODELS.

Full Specification on application.

We can give immediate delivery from stock of Triumph (free engine, Standard, and T.T. Tourist), Rex, Ariel, Humber, B.S.A., Scott, and Indian Motor Cycles.

We have many bargains in overhauled and guaranteed Motor Cycles, and shall be pleased to post full list on application.

Exchanges or Payment by Instalments.



Coachbuilt, £7 12 6.

Wicker, £6 2 6.

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THE PREMIER MOTOR Co., Ltd., Aston Road, Birmingham.

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MOTOR BICYCLES FOR SALE.

HAMPSTEAD.—Only house for great bargains and quick delivery of new 1911 machines you cannot get elsewhere; agents for all makes, and makers of the famous Roy's sidecar and exhaust whistle.—Only address, 5, Heath St., Tel.: 2678 P.O., Hampstead.

HAMPSTEAD.—4½ h.p. F.N., good order, with all accessories; a bargain, only £18.

HAMPSTEAD.—1910 Royal Enfield twin, complete, with all accessories; special bargain this week, £20.

HAMPSTEAD.—3½ h.p. Centaur, B. and B., all accessories, good tyres; bargain, £8.

HAMPSTEAD.—1911 Triumphs, free engine, T.T. roadster, or standard for immediate delivery from stock.

HAMPSTEAD.—1911 6 h.p. racing Bat, almost new, not run 100 miles; only £48.

HAMPSTEAD.—1911 Rudge, almost new, with all accessories, a fine machine; only £42.

HAMPSTEAD.—3½ h.p. 1910 free engine model Triumph, with all accessories, £39; standard £38.

HAMPSTEAD.—3½ h.p. N.S.U., magneto, and spring forks, 2-speed gear, nice condition; £20.

HAMPSTEAD.—5 h.p. V.S., magneto, and spring forks; £17; sidecar for same £7.

HAMPSTEAD.—8 h.p. 1911 Matchless, almost new, fine machine; £45, with all accessories.

HAMPSTEAD.—3½ h.p. 1911 Zenith, almost new, soiled condition; only £48; with accessories.

HAMPSTEAD.—1909 Moto-Reve twin, with 1910 engine, all accessories; £12, special bargain.

HAMPSTEAD.—3½ h.p. B.S.A., condition and tyres like new, requires cylinder only; bargain, £6.

HAMPSTEAD.—1911 3½ h.p. Premier, almost new condition, with all accessories; special bargain, £30.

HAMPSTEAD.—1911 Bradbury, like new condition, with accessories; a sidecar machine, £35, bargain.

HAMPSTEAD.—3½ h.p. 1911 2-speed Humber, almost new, with accessories; £45.

HAMPSTEAD.—6 h.p. Bat, 1911 model, splendid condition; only £43.

HAMPSTEAD.—1911 3½ h.p. Lincoln Elk, shop-soiled condition only; special bargain, £26; all accessories.

REY, 5, Heath St., Hampstead, can give immediate delivery of the following 1911 machines:

P. and M. 1911, in stock, 6 h.p. Zenith, and 3½ h.p. Zenith.

BRADBURY'S, standard, free engine or 2-speed; immediate delivery; no extra for extended payments.

DOUGLAS, 1911 models, in stock; 2-speed and standards; no waiting; 5% extra for E.P.

HUMBER, 1911, 3½ h.p., 2-speed and free engine model; immediate delivery.

BAT, 7-8 h.p., 1911, new, for immediate delivery; £60.

LINCOLN Elk, 3½ h.p., 1911, £34; or 2½ h.p., £28/10; no waiting.

HANDY Hobart, 3½ h.p. twin, 1911, or 2½ h.p.; no waiting.

SCOTTS, 1911, 3½ h.p., 2-speed gear, for immediate delivery, no waiting; £60.

RUDGE T.T. Standard and free engine, now in stock; no waiting.

B.S.A., 1911, 3½ h.p., for immediate delivery; no waiting; £50.

ALL the Above for immediate delivery; terms, cash, exchange, or extended payments.—Only address, Rev. 5, Heath St., Hampstead. Tel.: 2678 P.O.

BAT, July, 1911, practically new, done 600 miles, Dunlop heavy studded tyres, button tubes, unpunctured, C.Wey, P.R.S. lamp, exhaust whistle, French grey finish, everything guaranteed; cost £60 take £48, no offers.—Munyard, 120 George Lane, Lewisham.

5-7 h.p. Twin Peugeot Motor Cycle, magneto, h.b.c., Mabon clutch, spare tyre and tube, also forecar for same, spare forecar tyre and tube new, horn, acetylene lamp and generator, spares, excellent condition; £30.—Jenkinson, 108a, High St., Notting Hill Gate.

BRADBURY, 3½ h.p. standard, as new, horn, lamp, mirror, new back tyre and belt, spare belt in case, all tools and spares, any trial, £35; lathe, 4 in. centres, compound slide rest, accessories, £5; set of overalls, 10/-.—Arthur Williams, Waverley, Camberne Rd., Sutton.

QUADRANT, 3½ h.p., excellent condition, low, Brown and Barlow, rubber belt, £10, or offers; new 26x2 Continental cover, ditto Clincher, 26x2, 17/6 each; good Michelin, 26x2½, 9/-; plain coil, 5/-; trembler, 7/-; Bhumel's accumulator, 5/-; all approved.—Bail, 49a, High St., Kingston.

INDIAN, 1911, 2-speed, free engine, 7 h.p., enamelled blue, with extra large tank, has not been 1,000 miles, climb anything, several fittings above standard, with specially sprung Mills-Fulford sidecar with high back, all tyres in good condition; cost just on £100, price £77, or near offer.—Apply, Jessel Chambers, Chancery Lane, W.C.

MOTOR BICYCLES FOR SALE.

TRIUMPH, late 1908, little used, £27/10; 1909 piston, petrol tap for starting, best of lamps, horn, 2 spare tyres, 1 spare tube, new Michelin; owner always abroad about 6 months per annum, and rides little when at home; now going to India for long period.—Apply, Colonel D. Ladystuart, Weybridge.

WIN-PRCISION Motor Cycles.—Immediate delivery of 1911 model, Druid forks, Bosch magneto, B. and B. carburettor, Dunlop tyres, £45/10; cash or gradual payments, £2 monthly; trial by appointment any reasonable distance.—Jennings, 268, Harnsey Rd. (near Public Baths), Holloway, London.

TOTTENHAM.—We have following 1911 machines in stock ready for immediate delivery: Bradbury standard £43, free engine £54/10, 2-speed £55; Humber 2-speed £50, T.T. twin single 40gns., 3-speed, 50 gns.; Under Whitworth, free engine model, £55; Triumph, standard model, £48/15, Milford cane body sidecars, £11; Milford Herald sidecars, 6gns.—128, High Rd., South Tottenham. Phone: 1982 (foot of Stamford Hill).

TOTTENHAM.—We have following first-class second-hand machines for immediate disposal at bargain prices: Humber, 1910, 2-speed, just returned from works, £35; Fafnir Simplex, 4hp, engine and mag neto just fitted, £27/10; 5hp twin Kerry, free engine, and coach-built sidecar, £20; 5hp twin Kerry, mag neto, just overhauled, £20; N.S.U. 6hp twin, variable gear, Chater-Lea sidecar, £35; N.S.U. 2-speed gear, 6hp twin, as new, £28; Roe, 4hp, 1910, 2-speed military model, spring forks, £34; Matchless, 8hp, m.o.v., twin J.A.P. 2-speed gear, spring forks, good single and cash; 3hp M.M.C., magneto, new b.b.c., £20; Fafnir, 3hp, magneto, spring forks, £18/10, perfect, Chater-Lea; Moto-cocche, 1910, free engine, just home from makers as new, £25; P.N. lightweight, 1910, 2-speed, very little used, £35.

TOTTENHAM.—128, High Rd., Phone: 1982 (foot of Stamford Hill).

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

1911 Rudge-Whitworth, 3hp, fixed engine, in stock: £48/15.—McEfat, Yeovil.

MOTOR Cycle, complete less engine, hoop frame: £3.—97, Wells Rd., Bath.

F.N., 4-cyl., 1911 model, new July: £40.—Lieut Young, H.M.S. Carnarvon, Devonport.

F.N., 4-cyl., 1910 model, equal to new, not done 800 miles: £28.—Reynolds, Broadway, Dorset.

MOTOSACOCHE, 1910, free engine, perfect condition, Whittle belt; 19 guineas.—Weaver, Broad St., Bath.

1911 Bradbury, hardly used, lot of accessories, travelling bag; bargain, £38.—Jenkin, Watling, St Austell.

LATE 1910 3hp, Rudge, N.S.U. 2-speed, perfect running order: £40.—No. 8,594, The Motor Cycle Office, Coventry.

TRIUMPH, 1911, Mabon clutch, Cowey, lamp, and all spares, as new: £53.—Lt. Bardwell, c/o Dan Gny, Weymouth.

QUADRANT, 3hp, fitted N.S.U. 2-speed and free engine, Whittle belt, good condition; bargain, £8/10.—Burnell, Cheddar, Somerset.

PEUGEOT, 2hp, magneto, b.b.c., Whittle adjustable, very low, splendid condition and appearance; bargain, £14; photo.—Napier, 10, Stanley Place, Embankment Rd., Plymouth.

FOR Sale, 2hp, V. pattern twin-cyl., 2-speed and free engine, Royal Enfield lightweight motor cycle, owner has only ridden 56 miles on machine, everything absolutely new, all accessories, lamp, etc., a beautiful trial in every way; only reason for sale, going in for triar; price £48, no offers.—Cox, 10, Gyllyngvase Terrace, Falmouth.

SECTION X.

Scotland.

1911 Clutch Triumph, new this month, done less than 500 miles, perfect: £50.—Dall, Ladybank, Fife.

1911 2-speed Bradbury, heavy Kempshall tyres, splendid sidecar machine, not done 1,000 miles: £42.—Dall, Ladybank, Fife.

TRIUMPH, 1911, free engine, perfect condition, delivered May: £43.—Capt. Trafford, 1, Lauriston Park, Edinburgh.

ARIEL, 1911, 3hp, free engine, variable gear, decompressor, spring seat pillar, new July, done 700 miles: £41.—Robertson, ironmonger, Wick.

5hp 2-speed V.S. in perfect condition, cost £69/15 July, 1910, £40, or nearest offer: also Moto-Reve, £12; owner buying car.—Particulars, Gray, Glenyra, Backie.

14hp Motogodille for sale, magneto requiring re-lation, or, otherwise in splendid running condition; can be seen if wanted.—Macfarlane and Son, Helensburgh, Dumbartonshire.

SCOTLAND'S Largest Motor Cycling Firm. — Don't wait for months on your new mount. We can give immediate delivery of Indian, Premier, Douglas, Zenith, B.S.A., Rex, N.S.U., and Lincoln Flk. Besides these, we stock P. and M. Roe, and Norton, and can supply any motor make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

G. RAWES & SONS' MOTOR CYCLE CLOTHING SALE!



Looks neat and feels comfortable.

The end of the season is approaching, and we are determined to clear our surplus stock at a reasonable reduction of 10%.

ALBANY "STANDARD" SUIT.

In grey-green or fawn double-texture cloth. Guaranteed absolutely waterproof. We sell garments separately.

JACKETS ONLY.—Double-breasted, deep storm collar, and special adjustable strap to keep out rain and dust. Inside and outside wind cuffs, etc., etc. 18/-, less 10%, 16/3.

LEGGINGS ONLY.—Leather adjustable boot strap, V-shaped gussets, and patent dome fasteners to exclude wind, rain, and dust. Specially shaped to protect eyelet holes. 8/-, less 10%, 7/3.

Complete Suit, 25/-, less 10%, 22/6.

Albany "Special" Leggings.

In grey-green or fawn double-texture cloth to match "Standard" Jacket. Guaranteed absolutely waterproof. All latest improvements, and specially designed to come well up and protect the stomach from wind and rain. Without seat 13/11, less 10%, 12/6. With seat, including special convenience, 15/11, less 10%, 14/6. For Winter riding these "Specials" are indispensable. Buy now while prices are reduced.

Albany "All-Season" Jacket.

In grey-green double-texture cloth only. Double-breasted, deep storm collar, and inside and outside wind cuffs. Guaranteed absolutely waterproof. Fitted with best detachable fleecy lining. 25/- each.

Being motor cyclists ourselves, we found it very cold riding in Autumn and Winter, so this jacket was designed specially for all seasons. By simply detaching the lining, the coat can be worn in Summer. It is a great boon, and so great is the demand, and value so good that No Reduction is possible.



Very warm and comfortable.

Albany "Guinea" Suits.

In double-texture waterproof cloth, 21/-, less 10%, 19/-.

Advice to Purchasers.—These goods are our genuine stock, and every garment is guaranteed absolutely waterproof. Should you not be satisfied, we will refund amount paid if goods returned undamaged in 3 days.

Terms.—Nett Cash with order. Send chest measurement and length desired for Jackets, and inside leg measurement only for Leggings.

Send for Catalogue and patterns to—

G. RAWES & SONS,
Waterproof Clothing Specialists,
The Albany, Oldhall Street, LIVERPOOL.

MOTOR BICYCLES FOR SALE.

MATCHLESS, 8hp, new November, 1909, Chater-Lea rigid engine, Whittle belt, J.A.P. automatic carburettor, driving tyre, Dunlop, fountaine, Nub, 2-speed: £45.—Thos. Brockett, cycle agent, Anchenray, Carnarvon.

6hp Late 1909 N.S.U. and sidecar, with 2-speed gear and free engine, in perfect order, having just been returned after a thorough overhaul by makers; price £33, free on rail Edinburgh.—Ardoch, Wilton Rd., Edinburgh.

1911 Triumph, 3hp, free engine, new belt, new Michelin steel-studded tyre, overalls, touring case, all accessories, and spares, as new: £50, not done 1,000 miles: special reason for disposal.—Ramsay, Gardenrose Path, Maybole, N.B.

3hp Bradbury, B. and B. h.b.c., new Whittle belt, 32 new Fuller accumulator and coil, new tubes and tyres, footboards, stand and carrier, tools, and everything, £13, takes any hill, in thorough going order; also sidecar, £3/10.—20, South St., Armadale, W. Lothian.

DOUGLAS, latest type Model D, in stock, 38 guineas; 4hp twin Aleyon, perfect order, spring forks, £18; 2hp lightweight Ariel, guaranteed good working order, £10; second-hand machines taken in part payment of new ones, sole agents for Douglas, New Hudson, and Zenith, enquiries invited.—Dundee Motor and Cycle Co., Nethergate, Dundee.

SECTION XI.

Ireland and Isle of Man.

TRIUMPH, free engine, late 1910, perfect condition, run 1,400 miles.—Higgins, agent, Athlone, Ireland.

RUDGE, free engine, ridden 90 miles; sell because local roads too bad: £45, nearest offer.—£596, The Motor Cycle Office, Coventry.

BAT-J.A.P., late 1910, only ridden little, spring frame, spring forks, Rom combination tyres, Whittle belt, machine in excellent order.—Toppin, Clon, King's Co.

TRICARS FOR SALE.

REXETTE, in new condition, all new tyres; price £25.—Samuel, Wern Rd., Landore, Swansea.

9hp Invicta Tricar, 2-cyl., Chater-Lea frame, 3 speeds; £35; exchange good motor cycle.—255, Earlfield Rd., Wandsworth.

6hp Rexette Tricar, open frame, wheel steering, water-cooled, 2 speeds, wants overhauling: £18/10.—29, St. St. Barking.

TRICAR, 4hp, Stevens, free engine, 3-speed, water-cooled, commercial box fitted to front: £35, or nearest offer.—Payne, Park St., Harsham.

PHENIX Primo Tricar, 3hp, 2 speeds, lamp, horn, tools, etc., in splendid order: price £12/10; exchanges invited.—Cordingley, Haslinden Tel. 2Y.

RALEIGHETTE Tricar, water-cooled, free engine, 2 speeds, coach-built seats, guaranteed perfect running order: £18.—C. 63, Barclay Rd., Leytonstone.

9hp Singer Tricar, twin cys., w.c., 3 speeds forward and reverse, lamps and spares, in absolute new condition; sacrifice £45.—Apply, 9, Carver St., Birmingham.

3hp Humber, 2-speed gear, free engine clutch, 32 perfect condition, handle starting, new tyres throughout, £15, bargain.—B. Hughes, Netley St., South Farnborough.

LATEST 9hp, Singer Tricar, water-cooled, twin engine, 3-speed, reverse, coach-built, to carry 3; cost £180, equal new £55.—Particulars from Wm. Elze, Mineral Water Works, Lea, Matlock.

6hp Auto Tricar, £25; small 2-speed gear b.x, brake and clutch, £3, 10-12hp Adams engine, perfect, £18; pair side oil lamps, 15/-, exchange for anything useful.—31, St. Peter's Hill, Grantham.

SMART Reliable Chater-Lea-Steven Twin 6hp, Tricar, 3 speeds, reverse, car drive, green, 4 lamps, pure tubes, motor valves, tools, etc., just overhauled; £40; want car.—Pannell, The Chalet, Dunstable.

TOTTENHAM.—Triars: 3hp, Triumph, water-cooled single-cyl. engine, £15; 3hp White and Pope, single-cyl., water-cooled, 2-speed gear, £14.—Stamford Motor Co., 128, High Rd., Tottenham. Phone: 1982.

A.C. Sociable, 1911, new July, hood, screen, front wheel brakes, luggage carrier, spare hand-ported tube, lamps, tools, etc., new steel studded tyre on back; owner leaving England: £85.—Craydon, High View Rd., Sidcup.

FOR Sale, cheap, 10hp, sociable tricar, 2-cyl. engine, 2 speeds and reverse, wheel steering, handle starting, new gear box, just repainted and polished; not reasonable offer refused.—Lund, Court Works, Diggle, near Oldham.

REX Tricar, 41-5hp, w.c., bucket seats, 3 gears, climb anything, 1911 B. and B. splendid running order, just overhauled, cylinder re-bored and new piston fitted, new chain and sprocket wheels, re-enameled; bargain, £18/10.—Corder, Northfields, Bridgwater.

SINGER Tricar, 9hp, Riley engine, twin cys., water-cooled, 3 speeds and reverse, late model, coach-built, perfect order and new condition, £5 to £7 worth spares and accessories, 3 lamps, horn, 2 spare tubes, etc.; expert examination invited; £42, or offer.—W. E. Smezzum Fore St., Ipswich.

SIDECARS AND FORECARS.

LIBERTY Sidecar, left, new Michelin, apron; 72/-—7, Dyer's Hall Rd., Leytonstone.

SIDECAR, new 28 cover; 35/-, or exchange.—130, Thurlagh Rd., Clapham Common.

TORPEDO Side Entrance Sidecar, Chater fittings, never used; £6/6.—785, High Rd., Leytonstone.

SIDECAR, new, immediate delivery, £5, including motor cycle tyre.—Rex Patents, 276, Clapham Rd.

SIDECAR, rigid, good condition, good tyre and tube; £2/17/6.—Cross, 93, London Rd., Southwark, S.E.

NEARLY New Wicker Sidecar, used only 120 miles; £3.—W Holdstock, Canterbury Rd., Sittingbourne.

SIDECARS, brand new, beautifully upholstered, fit any make; £3/12.—Rey, 5, Heath St., Hampstead.

14 GUINEA, Montgomery, converted to fixed, new tube, tyre; £7, nearest.—Lomax, 75, Beoley Rd., Redditch.

SPRUNG Wheel Sidecar, cane basket, Palmer tyre; £4/15.—R. and H., 202, Southampton St., Camberwell.

8 GUINEA Model Sidecar, Chater-Lea detachable fittings, brand new; £5/5.—Matthews, pawnbroker, West Croydon.

WICKER Sidecar, nearly new, upholstered green, 26in Continental; £3/16.—Madeley, Cottenham Lodge, Cottenham Park Rd., Wimbledon.

PHENIX, little wear, almost new studded tyre, 26x22, off Triumph; £3/10.—Franco-British Garage, Young's Corner, Hammersmith.

WICKER Sidecars, direct from makers, upholstered any colour from 20/-—immediate delivery.—City Basket Works, Jersey St., Gt. Ancoats, Manchester.

NEW Sidecar, detachable fittings, Continental tyre, 6 guinea model, not even soiled; £4/11, bargain; exchange considered.—Ellis, Victoria Terrace, Delph Mill, Hahtax.

MIDDLETON'S, wholesale, retail, export, sidecar manufacturers; 12 models, 2-seaters, commercial, narrow doorways, etc.—Watson St., Newington Green, London, N. Phone: 2126

SIDECARS, largest stock; best value in England; all built of Chater-Lea fittings; prices, £6/10, £5/10, £4/15; second-hand from £3/15, fitted free while you wait.—C. A. Edgar, 125, Holloway Rd., N.

THE Pythian Springs Wheel Sidecar (Morrison's patent) is undoubtedly the most comfortable on the market; send for particulars; prices from £3/15; Pythian motor cycles, £46/15.—Clarke Bros. (Leicester) Ltd., Lower Free Lane, Leicester.

SIDECARS.—A postcard will bring you illustrated list of the best, cheapest, and most up-to-date sidecar on the market, delivery from stock, trade supplied.—Jack Cairns, sidecar and fittings manufacturer, Grimshaw St Works, Preston.

MONTGOMERY Rigid Coach-built Sidecar, built to special design, torpedo body, child's removable seat, specially sprung, very smart and comfortable; cost £16/10, accept £10/10, or nearest offer.—No. 8, 591, The Motor Cycle Offices, 20, Tudor St., E.C.

TOTTENHAM.—Sidecars; 1911, nicely upholstered, fit any machine, £3/10/6; quick detachable £3/17/6; Millford Herald, £6/6; Mills-Fulford quick detachable cane body, £11, in stock.—Stamford Hill Motor Co., 128, High Rd., Tottenham.—Phone: 1982.

PHENIX Sidecars.—The makers of the famous Phoenix motor bicycles are making Phoenix sidecars of high grade from 25/5 off, complete with tyres, fitted free; sidecars on hire, exchanges made.—Phoenix Motors, Ltd., Motor Cycle Depot, 736, Holloway Rd., London, N. Phone: 449 Hornsey.

GREEN'S.—Have you seen the Brighton sidecar? It has a special cranked back stay, loop front, adjustable telescope tubes, platel, quick detachable joints, complete with well upholstered basket, apron, and fitter with 26x21 heavy studded cover and tube; price 26/6 book your order now.—Green and Co., 1,073, Chester Rd., Stretdford, Manchester.

WHEN You See an Oakleigh Sidecar you may know it is the hall mark of perfection; you give you the value in the sidecar, we don't waste money in big display advertisements or top-hatted gentlemen with thousand pound salaries, oh, dear no; the proprietor works at the bench himself; you become our fast friend on the first deal; now don't delay, order your Oakleigh sidecar at once, we are now booking up next week's orders; price £5, and nothing given away.—Oakleigh Sidecars, Ltd., 65a, Rosendale Rd., West Dulwich.

SIDECAR COMBINATIONS.

32 h.p. Humber and Sidecar, splendid condition; 218/-17, Grove Rd., Southend-on-Sea

6 h.p. J.A.P., magneto, and torpedo sidecar, perfect; £30.—20, Milkwood Rd., Horne Hill.

19 h.p. Scott and Sidecar, practically new; cost £75, accept £58.—Hough, Theatre, Walsall.

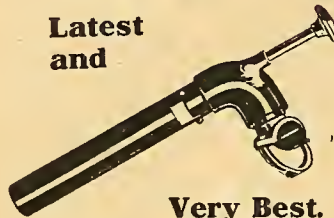
7 h.p. Rex, free engine, cane sidecar; £20; after 6.30 o'clock.—28, Grove Lane, Stamford Hill.

19 h.p. 2-speed 31 h.p. Premier and Sidecar, splendid condition; £50.—Mitchell, 25, Francis St., Leeds.

RUDGE, 31 h.p., free engine, and sidecar; £50; will sell without sidecar.—O. Collins, 5, Promenade, Bridlington.

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Bristles with Good Points.

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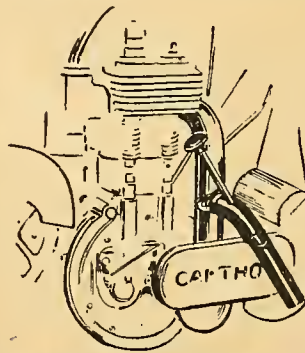
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MOSELEY MOTOR WORKS,
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SIDECAR COMBINATIONS.

5 h.p. N.S.U., Bosch, Whittle, 2-speed, nearly new, Chater-Lea sidecar; £28/10.—85, Church Rd., Willesden.

32 h.p. Rex and Sidecar, 1908, ball bearing engine, magneto, just overhauled; £24.—785, High Rd., Leytonstone.

4 h.p. Motor and Sidecar, perfect order, new tyres; no reasonable offer refused.—Sulter, East Dulwich Grove Laundry.

7 h.p. V.S. 2-speed, and sidecar, accessories, and spares; any trial; £48.—Davies, Park View, Park Rd., Whitechurch, Cardiff.

19 h.p. 51 h.p. Rex de Luxe, special sidecar; £75; unable take delivery; doctor's orders; nearest £65.—16, Colwyn Av., Leeds.

L.M.C., 1910, 31 h.p., 2-speed, free engine, and sidecar, splendid condition, lamp, and spares.—19, St. Andrew's Rd., Enfield.

SALE, Twin Rex and Sidecar, 5-6 h.p., B. and B., perfect; £20, or exchange 4-4 h.p. single.—42, Mill Hill Rd., Acton.

6 h.p. N.S.U. and Sidecar, twin, 2-speed, magneto, new B. and B. h.b.c.; what offers?—Metcalfe, 103, Queen's Rd., Baywater.

32 h.p. 1910 Triumph, with Mabon 1911 free engine 32 and sidecar, not done 1,000 miles; £40.—Paxton, 95, Canyaside St., Paisley.

19 09 31 h.p. 2-speed N.S.U., magneto, perfect condition, with sidecar; £26/10; exchange entertained.—Sinclair, East Moseley.

32 h.p. 2-speed Humber, 1911, with Lewis sidecar; £40, lowest; trial by appointment.—Shelton, 10, Uplands Park, Enfield, Middlesex.

N.L.G. Peugeot, 51 h.p., with sidecar, Bosch, Whittle, spares, just re-bushed, a fine combination; trial; £31.—37, Rentower Rd., Canonbury.

32 h.p. Chater Rex, magneto, with sidecar, excellent order and condition; £21, a bargain.—Stephens, 30 367, Brighton Rd., South Croydon.

32 h.p. 1911 Arno, clutch model, and sidecar, complete with lamp, horn, etc., and new tyres; 50 guinea.—Newsome, Sherbourne House, Coventry.

32 h.p. Minerva, magneto, spring fork, Whittle, Palmer (new), Peter-Union h.b.c., Mabon clutch, and sidecar, good order; £23.—Long, Crowle.

VINDEC Special, 5-6 h.p., new Palmer cord back, Montgomery sidecar; £35; good going order.—Fielding, 89 London Rd., Bromley, Kent.

7 h.p. Pugh, chain driven, 2-speed, perfect condition, tyres new, sidecar, too powerful for present owner; what offers?—A.T., 84, Buckingham Gate, S.W.

£24.—51 h.p. twin Peugeot, Montgomery sidecar, Amao, h.b.c., Kempshalls, Whittle belt, adjustable pulley; my trial.—40, Taitford Rd., Peckham Rd., S.E.

5 h.p. Roc-Peugeot, 1910, 2-speed, Druids, Bosch, B. and B., F.R.S. and P. and H. lamps, spring wheel sidecar; £38.—20, Priory Gardens, Highgate, N.

19 09 71 h.p. Minerva Twin, magneto, Mabon clutch, spring forks, motor wheel coach-built sidecar, perfect condition; £32/10.—Crisswell's Garage, Newmarket.

19 11 31 h.p. Zenith-Gradna, Mills' Herald sidecar, Cowey, Lucas lamp, very silent, perfect order; cost £67 in May, accept £48.—Guinness, Guy's Hospital, London.

POWERFUL 51 h.p. Twin-cyl. Rex Motor and sidecar, engine just overhauled by makers, tyres on cycle nearly new; bargain, £18.—C. Davidson, Dalston, near Carlisle.

P. and M. Motor Cycle and Sidecar, 1908, 31 h.p., 2-speed gear, free engine, magneto, lately overhauled; £38.—Fred North, 44, Stoney Lane, Eccleshill, Bradford, Yorks.

8 h.p. 1911 Matchless, V.S. 2-speed, Brooks pan seat, Cowey, F.R.S. lamp, rigid sidecar, new tyres all round, perfect running order; £75.—2a, Sidney Rd., Stockwell, S.W.

8 h.p. J.A.P., 2-speed, h.b.c. magneto, automatic carburettor, Jones speedometer, etc., with rigid sidecar, in perfect condition; £42.—79, The Grove, Green-gates, Bradford.

INDIAN Twin, 51 h.p., very fast machine, with a Chater-Lea sidecar, lamps, horn, and accessories, new back tyres, everything in perfect order; £38.—21, Hampstead Hill Gardens, N.W.

N.S.U., 31 h.p., Model de Luxe, and sidecar, 1911, fitted with 2-speed gear and free engine clutch, lamp, and all accessories; £35, or nearest.—Elliott, 10, Myrns St., Hanley.

REX de Luxe, 51 h.p., late 1909, Coronet sidecar, Roo 2 speeds, Druid forks, adjustable pulley, excellent condition; £38.—Heeley, 9, Blenheim Gardens, Wallington, Tel.: Wall 8127.

HUMBER, 1911, 2-speed, free engine, Mills-Fulford sidecar fitted, new last March, excellent condition; bargain, £47; trial any time; owner getting car.—218, Cricklewood Lane, N.W.

N.S.U., 61 h.p. 1911 twin, new condition, latest improvements, extra heavy tyres, 2-speed gear and free engine, coach-built sidecar; £52 any trial.—Earle and Co., High St., Acton.

SIDECAR COMBINATIONS.

5-h.p. Brough, Peugeot-Chater-Lea 6, Bosch, Barlow, smart, £29; 3-h.p. Humber, as new, £41; 5-h.p. 1910 V.S. 2-speeder, £33; sidecar, £510; exchanges—84 Rodenbush Rd., Clapham.

J.A.P.-CHATER, 4-h.p., 1909, Bosch magneto, B. and B. 1in. Continental belt, new, adjustable pulley, lamp, etc., £28; with P.M.C. sidecar, £33.—No. 8,607, The Motor Cycle Offices, Coventry.

4-CYL. 5-h.p. F.N., h.b.c., central intake, tyres in good condition, wicker sidecar, ready for the road, lamp, tools, horn, etc.; good reason for selling; £26.—Meek, 140, Archway Rd., Highgate.

TRIUMPH, free engine, new June, 1911, Mills-Fulford torpedo front sidecar, Palmer cords, all unpunctured, P. and H. best lamp, large horn, as new; £56.—Fred Powls, Howden, Yorkshire.

1909 Twin Rex de Luxe, magneto, h.b.c., spring forks, 2-speed, free engine, handle starting, and sidecar, just enamelled and overhauled at cost of £7; bargain, £29/10.—12, Market Sq., Horsham, Sussex.

3-h.p. L.M.C., August, 1910, 2 speeds, free engine, 22 sidecar, new May, 1911, brand new tyres, new belt, P. and H. lamp, all accessories and spares; cost £58, accept £38.—Layton, 2, Fulham Park Rd., S.W.

5-h.p. Matchless, 1911 type, 2 speeds, free engine, easy starter, twin belts, all latest fittings, very fine sidecar, with hood and screen, very little used, in perfect condition; £60; trial.—Girling, Market St., Woolwich.

1911 Bradbury, 8 weeks old, and coach-built sidecar, Whittle belt, new Kempshall heavy non-skid, Camp horn, spare belt, tube, and all accessories, equal to new; accept £43.—Wild, 19, Mayfair Gardens, Rochdale.

R.O.C. Cycle, with sidecar, 5-h.p. Peugeot engine, twin cylinders, magneto ignition, 26x21 Palmer cord tyres, in very good order, general condition excellent; owner got a car; would sacrifice for £30.—12, The Broadway, Muswell Hill.

1910 8-h.p. Bat and rigid sidecar, 2-speed P. and M. gear, rubber and Whittle belts, voiturette back tyre, Clair silencer, tools, etc., excellent condition; trial run in sidecar; owner going abroad; £55.—Southon, 220, Bruntsfield Place, Edinburgh.

8-10-h.p. Chater-Lea and coach-built sidecar, with side door, hood, and wind screen, spring wheel, luggage board, 3-speed gear box, clutch, drives like car; cost £130 May, 1911, new; exchange for small car, or sell £90; appointment—141, Croydon Rd., Anerley.

INDIAN, 7-h.p., 1911, free engine model, practically new, fitted with Lucas lamp, Cowey indicator, watch, mirror, horn, h.b. lamp, and other useful accessories; also Mills-Fulford £14/14 sidecar; price £70, cost £95.—Write M. 8,595, The Motor Cycle Offices, Coventry.

1910 8-h.p. J.A.P., Chater-Lea frame, Bosch, V.S. gear, Matchless forks and adjustable pulley, J.A.P. carburettor, Millford rigid sidecar, Davison tank pump, and drip oilers, perfect condition, tyres as new Shamrock combination back, 14 Gloria belt; £60.—Taylor, 26, Blakesley Av., Ealing.

ZENITH-GRADUA, 8-h.p. J.A.P., with Chater-Lea coachbuilt spring-wheel sidecar, new 2 months ago, King lamp and generator, Teletaphone, speedometer, Bosch magneto, and all latest improvements, faultless, trial run allowed; cost over £120, sacrifice £78/10.—Garaged at Olander Garage, 1, Choumert Rd., Peckham. Tel.: 744 New Cross.

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PHOENIX Quadcar, 7-h.p. Fafair, just thoroughly overhauled; any trial.—King, Great Missenden.

PHOENIX Quadcar, very good condition; £30 for quick sale.—Particulars, Dr. Bainbridge, Brough, Westmorland.

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LIGHT, low, tubular chassis, wire wheels, 750x80 Dunlops, equal new, 2 speeds, clutch, chain drive; £20, or exchange.—Cowper, Kingsley House, Fulwell, Sunderland.

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10-h.p. Darracq Car, 4-seated, smart body, hood, screen, lamp, Stepney; price £55.—Birch and Harris, Nuneaton.

6-h.p. De Dion Lacoste, splendid condition and equipment; £50, motor cycle part.—Heushaw, wheelwright, Stockport.

6-h.p. Rover, smart 2-seater, hood, screen, £47; 6-h.p. Humber, 2-seater, £30; motor cycle part—20, Potternewton Lane, Leeds.

4-h.p. Humber, 2 speeds, handle starting, water-cooled; exchange motor bike, or sell £9/15.—68, Vanderbilt Rd., Wandsworth.

BARV Peugeot, 6-h.p., 3 speeds, reverse, splendid condition; £18/10, bargain.—Stockport Garage, 37, Wellington Rd. N., Stockport.

6-h.p. De Dion Car, 3 speeds and reverse, double bucket seats, hood, wind screen, just overhauled, suit doctor; £55.—29, East St., Barking.

6-h.p. Humber Car, dual ignition, hood, new tyres, spares, good running order; trial given; £25, complete.—Summers, Wellingborough.

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DOUGLAS, 1911, 2½ h.p., 2-speed, scarce, good as new	£42
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TRIUMPH, 1907, 3½ h.p., good condition	£22
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ECLIPSE.—16-h.p. Vivinus, side entrance, 4-cyl., h.t. magneto, hood; £105

ECLIPSE.—28-36-h.p. Daimler, side entrance, dual ignition, screen; a bargain; £105

ECLIPSE.—10-12-h.p. Darracq, 1909 model, excellent condition, 2 or 4-seater; £100.

ECLIPSE.—20-32-h.p. Darracq, two ignitions, hood, screen, splendid order; £15

ECLIPSE.—16-20-h.p. Argyll, 2-seater, dual ignition, hood, screen; £115.

ECLIPSE.—15-h.p. Darracq, long chassis, two ignitions, hood, nice order; £95.

ECLIPSE.—18-22-h.p. Clement, live axle, magneto, side entrance; splendid hire car; £90.

ECLIPSE.—12-14-h.p. Wolseley chassis, m.o.v., suitable for light van; £30.

ECLIPSE.—10-12-h.p. Gladiator, 4-seater, hood, reliable car; £35.

ECLIPSE.—6-h.p. De Dion-Regal, smart little 2 or 3-seated runabout; £35.

ECLIPSE.—8-10-h.p. Darracq, 2-cyl., 2-seater, magneto, hood, screen; bargain; £100.

ECLIPSE.—40-h.p. Weigel, 2-seater, racer, splendid order; £140.

ECLIPSE Engineering and Motor Co., 255, Earlsfield Rd., Wandsworth. 'Phone, 1135 Putney. Earlsfield Station, L.S.W.R.—15 minutes from Waterloo.

RENAULT 10-14-h.p. twin, 2-seater, hood, screen, perfect; £55.—Chandeur, 4, Vining St., Brixton.

6-h.p. De Dion-Swift, 2-seater, hood, Stepney; exchange magneto motor bike.—Pensel, Hemel-Hempstead.

6-h.p. Rover, excellent condition; £35; modern lightweight part.—68, Wellington Rd. N., Stockport.

M.M.C., 9-h.p., tonneau, good condition, little used; bargain, £30.—Dark, 30, Earlsfield Rd., Wandsworth.

SAIZARE, 12-h.p., Brooklands winner, 50 miles an hour; any trial; £100; Triumph part payment—below.

DARRACQ, 7-9-h.p., 2-seater, 2 ignitions, hood, screen, Stepney perfect; £50; motor cycle part.—Oswald Parker, Melbourne, Derby.

DE DIION, 6-h.p., 3 speeds, 2-seater, good order, luggage room at rear; £35; appointment.—15, Cornwall Av., Church End, Finchley.

6-h.p. Humber, 2-seater, grand order; £25; exchange for motor cycle, with cash, Triumph, Douglas—McFarlane Bros., 246, High St., Perth.

PANHARD, 7-9-h.p., 2-cyl., 4-seater, folding screen, hood, lamps, all complete, splendid order and condition; accept £55.—Peacock, 274, High Rd., Bulham.

14-h.p. Humber Car, 4 cyls., 4 speeds, reverse, side entrance body, seats 5, painted green; bargain, £30.—Murray, 37a, Charles St., Hatton Garden, Holborn.

CORDINGLEY.—Regal 6-h.p., 3 speeds and reverse, 2-seater body, 3 lamps, horn, tools, etc.; a really smart and reliable car, go anywhere; price £30.—Below.

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PALMER.—16-20h.p. Belsize, 2-seater, live axle, low built; bargain. £45.

PALMER.—40h.p. Flying Thomas chassis, dual, live axle, just overhauled; cheap. £95

PALMER.—10-12h.p. Leader taxicab, 4-cyl., live axle, seat 4 inside, must sell; £60.

PALMER.—10-12h.p. Horley-Aster, side entrance, flush-sided, live axle, 2-cyl.; £55.

PALMER.—9h.p. Jackson, 2-seater, De Dion engine, dual ignition, hood; £75

PALMER.—24-40h.p. F.I.A.T., side entrance, magneto, gate change, hood; bargain. £55.

PALMER.—30h.p. Napier landaulet, 6-cyl., upholstered Bedford cord, very silent; £145.

PALMER.—16-20h.p. Rover, side entrance, live axle, screen, new hood, must sell; £85.

PALMER.—25h.p. Motobloc, side entrance, magneto, very roomy body; clearance. £55.

PALMER.—18-24h.p. Leader double landaulet, live axle, 4-cyl., very smart; £100.

PALMER.—40h.p. Mercedes, double limousine, Mercedes h.t. plugs, gate, very handsome; £275.

PALMER.—25h.p. Gladiator, side entrance, dual, steel frame, hood, very roomy; cheap. £125.

PALMER.—7h.p. Pope-Tribune, 2-seater, live axle, hood, requires tyres; to clear, £25.

PALMER.—14-16h.p. Ballot lorry, carry 18 cwt., magneto; £75.

PALMER.—30h.p. Darracq limousine, seats 6 inside, lovely body; bargain. £115

PALMER.—15h.p. Ariel semi-limousine, 4-cyl., 7-seater, modern; £55.

PALMER.—16-24h.p. De Dietrich, double landaulet, 4-cyl., very reliable; £100.

PALMER.—10-12h.p. Speedwell, 2-seater, 2-cyl., with box van at rear, suit traveller; £65.

PALMER.—16-24h.p. F.I.A.T., side entrance, 4-cyl., magneto, gate, perfect; £125.

PALMER.—20-30h.p. Beeston Humber, 1907-8, long chassis, h.t. magneto; £125.

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15h.p. Humber, cream, tonneau, perfect running order, hood, screen, Stepmey, 5 lamps, accessories; £100 or sidecar combination part payment.—7, Circus Rd. St. John's Wood, London.

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6h.p. Twin Engine, new, with Amac carburettor; sacrifice £6.-8, Copeland Rd., Walthamstow.

3½h.p. White and Poppe Engine and silencer, perfect; £26/10.-17, Lancroft Rd., E. Dulwich.

£6/10.—3½h.p. Raleigh, Fafnir engine, powerful and speedy.—Cossart, Vale View, London Rd., Bath.

3½h.p. Wolf Engine, Amac carburettor, coil, and 2 accumulators; cheap, £4/10.—Borland, Preston pans.

REX Engine, 3½h.p., less flywheel and exhaust pipe, new cylinder; £2.—Payton, 11, Balacava Rd., King's Heath.

4½h.p. 4-cyl. F.N. engine, good condition, suit mono-car or boat; £6; exchange single-cyl. or gramophone and cash.—Lee, 24, Farleigh Rd., Stoke Newington.

ENGINES.—complete with carburettors.—2h.p. Quadrant, £2; 2½h.p. Brown, m.o.v., 50/-; 2½h.p. De Dion pattern, £2; 3½h.p. Rex, 50/-;—Smith, 205, King St., Hammersmith.

6h.p. Twin-cyl. Water-cooled Fafnir Engine, with pump, ball bearing Bosch magneto, and silencer; perfect condition; offers—No. 8,598, The Motor Cycle Office, Coventry.

6h.p. Twin Engine, complete with carburettor, splendid condition, £26/10; 5½h.p. twin Rex, for magneto, new, £28/10; 3h.p. Brown, £2; 2½h.p. Minerva, £2/10; 3½h.p. Rex, £2/10.—Murray, 37a, Charles St., Hatton Garden, Holborn.

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BASTONE'S.—New motor cycle covers, ribbed pattern; wired edge—26x2, 11/9; 26x2, 12/9; 26x2, 13/9; 28x2, 12/6; 28x2, 14/6; beaded edge—26x2, 13/6; 26x2, 14/6; 26x2, 16/6; 28x2, 14/6; 28x2, 16/6.

BASTONE'S.—Great bargains in rubber-studded heavy covers, wired edge; 26x2, 14/-; 26x2, 15/-; 26x2, 16/-; 28x2, 15/-; 28x2, 16/-; beaded, 1/- extra.

BASTONE'S.—New Michelin, Michelin covers, brand new and latest pattern; wired edge—26x2, 12/3; 26x2, 14/-; 26x2, 16/-; 28x2, 13/-; beaded edge—26x2, 14/8; 26x2, 17/-; 26x2, 21/-; 28x2, 16/9; steel-studded covers, wired edge—26x2, 54/6; beaded edge, 56/.

BASTONE'S.—Tubes with valves, best quality, and guaranteed; 26x2, 8/-; 26x2, 8/6; 26x2, 9/-; 28x2, 8/6.—Bastone's, 215 and 217, Pentonville Rd., King's Cross, London, N 'Phone: 2481 North. T.A.: Bastone's London.

TYRES Repaired by H.F. process; studded bands fitted.—Marshall, 117, Shacklwell Lane, Dalston, London.

KEMPSHALL Heavy Anti-skid Cover, 26in.x24in. unused; 32/6.—No. 8,592, The Motor Cycle Office Coventry.

TAYLOR'S.—Michelin, 1911, guaranteed new stock 26x2, m.o.v., 12/3, 24 14/-, 24 16/-; beaded, 14/8 17/-, and 21/-.

TAYLOR'S Offer 10/- for old covers towards new 2 Continental rubber non-skid and Peter Union two rib; Palmers, Clinchers, Knapshill, and Hutchinson stocked.—The Tyre Stockists, 21a, Store St., Tottenham Court Rd., W.C.

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MOTOR Cycle (heavy) Rubber-studded 26x2 Cover 20/-; approval against cash.—Scottish Motor Agency, 167, Morrison St., Edinburgh.

CLINCHER Rubber-studded (clearance) Covers, 26x 23/-, 24 25/-; Dreadnought studded, 26x2, 30/- A' Won ribbed, 26x2, 15/6; tubes, 26x2, 6/-; approval against cash.—Scottish Motor Agency, 167, Morrison St., Edinburgh.

THE MOTOR CYCLE

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British Motor Cycles and Colonial Conditions.

COMPARATIVELY few makers realise the big field and possibilities abroad for the sale of motor cycles. Further, it is the vastness of our overseas dominions that causes it to be a most difficult matter for those manufacturers who are ready and willing to cater for motor cyclists abroad to know the exact requirements of each country. This issue of *The Motor Cycle*, containing as it does valuable experiences and opinions of readers spread over all parts of the world, will do much to clear the air and possibly pave a way to a profitable business to home manufacturers, and yet delight the colonial by attention to his not unreasonable demands. Though a different model is not necessary for different countries, it is obvious that a motor cycle which will suit the roads and climate of India is frequently found wanting, say, on the veldt of South Africa.

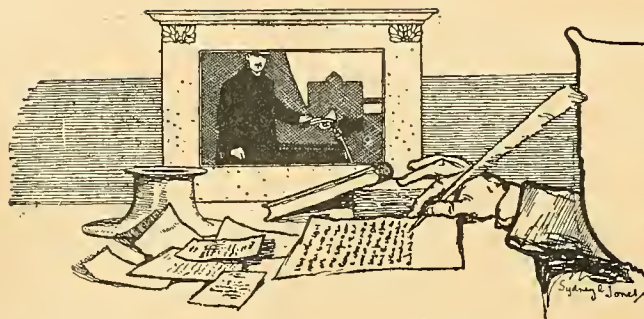
In India the trunk roads are excellent, and the climate, although exceedingly hot at certain seasons, is not too hot to prevent air-cooled engines giving good results. On the arid plains of South Africa there are often only apologies for roads, and what track there may be is strewn with boulders. Consequently a crank case clearance that is ample for good-class Indian roads may be insufficient for South Africa. These varying conditions call for a divergence in design which makers may well be excused for shelving for a compromise. Some have introduced special colonial models, which have found a ready sale; others are content with their standard pattern, and with care this is found to give good results, although the correspondence published in this special issue proves the necessity for some modifications in design, if not

drastic changes, if our overseas readers are to be satisfied on every point. A perusal of the criticisms in this issue will form a useful guide to the prospective buyer as to the machine he wants. The opinions are also of general interest, as all riders find pleasure in following the doings of colleagues in countries abroad.

One phase of the movement which we have particularly noted in reading letters from correspondents in far-off lands is that dissatisfaction exists as to the business methods adopted by some makers at home. We are told that enquiries are often referred to a very subordinate agency where the proprietors know little about the machines they are ready to sell. Colonials also grumble that few makers mention prices in their announcements to prospective foreign purchasers, and many weeks are wasted through this omission.

It must not be supposed for one moment that the standard British mount is totally unsuitable to colonial conditions. As has been stated, it can be used in many countries without alteration, and, as a matter of fact, practically every standard British make would give the greatest satisfaction on inferior colonial roads, provided the following simple alterations were made: 28in. wheels fitted to increase crank case clearance, stronger tyres of larger section, stronger rims and spokes, more perfect and stronger spring forks and saddle springs, belt rims 1in. further from the ground. It is almost needless to add that change speed gears are generally desirable and sometimes indispensable, and low compression engines are of immense advantage.

At present the demand for motor cycles slightly exceeds the supply, but the circumstances may be reversed before long, and the alert maker and dealer will reap the reward of enterprise.



The Motor Cycling Conditions in Northern Nigeria.

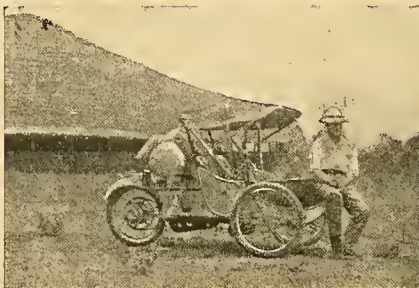
ON the first occasion of Mr. Walter Wethered's visit to the tin fields of Northern Nigeria he took with him a push-bicycle. On his third visit he took an A.C. Sociable fitted up complete with a hood and screen—the latter subsequently dispensed with—but the machine was not in any way specially built for the journey. Roads are few and far between in that part of the world, and progress had to be made over the tracks worn by the feet of the native carriers in their passages to and from the tin fields. The rear wheel of the car followed the track, but the side wheels were running in grass several feet high. Swamps were encountered, and on numerous occasions a way had to be cleared for the A.C. by means of picks and shovels by the accompanying natives. At times, too, the car had to be carried entire by the natives over particularly difficult places. When roads were encountered they were not of an easy-going character, as may be gathered from one of the accompanying illustrations. Progress was consequently slow, but Mr. Wethered found it much more comfortable sitting under the hood than the alternative he had previously tried of riding horseback unprotected from the blazing sun. Despite the heat and the fact that the whole of the journey from Loko to Keffi, a distance of seventy-four miles, was done on the lower gear, the air-cooled engine did

not show any symptoms of overheating, and gave no trouble whatever.

How Time was Saved.

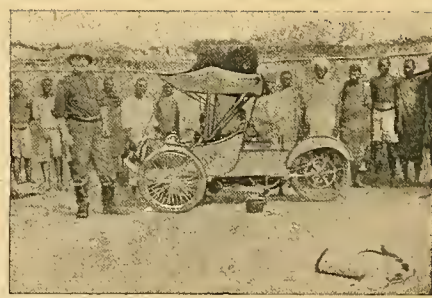
In order to have an ample supply of fuel, Mr. Wethered had shipped out to Nigeria 150 gallons of petrol, which was carried from the steamer up to his camp by natives. A large crowd of natives witnessed his start on the machine, which carried his bedding, but no particular excitement was occasioned by what must have seemed to them an uncanny affair. Although Mr. Wethered himself is not a lightweight, the car carried him and the mine manager, Mr. E. H. Nicholson, when on the tin fields; and as an instance of its utility Mr. Wethered states that, whereas by ordinary trekking it took some eight days to travel from the headquarters of the field (Naraguta) to the nearest railway station (Rigachikun)—a distance of over 100 miles—the manager made the trip on the handy little three-wheeler in a day and a half.

Mr. Wethered left the car on the tin fields, and suggests that the various mining companies should supply their managers with cars in order to enable them to move from point to point on their estates more easily than can be done by the present cumbersome methods of travel. So successful has the machine proved that a repeat order has been received by Auto-Carriers, Ltd.



(2) Crossing Shika River Drift.

THE MOTOR CYCLE IN
NORTHERN NIGERIA.



(3) In camp at Lafon, Northern Nigeria.

(1) An A.C. sociable outside one of the Government rest houses.

THE IDEAL MACHINE FOR THE COLONIES

SHOULD IT BE OF SPECIAL DESIGN?

BY B. H. DAVIES

AS a correspondent pointed out recently, it is a mistake to lump all the colonies together, and imagine that the riding conditions are identical in all the oversea continents. Without doubt there are large areas in most of the colonies where a standard British tourist machine will almost ideally "fill the bill"; there are other areas, larger and more numerous, where the standard home types are seriously defective. It seems to me that the harassed manufacturer, who wishes to cater for the export demand, should be content with one conviction. He should realise that the riding conditions are almost uniformly more severe in the colonies than they are at home; he should think out the details of these severe conditions in every aspect; and he should modify his British patterns to suit.

In inviting him to tackle this process, we are only asking him to do what he has already successfully achieved in other directions. When a maker resolves to enter for the T.T., or the Six Days, or the Scottish Trials, he realises his machine will be more severely tested than it is in the hands of the ordinary customer, and he modifies his pattern accordingly. For instance, some firms who competed in the Six Days have already made mental notes of necessary improvements. They have decided to fit stronger rims, heavier spokes, thicker tyres, and lower gears to the 1912 models. In addition to these general changes, several minor details, peculiar to the individual make of machine, have been noted for strengthening. A similar process, aided by keen and thorough imagination and by the complaints of existing customers overseas, will produce an

efficient colonial model. I have never ridden in the colonies, but in this article I propose to apply the imaginative solution to this special problem, classifying suggestions under the normal heads of a specification.

ENGINES.—Certain engines give tolerable satisfaction in England, yet will never do for the colonies. They are engines which will not stand being "over-driven," which cannot be run slowly, and which do not maintain their power. Such engines are disappearing from the home market, but they suit the tamer breeds of home user fairly well, and a few continue to exist.

In some colonial areas an engine has to climb hills many miles in length, and therefore an engine which soon grows tired of full throttle will never do. A colonial rider may have to pick his path at eight or ten miles an hour over rock-strewn tracks, narrow rutty trails, or sand patches for miles together; and thus it is essential that his engine must be capable of firing regularly at slow speeds, and of climbing short pitches of steep gradient *without rushing them*. This question is not solved by fitting a variable gear; it is a bigger problem to make an engine that can keep going indefinitely on a 10 to 1 gear than to make an engine which will run slowly on a 5½ gear. Finally, the colonial rider is by no means always a mechanic, and he may live hundreds of miles from a capable repairer; therefore the engine must maintain its power for long periods.

To export engines which grow tired, which will not run slowly, and which rapidly lose their power, is to

A SO-CALLED ROAD IN VICTORIA, TEN MILES FROM MELBOURNE, SOUTH AUSTRALIA.



Very few motor cyclists have any idea of the atrociously bad roads their brethren "down under" have to put up with. The surface illustrated is not unusually bad for S. Australia, the roads in that part of the world being all more or less in this condition. The good roads are very few and far between.

The Ideal Machine for the Colonies.—

ask for unpopularity and loss of trade. For most colonial districts the engine clearance must be increased; one Australian rider of my acquaintance fastens a thick strip of felt, such as is used for typewriter pads, under his crank case for an additional safeguard.

WHEELS.—A Scotch doctor who uses his machine all the year round in the Highlands recently wrote a lurid indictment of standard wheels to a lay journal. If standard wheels are too weak for Scotland or for Yorkshire, they are too weak for the colonies. The rims and spokes cannot be too strong. The wheel bearings cannot be too waterproof, and their adjustments should be accessible and dust-excluding. The colonial rider has to take out his wheels far oftener than we have, and he does not want to reset his cones every time he removes a wheel. The wheels should be as easily detachable as possible. It is a simple matter to design a wheel so that it can be removed and replaced within ten minutes; why boggle with stupid designs which require two hours? The tyres should be $2\frac{1}{2}$ in. reinforced. The mudguards need wide clearance; if the clearance be small, as in some cases at home, the wheels get jammed with mire, and small stones lodge between guard and wheel, and rip out spokes.

CARBURETTORS.—Colonial carburettors need to be as simple, as dustproof, and as little sensitive as possible. On bad going nobody cares to be bothered with hairtrigger levers, which may be an actual attraction on dull smooth roads. The dust in India, for instance, baffles description, and soon pulls down engine tune; thus the air intakes should be safeguarded by their position, and by a proper air filter, easily cleaned. The vaporiser needs a huge range of extra air, when we consider the variations of temperature and altitude which colonial riders have to face. I should say that the 1912 carburettors with their variable jets and variable choke will prove ideal.

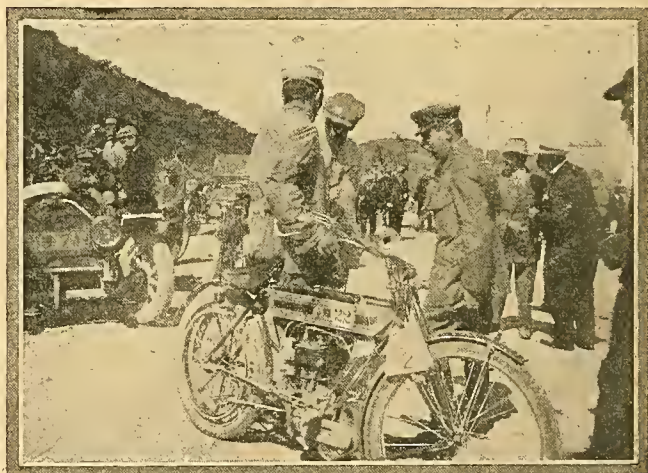
IGNITION.—Nothing can be better than the standard high-tension magneto. It should be absolutely waterproofed, and it should be timed on the slow side. Most makers time their magnetos a shade too fast for the home market. I find that to set the firing point, say, 2 mm. back down the stroke usually gives greater ease in starting, better climbing (especially at slow speeds), and almost the same maximum speed.

VALVES.—The exhaust valve bears the brunt of the heavier work an engine is called upon to perform overseas, and therefore the exhaust valve should be above suspicion, and should be as accessible as possible. An engine which constantly breaks exhaust valves (and so punctures pistons) under home conditions will not do for the colonies.

TRANSMISSIONS.—Colonial work is very severe on belts. In many districts dust puts the leather belt out of court, for glazing is so rapid. Heat, water, and slow running reduce the efficiency of rubber belts; further, if the low gear be of a type which necessitates a small engine pulley, a belt of small section is implied, and a narrow belt does not last long in this country, when it has slow running (*i.e.*, jerks at the fastener bolts), water, and a lot of climbing to contend with. A big belt will not do for low gears obtained by reducing pulley diameter. Whatever may

be true of England, the chain is apparently more favoured by colonials, and I think I must add the *encased* chain, when we remember the dust nuisance, and tropical rains and water-splashes and fords. Personally, if I could not find a perfect chain system for export, I should choose a belt-driven machine which gave a low gear without a small engine pulley, and I should fit as wide and deep a rubber belt as I could obtain. By the way, *partial casing* does very well for the front chain, but is not much protection for the rear chain. A skeleton case suffices to keep a front chain almost free from dust and wet and mud; but a skeleton rear case only serves to prevent rain running off the upper arcs of the tyre and guard on to the chain.

GEARS.—The colonies are best suited by a variable gear of a rather special type. To begin with the colonial rider is not infrequently baulked half-way up a severe hill. He therefore asks to be able to restart his engine. He does not want to run the machine down hill, throw out the clutch, turn round, and re-engage the clutch; nor does he want pedals, which



Scene at the Consuma Raguaglio hill-climb, recently held in Italy. The winner, Mr. Fenci (3rd Triumph), who covered the course of 16 kilometres in 16 min. 7 secs.—37 miles an hour.

are sure to suffer in his somewhat numerous falls. Further, he wants a very low gear indeed for emergencies.

In South Africa, for instance, he is sometimes faced by very severe short grades when climbing out of a river bed; and he may have no starting space apart from the gradient. Secondly, he may often be faced for miles with surfaces too bad for top gear; and it is not good practice to run a machine for miles on a 10 to 1 gear, as several of the trials men learnt over Tan Hill last August.

A three-speed gear seems to be indicated, with the middle gear as "normal"; and if an adjustable pulley gives him considerable variation of all his ratios, so much the better. If he is limited to a two-speed gear, the bottom ratio must be extremely low. The gear should not interfere appreciably with the removal of the back wheel, nor should it be liable to damage in the event of a fall. This especially applies to the control. Then, of course, the innards of the gear must be absolutely reliable. A deranged gear may spell absolute inability to complete a journey by any route.



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Indian Wins
THE BIG EVENTS
OF THE SEASON—

- March 25th FIRST OPEN RACE MEET AT BROOKLANDS.
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- April 15-17th. LONDON TO LAND'S END AND RETURN
 RELIABILITY TRIAL. 7 h.p. INDIAN First,
 and Winner of the Jarrott Cup.
- June 2-5th. LONDON TO EDINBURGH RELIABILITY
 TRIAL. INDIANS secured Six Gold medals and
 Special Gold Medal for return journey with sidecar.
- July 3rd. INTERNATIONAL TOURIST TROPHY RACE.
INDIANS First, Second and Third.
- July 4th. A.C.U. KILOMETRE TRIALS, DOUGLAS
 PROMENADE. 1,000 c.c. Class, INDIANS First
 and Second.
- July 8th. M.C.C. BROOKLANDS MEET. 7 h.p, INDIAN
 wins 27 Mile Cup Championship, and the Harry Smith
 50 guinea Gold Cup.
- July 15th. INTERNATIONAL WORLD'S CHAMPION-
 SHIP RACE MEET. 7 h.p. INDIAN winner.
- And so on. Wherever you find big events you will find the INDIANS amongst the winners.

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that bear that name are the result of a careful and sustained study of the Motor Cyclist's every need—

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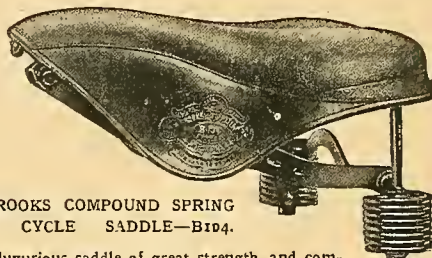
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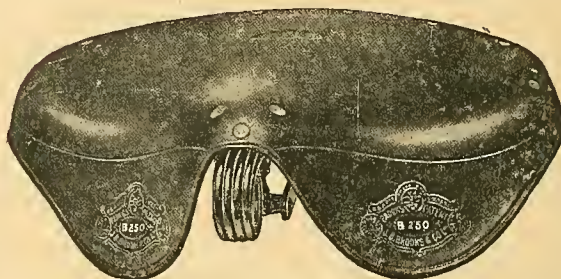
Will you do so?

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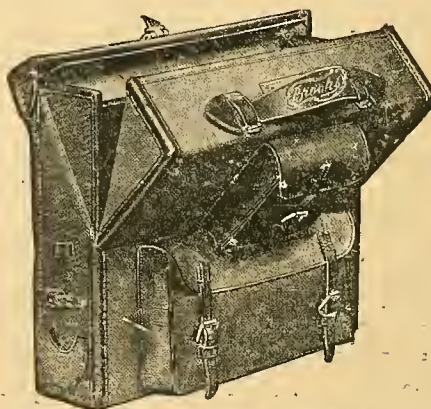
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The Ideal Machine for the Colonies.—

FRAME.—The standard British frame is almost always strong enough for solo work, and the only modifications are those which follow from increased crank case clearance.

SPRINGING.—The machine should undoubtedly be sprung fore and aft, or at least as to forks and saddle, in which case all nuts, bolts, and fittings should be robust, and if possible the nuts should be castellated and split-pinned. The springing should be designed for *bad* bumps. The normal English springing is designed for *slight* inequalities of surface. When faced with really atrocious surfaces, it is apt to bounce, clash, or may in severe cases collapse altogether.

CONTROL.—Flexible wires are entirely reliable for light work, such as carburetter and ignition control and valve lifting. In theory they are adequate for heavy work, but in practice they give a lot of trouble—possibly owing to unskilled fitting; at any rate, dozens of brake wires pull through or snap. For colonial work I prefer rod controls for the brakes, and personally I should fit duplicate control to the valve-lifter, *e.g.*, by pedal and handle-bar lever.

TANKS.—The standard oil tank holds oil for 400 miles, which is ample. The standard petrol tank only contains fuel for about 100 miles, which is utterly inadequate for many colonial areas. A two-gallon petrol tank is advisable, and it may well be larger still, so as to avoid "splitting" a can. Oil and petrol filters are desirable, and the oil pump should not be experimental.

TOOLBAGS AND CARRIER.—"Toy" toolbags are well enough for home use, but the colonial rider must carry a larger kit of tools, and a full range of spares. He must have at least two large bags, so fixed as to leave a large carrier entirely free for other luggage. The fixing of the bags must be absolutely vibration-proof. Two flimsy clips and a thin strap are no good. I have found that D nuts with a bent plate are quite safe.

FOOTRESTS.—Two pairs of footrests (*à la* T.T. model) afford four changes of position. They should be strong enough to take the brunt of a fall off the machine, soft enough to be easily straightened, and above all they should be attached independently, so that damage to them does not involve a smashed silencer or magneto drive. Any control pedals should be mounted on separate lugs, at such a distance from the rests that a bent rest cannot possibly hit them.

BRAKES.—No band brake can long retain a good surface when it has to face unlimited dust and wet. The belt rim shoe, when perfectly designed, makes so perfect a brake that no other is needed, and the elements of a perfect design are public knowledge. I hope to see chain-driven machines uniformly fitted with this brake before long; if the shoe works inside the groove, it offers no hindrance to removing the wheel. Some front rim brakes are useless; others are so powerful that a few riders habitually employ them to save wear of the back tyre.

MUDGUARDS.—The standard mudguards will suit, but should have more clearance. Even in England I have often had to dismount in winter and dig clotted mud out of my guards; while in the Yorkshire trials I frequently had stones lodge between guard and wheel. Greater clearance would avoid this, as the size of stones flung to this height by the wheel is limited. Standard mudguard stays are strong enough for England, but hardly for the colonies.

SADDLE.—Cannot be too large or comfortable.

STANDS.—Essential for both wheels. Tiny strap fixings are useless for front stands, even in England. Many stands are fixed by a host of twiddly bits, which always give trouble. A kick-operated, spring-held stand, secured by a few stout parts, is essential; it should not have a flat basepiece, or it will be useless on bad surfaces. Possibly a two-leg stand, with separately adjustable legs, such as the Clyno, may best suit residents in really bad districts.

Summary.

It should be clearly understood that the above represents my ideal for the most difficult country imaginable. I have not mentioned water-cooling, because I think air-cooling, with a low compression engine, is quite satisfactory; we may come to water-cooled engines of smaller dimensions in a year or two. In conclusion, there are two things the colonial rider values more than any theoretic perfection in the specification which is offered to him. The first is prompt, sympathetic, and generous treatment by the manufacturer at home. The second is the provision of a "live" agent within 500 miles of his residence; and by a "live" agent, I mean a clever mechanic, who will take care to "nurse" customers, who understands the whimsies of the machines he deals in, and who carries a reasonable stock of spares and replacements.



BRITISH MOTOR BICYCLES ABROAD.

A long line of motor cyclists in Johannesburg, all riders of one make of machine—the ubiquitous Triumph.

The October Quarterly Trials Course.

THE course for the October Quarterly Trials was chosen after some considerable deliberation by the committee of the A.C.U. Midland Centre, and through lack of suitable open spaces in the centre of Birmingham, it was arranged to make the starting point at the King's Head Hotel, which is situated about three miles from the city.

The course runs through Quinton, then down the well-known Mucklows Hill into Halesowen, on to the left to Hagley Hill and Kidderminster. At this point very efficient

will come as a little surprise to the unwary. Thence by country roads through Martley, Worcester is reached, where lunch is taken at the Hop Market Hotel.

Leaving Worcester through the narrow main street care must be taken not to miss the Tewkesbury Road, which bears to the right past the cathedral, and once clear of the town and on through Severn Stoke a splendid run can be enjoyed through Tewkesbury to the outskirts of Gloucester, where a sharp turn to the left must be taken direct to the foot of Birdlip Hill, which will be the afternoon test-hill. Another sharp turn to the left by the Royal George down a somewhat narrow road brings one to Leckhampton, where the route branches to the left on to Southam (Glos.). Here another stiff hill is encountered, and the route continues through Winchcomb to Evesham, and a few miles out of the latter town a sharp turn to the left will be taken for Astwood Bank and Headless Cross. Leaving Redditch on the right and opposite the gates of Hewell Park a turn to the left is taken down twisty lanes into Bromsgrove, bearing to the right on to the Birmingham Road for about a mile, then off to the left to Lickey End. The final stage here leaves the new Birmingham Road to the right heading for Romsley, thence *via* Halesowen home.

The last ten or fifteen miles are bound to be somewhat trying on account of the twisty nature of the lanes, while the approach of darkness will tend to make matters especially difficult for those who must hasten to finish to time.

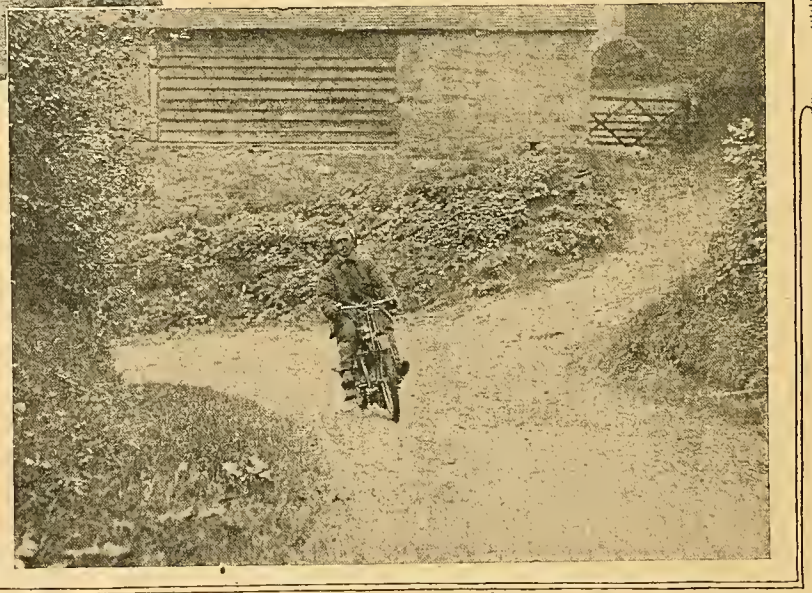
FARLOW BANK (near Bewdley).



The last bend at the summit.

arrow marking will be necessary on account of the many twists and turns before striking the road to Bewdley, where the Bridgnorth Road is taken on to Buttonbridge, bearing to the left to Bradley and Bagginswood, then on to the now renowned Farlow Bank, described by some authorities as a "trick hill," but, judging from reports of the extensive practising that has taken place of late, prospective competitors are gradually learning its difficulties.

Leaving Farlow behind, the route continues across country to Ludlow, then on to Tenbury and Bromyard. Leaving the latter place a stiff rise is encountered over the Downs, and looking to the right is a good view of the Malvern Hills. A little further on the road commences to drop steadily for the next three miles to Knightsford Bridge, and, instead of bearing to the left to Worcester, continues straight on over Ankerdyne Hill, which



The lower bend on Farlow Bank, which is on a steep gradient. T. Silver recently made several clean ascents of the hill on his Quadrant.

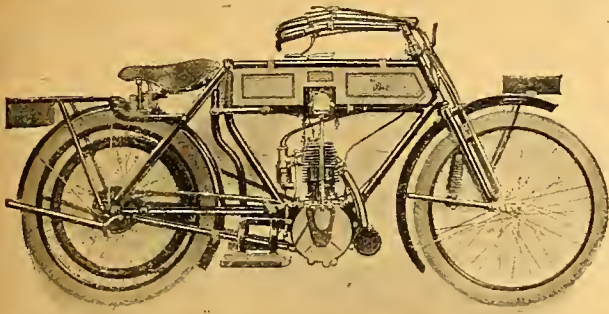
It is to be hoped that a number of motor cyclists will lend assistance in arrowing the course very efficiently, as the trial is longer than usual. **CHIEF MARSHAL.**

ALL BLACK FINISH.

Many colonial readers have written to *The Motor Cycle* respecting all black finish, and whilst this has many advantages it has certain disadvantages which should be enumerated. The disadvantages are that certain parts of motor cycles do not take enamel as well as they do plating, e.g., a sharp edge can be enamelled, but paint does not adhere to sharp machined edges like nuts, etc., and when rubbed off the steel underneath quickly rusts and looks bad. If pedal cranks, nuts, etc., had rounded edges, it would be different.

There is, however, no reason why handle-bars, hubs, rims, brake-rods, etc., should not be enamelled, as the work is properly done at the outset, it will stand almost as well as

nickel plate, provided the paintwork is carefully handled when cleaning the machine. The disadvantages are that it is somewhat funereal, and if done in colours the life of the paintwork is reduced, partly because it is not an easy matter to stove coloured parts and get them as hard as black, and also because coloured enamels are more expensive in initial cost of material and in their application to the frame and other parts. The processes of stoving are slower on account of the delicacy of the colours as compared with black, and for reasons which we need not enter into here, black enamel, when properly stoved, has a harder and tougher surface than colours because the ingredients will stand a greater heat.



**"BEST
AFTER
TESTS"
OVERSEAS.**



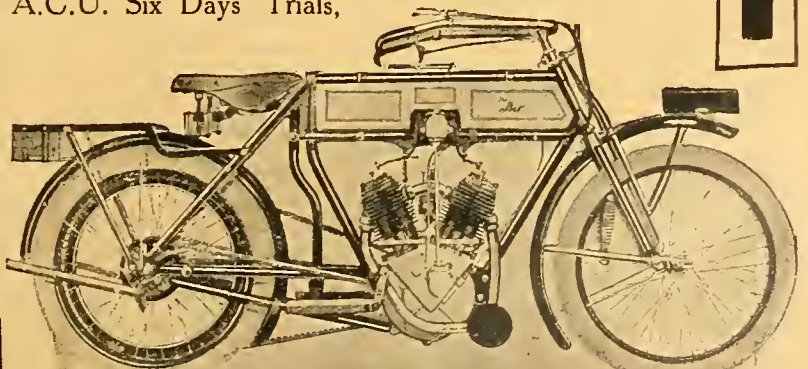
THE British Built "Bat" has been tested as strenuously and as consistently abroad as in England and with equally successful results. In all countries, under all conditions, the "Bat" has proved its sterling worth all the time. Its unique features, which are especially adapted for foreign and colonial service, account largely for this, including the famous : : : :

➤	BAT SPRING FRAME. SPRING FORKS, PROTECTED	➤
➤	MAGNETO IN TANK. AUTOMATIC LUBRICATION.	➤
➤	CORRECT SADDLE POSITION. GOOD GROUND	➤
➤	CLEARANCE. BAT-J.A.P. ENGINE. : : : : :	➤

Remember—the "Bat" won Two Gold Medals, also the Fastest Hill Climb Prize in the Scottish Six Days' Trials, and also made a perfect score in the A.C.U. Six Days' Trials, securing Gold Medal.

Catalogue giving complete illustrations and specifications from

**THE BAT MOTOR
MANFG. CO., ———
PENGES, LONDON,
——— ENGLAND. ———**



In answering this advertisement it is desirable to mention "The Motor Cycle."

Further Appreciation of the **ROVER**

To
The ROVER COMPANY LIMITED,
COVENTRY.

105, Grandison Road,
NEW WANDSWORTH, S.W.
September 25th, 1911.

Dear Sirs,

The frame of my machine is No. 31137 and the engine No. 684; I bought it from your agency in Holborn late last July and the next day I had it I rode 213 miles without a hitch.

A fortnight ago I went from Cromer to Newhaven, crossed over to Dieppe, went to Paris, Amiens, Arras, Douai, Lille, Armentieres, St. Omez, Calais, crossed over to Dover, came back to London, and all this without any trouble of any kind except punctures, which I quite expected as I went over some nasty rough bits of roads.

Not knowing your make of engine I intended to purchase another well-known kind of cycle, but I am very pleased to be in possession of a "Rover." It has now run close on 1,500 miles without even having to touch the sparking plug.

Wishing the best success to your firm,

I am, Sir,

OLIVIER BRISSE.

THE ROVER CO., LIMITED,
COVENTRY.

Occasional Comments

By "Izion"



Lamps and Winter Riding.

I always read the American motor cycling papers with much interest, and of late I have noticed one point in which they offer us a useful lead. Generators seem quite out of fashion over there. Instead of these devices the up-to-date Yankee carries what he calls a "Prest-o-lite" tank, i.e., a metal cylinder of acetylene gas, presumably of the "dissolved" type used by some car owners in this country. The cylinder weighs 7 lbs., and measures about 12 in. by 4 in.; it carries sufficient gas for forty hours night riding, and is fitted with a gauge at one end to show how much gas remains. The first cost of a fully charged cylinder is £2, and empty cylinders can be exchanged for a small fee at depots all over the country. A similar device made somewhat smaller might become very popular on this side.

Endless Belts.

My family have often been tempted to hail me as a heaven-born genius, but so far they have waited for the crowning proof, to wit, one of those eccentricities which hall mark real genius for ever, such as Newton's cutting the large hole in his study door for the cat and another smaller hole for the kitten. The other day when I put a pinch of baccy in a puncture and stuffed a Surridge's Holdrite in the bowl of my pipe I thought I had established my reputation, but they decided I had done this of *malice prepense*.

To-day my eldest boy, who rides an 8 h.p. Bat, came rushing in, waving a copy of *The Motor Cycle*, and shouting "Dad, you've put your foot in it this time!" and pointing out "Faust's" humorous strictures on my endless belt notion.

I seized the impertinent young hopeful by the ear, led him sternly out to the garage, and showed him how the bolted up construction of *my* rear frame enabled me to fit an endless belt, without taking the heroic measures suggested by "Faust," and hack-sawing through a brazed-up chain stay. But I am a forgiving man, who bears no malice, and if "Faust" will send me his address, I will present him with a tube of Seccotine to mend his sawn frame.

Of course, the endless belt would not be applicable to every make of machine. The belt has to be inside the rear fork, and outside the chain stay. The easiest machines for the purpose would be the old Triumphs, in which the spindle ends of the chain stays and rear forks were loose and separate. But if there proved to be any real advantage in endless belts, as the second detail of chain-cum-belt drive, all standard frames could be easily adapted to take them.

Already the joints at the bottom bracket and saddle pillar are bolted joints; on some machines there is a brazed lug between the chain stays near the mudguard tail, and another brazed bridge piece between the rear forks, to carry the upper arc of the mudguard. These two bridges could easily be bolts, instead of brazed lugs.

A False Paradise in the Lamp World.

My note upon modern lamps has brought me a great deal of correspondence. My readers seem to agree that in solidity of construction the average modern lamp is beyond criticism. The illuminative qualities of several makes of lamp are universally condemned, and in this respect my experience is evidently by no means unique, a number of users agreeing that cheaper lamps, produced several years ago, give a better and more penetrating light than some of the more up-to-date patterns.

But I notice that, whereas one correspondent has no praise good enough for this make or that, a second correspondent roundly abuses the very same lamp which a fellow-rider has found so satisfactory. Evidently the quality of separate samples of the same make varies; an inferior lens or an inaccurate focus prevents a particular sample from giving good results. Evidently some of the lamp makers ought to test *their* products more carefully before delivery.

There also seems to be a demand for larger generators. Judging from my postbag, quite a number of riders occasionally indulge in all-night pleasure rides. But this demand strikes me as mistaken. None of us needs a six-hour generator more than two or three times in a season, and why be permanently burdened with such a gigantic appendage for the sake of two or three rides? A better tip is to use a three-hour generator, and on all-night rides to carry a pedal cycle generator or an electric torch to provide light while the main generator is cleaned out and refilled.

A SCENE IN NYASSALAND.



A dusky rider of a free engine Roc.



The Editor does not hold himself responsible for the opinions of his correspondents.

INTERESTING COMMUNICATIONS FROM READERS IN FAR-OFF LANDS.

Below we publish a selection of letters from Overseas Readers of *The Motor Cycle*, a number of whom detail their ideal specification, and otherwise give useful hints on the production of the perfect colonial mount.

A Voice from the West Indies.

[5942.]-I enclose a photograph of a friend and myself, on our way to inspect some caves. The machines are a T.A.C. and a Triumph, the latter of rather an ancient model, but none the less wonderfully reliable and serviceable, trustworthy to a degree. In the picture, we have left the road to garage our mounts at the mud hut shown, as we have to make our way through the bush in the background on foot.

If motor cyclists in England only knew half the difficulties we in the colonies have to contend with I am sure they would sympathise with us and count themselves favoured mortals.

In addition to the unavoidable set-backs and tribulations attendant on the sport in any part of the world, we have to put up with many disappointments in ordering goods from home, which are by no means the least disheartening of the trials we undergo.

As an instance I will relate the most recent experience which has fallen to my lot, and which is by no means a solitary specimen of our bad luck. Our horns are not sufficiently loud to be heard by the local cartmen, whose vehicles make such a clatter that all ordinary sounds are quite drowned by the noise they make, so that, on overtaking them, it is necessary to ride right up to the back of the cart and yell before they can hear. This means that the machine has to be stopped and started again when they have drawn aside sufficiently to give room to pass on our narrow roads. (Oh, for a free engine!)

I decided, therefore, to invest in an exhaust whistle, which, after waiting the usual two months for delivery, arrived too big to fit my exhaust pipe. I did not get an opportunity of going to Kingston (the chief town of the Island, where only the adjustment could be made) for some months, and then I was advised by the engineers whom I consulted that a new clamp to the whistle, which would cost far more than the whistle itself, would be absolutely necessary, and even then it would be doubtful if the whistle would blow unless a plate to deflect the gas was in some way arranged to work in the exhaust pipe. The risk of having a permanent hole in this pipe, without being able to use the whistle, was too great, so the latter has had to be scrapped.

Can you tell me why head lights are made with the ventilation holes in the front of the cowl and not at the back, and do they work properly so fitted in England? I always have to tie my handkerchief over these holes when riding at night, when a bit of paper is not available, to prevent the wind making the flame flicker and often blowing it right out.

Two shillings a gallon in Kingston is the price of our petrol, and three shillings thirty miles from that town, owing to the heavy railway charges. At this rate it is cheaper to pay a boy sixpence to clean our crank cases than to adopt the plan of squirting them (the crank cases) with gasoline, as it is called here, as suggested by a correspondent in your issue of the 3rd August.

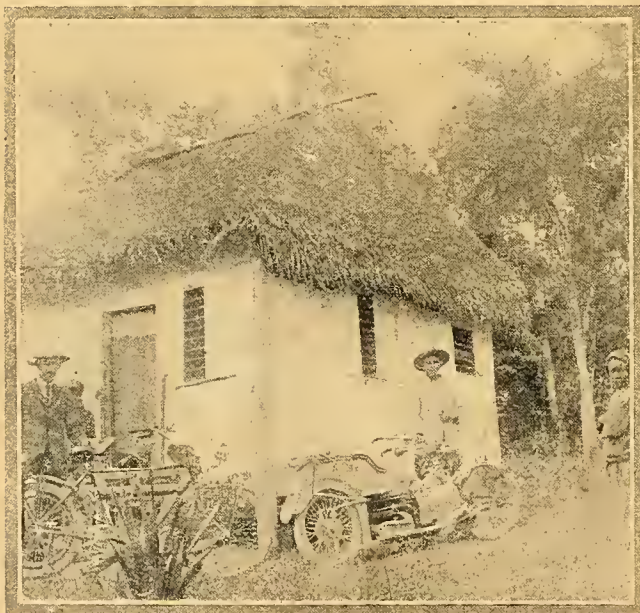
Wishing your interesting paper the best of luck,
Jamaica, B.W.I. ALLIGATOR.

The Prevailing Conditions in Canada.

[5943.]-Manufacturers would do well to note the requirements of the Canadian riding public, as here is a field of great possibilities. First and foremost is the distance from place to place, requiring locomotion of some kind by the business as well as the pleasure seekers. Travellers are in want of some reliable motor cycle that is suited to the conditions of the road bed. I offer a few suggestions at random. Medium-powered engine consistent with weight; long wheelbase; large size wheels, 28in. x 2½in. seems the most suitable; a saddle fitted that will stand heavy road shocks; spring forks, with a minimum of working parts that are liable to work loose; handle-bars of a V pattern on a level or nearly so with the saddle; and last, but not least, a spare set of parts with every machine sent out—such as valves, springs, small nuts, brake parts, and pedal pins.

The medium-powered machine seems the most popular, as being within the reach of all is in its favour, also riders who could well afford high power models would prefer to ride the medium for several reasons. It will suit the city traffic, while not taking any material power or speed away that is required on the country roads.

Long wheelbase and large size wheels are by far the most suitable. One cannot judge by country roads such as are to be found in England. Here one gets good hard clay or gravel roads, but in long stretches the road is covered with sand, sometimes three or four inches deep. In these spots it is difficult to manipulate an English model with low wheels. Often the belt rim strikes the ground when the rear wheel goes in ruts cut by farmers' carts, trucks, etc. On the other hand, a 28in wheel and 2½in. tyre slips over with ease and safety to the rider.



A Triumph and T.A.C. outside a mud hut in Jamaica. See "Alligator's" letter.

Kempsey, N.S.W., Australia.

May 26th, 1911.

The L.M.C. Machine is a great hill climber. The mountains here rise to over 4,000 feet high. My work lies among the mountains, and there is no hill that has beaten me yet. I can even make up speed on a hill and tackle some of the stiffest from a standing start at the foot of the hill. I am doing nearly all my work on a 1911 L.M.C. as I did in Wallaroo, and have not had the slightest trouble.

Quetta, India,

June 8th, 1911.

I am glad to say I find the L.M.C. machine a very good one. There are 6 or 8 ——— here, but from what I have seen of them I prefer the L.M.C.

L.M.C.

COLONIAL TESTIMONY.

Bombay,

June 16th, 1911

I am extremely pleased with the L.M.C. Cob. I have used several machines during the last 10 years, but never one to approach this in comfort and reliability.

Port Augusta, Australia,

July 6th, 1911.

You will see I am in Port Augusta. I came through on a 3½ h.p. L.M.C., in company with Mr. ——— on a 3½ h.p. ——— and they were the first two Motor Cycles through from Cowell as the track is very sandy. We came through in one day, actual travelling time six hours doing 120 miles. I had not the least trouble getting through the sand, and can safely say my machine is the better of the two.

SUCCESSSES AT HOME & ABROAD.

The



IN AUSTRALIA.

Sydney M.C.C. Hill Climb, February 11th, 1911,

L.M.C.—FIRST.

New South Wales M.C.C. Hill Climb, May 20th, 1911,

L.M.C.—FIRST.

Sydney M. C. C. Hill Climb, May, 1911,

L.M.C.—SECOND.

New South Wales M.C.C. Hill Climb for Larke Trophy, Aug. 12th, 1911,

L.M.C.—FIRST.**L.M.C.—SECOND.**

M.C.C. Members' Hill Climb, Sundon, September 9th, 1911. Class II
TOURING MACHINES. J. H. Slaughter, 3½ h.p. L.M.C.,

FIRST ON FORMULA.

Slaughter also proved the winner of Commodore Sir R. K. Arbuthnot's cup.

Walsall M.C. Hill Climb, Style Cop, September 17th.

Mr. Smytheman (3½ L.M.C.) Fastest time of the day.
Beating machines up to 7 h.p.

AT HOME a few recent
successes

We have catered specially for the Colonial Trade, and our Colonial models are specially built for the trade to suit their rough roads, viz. :—wheels of special construction with strong gauge rims, extra strong spring forks, variable gear, and Free Engine.

L.M.C. Free Engine and
Variable Gear Fittings, 73/6

STARTS LIKE A CAR.

Suit almost any
standard engine.

Catalogue and leaflets sent post free.

Makers—THE LLOYD MOTOR ENGINEERING CO., LIMITED,
L.M.C. WORKS, 132, MONUMENT ROAD, BIRMINGHAM.

WHOLESALE DISTRIBUTING AGENTS—Australia—W. & F. Larke, Ltd., Sydney. The Empire Motor and Cycle Co., Ltd., Adelaide. A. G. Healing & Co., Melbourne. New Zealand—F. D. Woodroffe & Co., Wyndham Street, Auckland. India—J. A. Kirkbride & Co., Bombay. Oakes Brothers & Co., Madras. Straits Settlements—Straits Cycle and Motor Co., Ltd., Singapore.

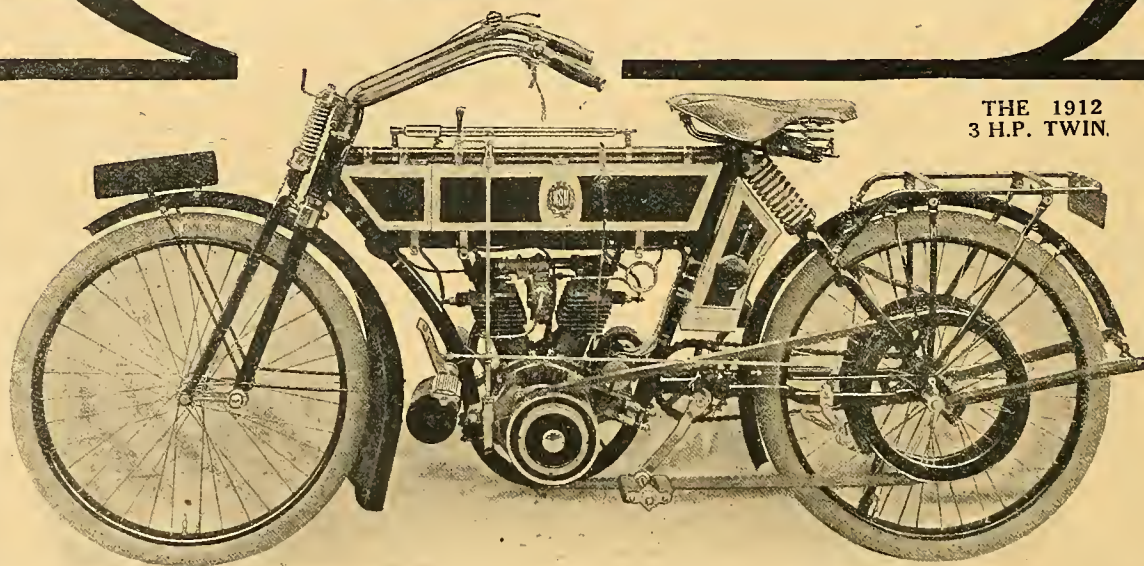
In answering this advertisement it is desirable to mention "The Motor Cycle."

*Simply ideal
for Overseas use.*

N.S.U.

**MOTOR
CYCLES**

With the Loop
Frame and
Rear Spring.



THE 1912
3 H.P. TWIN.

The loop frame—which adds materially to the stability and comfort of N.S.U. machines—has proved so highly satisfactory that it will be adopted in all our 1912 models. With the new front spring forks and rear springing system, riding over rough roads can be undertaken without fear of discomfort.

These features, together with the constructional excellence and strength of N.S.U. machines, make them IDEAL FOR USE IN OVERSEAS COUNTRIES.

1912 MODELS.

2 h.p. SINGLE-CYLINDER	- 66 × 78
3 h.p. TWIN-CYLINDER	- 58 × 75
3½ h.p. SINGLE-CYLINDER	- 85 × 88
6 h.p. TWIN-CYLINDER	- 75 × 90

The machine for sidcar work.

ALL FITTED WITH
NEW TYPE SPRING FORKS,
LOOP FRAME,
AND REAR SPRING

(as illustrated).

Write for full particulars next mail.

THE N.S.U. MOTOR CO., LTD.

Offices and Show rooms—186, Great Portland St., London, W.
Goods and Repairs—83-85, Bolsover Street, London, W.

In answering this advertisement it is desirable to mention "The Motor Cycle."

Other things are also needed if the English maker would wish to keep the Canadian market. Among them are better quality in the fittings used, such as the valve lifter, expander bolt in the stem of the handle-bar, and the use of a strong saddle clip. Things like these are necessary owing to the distance one may be from a town. To the manufacturers who take the chance which is open now to capture the Canadian market an immense trade is ensured owing to the popularity which the motor cycle has gained.

Toronto, Ontario, Canada. MAN ON THE SPOT.

A New Club in Perth, Western Australia.

[5944].—A line from this distant part of the world regarding the pastime may be of interest to your readers. We have just recently formed a club in Perth which makes the second in Western Australia. The writer was a member of the first motor cycle club in this State formed at Kalgoorlie a few years ago, and which had a membership of about thirty. The Perth Club has about the same number, and is gaining recruits daily. People are beginning to realise the utility of the petrol engine for business purposes, and with the added interest the club is beginning to arouse I feel that the sport will rapidly grow. As an experienced rider and constant user of our country roads and back tracks, I am delighted to see the enthusiasm with which the Perth riders have taken up the pastime.

In two or three tours already made members have found that the average country road is quite capable of negotiation by any modern mount and a little skill and nerve on rough hills or heavy sand patches. Given sufficient h.p., a two-speed gear, and some practice, almost the whole of this great State could be traversed. In the early days when some of the pioneers stated this, people looked wise and smiled at us—we have since shown them how to do it, thanks to the great improvement in modern motors. For lots of our work we need heavy tyres, stronger rims, change-speed gears, chain transmission, and tanks of liberal capacity. We can ride here all the year round with the exception of a very few days. Heat is our greatest drawback—in our worst weather one longs for a water-cooled engine and automatic lubrication.

The enclosed photograph taken at Coogee on a recent "Billy" run shows that we have some of the best types of machines represented, amongst them being Triumph, Humber, Rex, Brown, V.S., Peugeot, F.N., Hobart, and Minerva. Besides these there are running in the State P. and M., Scott, Roc, Rover, Douglas, Moto-Rève, Bradbury, and Motosacoche.

The writer is shown on his Triumph with his eleven year old son seated astride the tank; so carried he has done hundreds of miles over all sorts of roads. He began before he was five years old. He can now ride and manage the levers perfectly, but is not yet strong enough to start the machine. He is promised a lightweight two-speeder, which type under a sound specification is bound to be exceedingly popular with a large percentage of riders in the near future.

Out here there is a little band of enthusiastic readers of *The Motor Cycle* whose whole knowledge of the great events in the motor cycle world is limited to the reports you publish, but through them we have come to know the Colliers, Newcome, Godfrey, McNab, and the whole brilliant array of talent of which you can boast in England, and we think of them as personal friends because of their allegiance to a common hobby. We rejoice in their successes, and grieve when ill luck snatches a well-deserved victory from any of them.

Perth, W. Australia. A. N. McDONALD.

A Comparison between Car and Motor Cycle.

[5945].—Mr. Davies's account of the A.C.U. Six Days' Trials is most entertaining, and gives an excellent idea of what actually happens on a hard ride.

For the past six years I have ridden motor cycles off and on in this country and in England, my mounts, one of

which I still possess, including representative makes from England, Germany, and America. I find the sport most enjoyable, but I have never found the machines reliable.

I used to think that it was my own bad luck or mismanagement, but when such an expert rider as Mr. Davies, on such an excellent mount as the Rudge, in such a short distance as one thousand miles, suffers a clogged jet, a loose inlet tappet, a broken belt twice, several broken inlet springs, four broken fasteners, and a demoralised valve-lifter, not to mention such a little thing as a seized engine, I am beginning to think it is "in the engine."

At present I am driving a small moderately-priced American car, and have covered ten thousand miles in the past year over all kinds of roads, some of which would make the Scottish Trials look like an outing of the W.C.T.U. Only once have I been stalled on the road, when the camshaft suddenly snapped without warning, although, to be sure, I had been travelling at over forty miles an hour for more than an hour before. Of course a car is much more expensive than a motor cycle, but when one considers that five people may be carried in perfect



PERTH MOTOR CYCLISTS. Members of the second club formed in Western Australia. See letter No. 5944.

comfort, in rain or shine, it does not seem so much.

I write this not to discourage motor cyclists, present or prospective, but in hopes that manufacturers of motor cycles will awaken to the fact that the car industry is advancing rapidly while they are standing still, and that they will have to reduce their prices and improve their product if they wish to hold their customers.

I still look forward to the day when the rapidly improving roads and the slowly improving machines will induce me to forsake my trustworthy car for the more exciting two-wheeler.

ELSWORTH H. GOLDSCHMIDT.

Lynn, Mass., U.S.A.

A Suggestion to Home Manufacturers from Australia.

[5946].—There are many very appreciative readers of your paper in Australia, and many enthusiastic motor cyclists. We envy you your good roads, but not your climate. We also envy you the prices at which you buy machines. Here we pay £65 for the machine advertised at your end for £48 to £50.

There is, of course, twenty-five per cent. duty, but this is on the wholesale value. I wonder some English manufacturer with a reputation does not start assembling his machines in Australia. The engine (complete) would pay twenty per cent. duty, but the rims, lugs, tubes, ball heads, bottom brackets, cranks, hubs, spokes, etc., etc., come in free, and the saddles at ten per cent. if British.

The amount of work to be done here is only brazing, portion of plating and enamelling, and would cost little; and the saving in duty would be great. The population available in Australia is about 4,400,000, and although it is small it has a very high purchasing power. I am sure that a machine like the Rex, Matchless, Triumph, or any standard make assembled here could control the Australian trade, and still reduce the price.

E.T.H.

Melbourne, Australia.

INTERESTING COMMUNICATIONS FROM READERS IN FAR-OFF LANDS.

Below we publish a selection of letters from Overseas Readers of *The Motor Cycle*, a number of whom detail their ideal specification, and otherwise give useful hints on the production of the perfect colonial mount.

Standard British Machines Suitable for Toronto and District.

[5947].—As regards specifications for motor cycles for use in the country surrounding Toronto, the Triumph suits us in every particular, both as to ground clearance for engine and reliability, and is our ideal specification. Our greatest objection against this machine is the inability of the makers to supply. We have not had a machine on stock to sell this year, all being sold before received.

Toronto, Canada.

TANGENT CYCLE CO.

A London Club-house Suggested by a Rhodesian Reader.

[5948].—It is with real joy that a few of us motor cyclists read your valuable paper, which not only keeps us in touch with all the latest models and inventions, but makes us feel that, after all, we are not really "off the earth," but can actually see and follow the various events which once on a time formed a part of our life in the old country. My real object in writing is to ascertain whether colonial motor cyclists could not have a club-house in London. It is just what visitors to the old country want—a headquarters, in fellowship with kindred spirits interested in the finest sport in the world, also to obtain information *re* tours, interesting runs, and general assistance, applicable not only to those who visit from the colonies, but to recruit from the ranks of cyclists those interested in motor cycles. Subscriptions to overseas members certainly should include a copy of *The Motor Cycle*. I feel certain that this is just the very thing wanted, and would be welcomed by hundreds of motor cyclists all over the world. Further opinions from colonial adherents would be highly interesting, and would also give some guidance to officials at the head of affairs.

F. T. ROCHESTER.

Bulawayo, Rhodesia.

A Novice's Experiences on Jamaican Roads.

[5949].—You may remember that I wrote to you about taking over a motor cycle to Jamaica, and I finally decided to do so. I had to pay a duty of one-sixth of its value and then take out the necessary licences—for driving 5s. per annum, road tax 6s. per annum, and registration 5s. The cycle carries two numbers—the registration number large in front, and the road tax number small in the rear. Petrol is 2s. per gallon sold in odd amounts, or ten-gallon American drums holding about eight gallons. I have now done 100 miles, including a sixty mile run.

The machine is a second-hand 1910 Enfield, which had done about 500 miles. The tyres I have on now are Fox 24in. rubber-studded back, and Continental 2in. with Fox three-rib retread front. I brought out a new five-ply 5in. chrome leather belt, a rubber belt, and an old Watawata which I had discarded for the I.R. belt, as the Watawata bottomed on the engine pulley. I had, however, scraped the sides well, and putting a small nut over the rivets had hammered down the top plates and reheated the rivet.

As soon as I got here I put the new leather belt under a stretch of 40-60 lbs. for over a week, using the rubber, but I could not get a good drive, and found that it was bottoming. I put on the new chrome leather and went four miles, stopped on business, then tried to start uphill. No use. Tried downhill. No use, the belt would not turn the engine fast enough, although it was tight. So I changed to the rubber and pedalled up every slight rise, the engine roaring round.

In despair I put on that old Watawata and all went well, so I started on the sixty miles run. Roads dusty, paved in stretches with unrolled stones, abounding in hairpin corners on stiff gradients, yet the engine and belt took the lot. I have not seen Amulree, but from the pictures some parts seemed about as stiff in gradient, but imagine a hill about an average of 1 in 8 with a hairpin bend every fifty yards.

I am going in for a Harris tree engine clutch, and then I can crawl over a rough patch instead of walking and pushing or running with the engine running. I should like to thank the three firms mentioned for the way in which their articles have stood, also to advise users of the Watawata not to throw the belt away when it bottoms. Just find an old nut which will clear the rivet and rest on the washer and apply a good heavy hammer first to the nut while on the

washers, and then to the rivets. The belt will then run some hundreds of miles further.

As far as I can see, a motor cyclist out here needs a light machine with certainly a free engine and plate clutch or two-speed and similar gradual engagement clutch. The whole of the working parts should be enclosed to keep out the fine chalk dust which lies thickly on the more frequented roads. Goggles should cover as little of the face as possible; one finds perspiration running from under the indiarubber sort in half an hour.

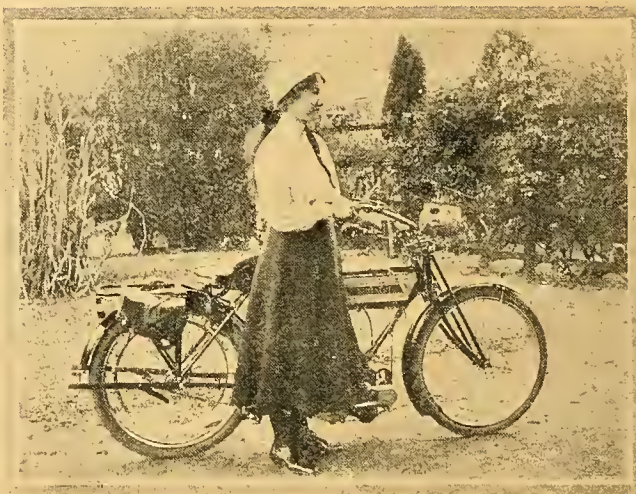
R. E. JEFFERSON, M.Sc.

Kingston, Jamaica.

A Lady Motor Cyclist in Pietermaritzburg.

[5950].—It is a very uncommon sight to see a lady riding a motor cycle in Natal but the enclosed are photographs of Miss Mabel Murphy, who recently joined the ranks. She is the only lady motor cyclist in Pietermaritzburg, and she rides a 1910 Triumph.

A few minutes' instruction in the use of the levers, with the machine on the stand, gave her confidence enough to venture on the road, and after a trial run of a few hundred



Miss M. Murphy, the first lady motor cyclist in Pietermaritzburg.

yards she accompanied her gentleman friend for a thirty five miles ride, and since then she has had many delightful spins.

She rides with an ordinary skirt, and she has no difficulty in getting on and off the machine, because she can reach the ground with both feet while seated on the saddle.

She is only sixteen years old and is a fearless rider, and finds motor cycling very enjoyable and much simpler than she thought it would be.

M.B.H.

Pietermaritzburg, Natal.

A Suitable Specification for New South Wales.

[5951].—Having read several accounts in *The Motor Cycle* of what kind of motor cycles are suitable for Australian colonies, I would like to say a few words regarding my nine years' experience while riding different makes of motors. The roads leading into some of the principal towns in New South Wales, and many roads at that, are simply indescribable and impossible to ride on in wet weather. The machine I would recommend is a powerful 3½ h.p., 5in. ground clearance, extra heavy wheels and spokes. The wheels, spokes, and frame are the weak points, and there could be no better illustration of this than the reliability trial from Melbourne to Sydney in January, 1911. There were twenty entries representing all the leading makes, including five of one very popular make. The distance is close on 600 miles over extremely bad roads. Only one machine, a 3½ h.p. 1910

SERVICEABLE SERVICE SPECIALITIES

**Hundreds of Novelties. Everything
for Motor Cycling. Lowest Prices**

The 'Service' Posthorn.

The finest road clearer made. Gives a loud, deep, penetrating note. Fitted with extra strong clip. Best finish. Price 13/6. Fitted with dust gauze 14/6. Send remittance for one on approval.



Special Agents for F.R.S. Lamps.

Large stock of Lamps and Generators of all makes. Your old lamp taken in part exchange.

SPECIAL OFFER.—26 x 2½ Extra Heavy Good Service Rubber Studded Covers, 32/6. Reduced price, 29/6.

26 x 2½ Good Service, Lock Join, Butted Tubes, 11/6. Reduced price, 10/6.

Busha Belt Punches. All sizes. Complete with six bushes, 2/6. Reduced price 2/3.

Complete Catalogue of Motor Cycles, Accessories, and Clothing, free on request. The largest ever issued in the trade.

THE SERVICE CO., LTD.,

"Service" Belting.

The very finest for Winter use.

No dressing required.

1/9, 2/2, 2/3, 1in. 2/6, 1½in. 2/9.

THE "SERVICE" COLD- WEATHER JACKET.

Yorkshire Frieze.

Body and sleeves lined leather. Fitted with windcuffs, 33ins. long. Clearing at 21/-.

NEW OILSKIN SUITS.

Guaranteed not to stick or crack. Price 25/-.

THE "SERVICE" OVERBOOT.

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THE "SERVICE" TROUSER OVERALLS.

Fawn shade. Double texture. Seams stitched and solutioned. Price, 13/6. State inside leg measurement. Jackets to match 16/6.
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292-3, High Holborn, LONDON, W.C.

S.&H.



The 'Service' Coldweather Jacket.

Body and Sleeves lined Leather.

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The all-British, long-life, no-trouble Magneto.

**"22,000 miles
and never
been touched."**

day. We have never fitted any other make since, and don't intend to, after having proved the remarkable reliability of your machines. The one we speak of has numerous Gold Medals to its credit won in hill climbs, etc. People who ride other makes and have seen the condition of this one (the contacts, etc.) will not believe it but we know and are satisfied.

Yours faithfully,

(Signed), Bert Houlding.

BERT HOULDING & CO.

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hours. Costs no more.**

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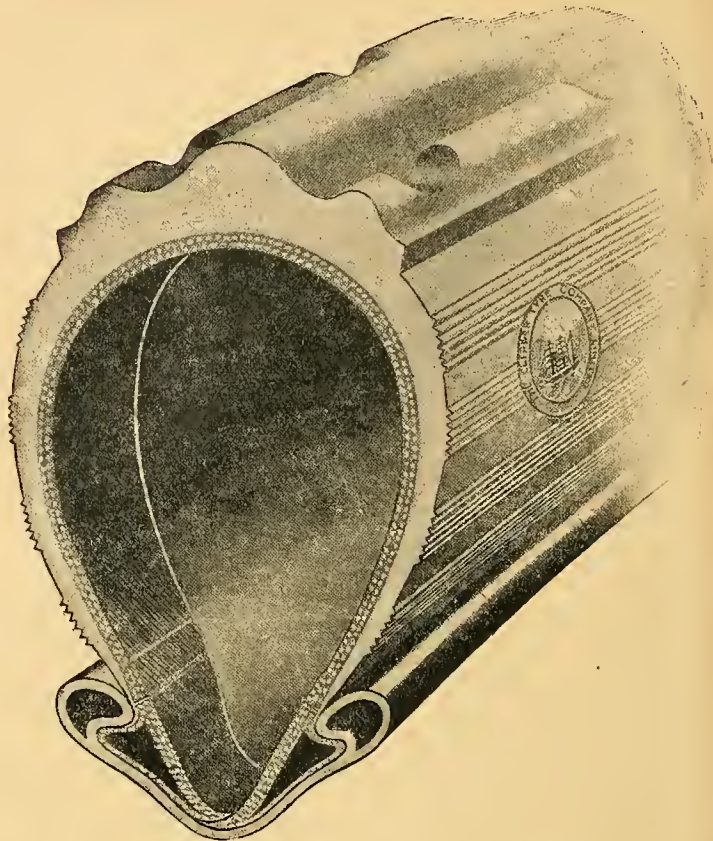
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THE REFLEX-CLIPPER "IDEAL" TYRE FOR MOTOR CYCLES.

WHAT'S IN A NAME?

Respecting Tyres—the name Reflex-Clipper stands everywhere as the hall-mark of excellence. The Reflex-Clipper "Ideal" Tyre for Motor Cycles gives fullest expression to that sentiment.

Just notice the build of it. Made entirely on Car Tyre lines. Of perfect proportions. Has weight where most needed, yet A1 for speed. Is secure against side-slip, and stands foremost in the quality line.



Price of Tyre	£2 8 0
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For best Motor Cycle Accessories
always ask for "CLIPPER" Brand.

THE CLIPPER TYRE CO., LTD.,

52-60, STEELHOUSE LANE, BIRMINGHAM.

LONDON—18, Chiswell St., Finsbury Square, F.C. COVENTRY—Alma St

In answering this advertisement it is desirable to mention "The Motor Cycle."

Bradbury, came through the trying ordeal without a defect of any kind. The troubles with other motors were buckled rims, broken spokes, and defective frames. The engines in every case were very reliable. The handle-bars could be made stronger, also the spring forks. The Druid forks are very popular here; in my opinion—and I am a practical engineer—they are absolutely the best on the market, and especially suitable to Australian roads.

Motor cycling is going ahead out here in leaps and bounds in more senses than one, and the whole cry of the agents is that they cannot get supplies fast enough. I suppose while this demand continues the makers will not alter their machines to suit Australian conditions. You have the roads, Mr. Editor, but for riding conditions nothing can surpass the Australian climate.

J. HECKENBERG.

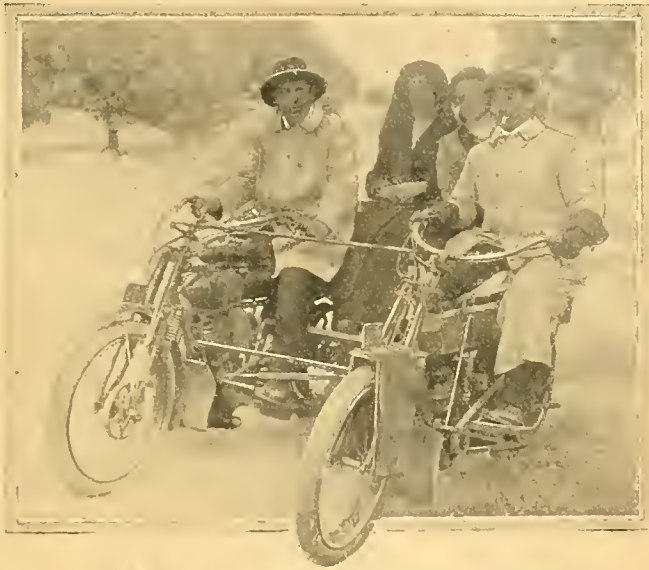
Yass, N.S.W.

A Novel Passenger Machine used in the Transvaal.

[5952].—We have pleasure in sending you a couple of photographs of an arrangement for carrying passengers which we have just recently completed, which, we think, may be of interest to some of your readers. The idea is quite original, as we have never seen or heard of anything in the way of two motor cycles being coupled together either for passenger or any other use. You will notice that the two machines are connected up by means of five rods and one for steering purposes: the manner in which this is done is easily seen in the photographs. The handle-bars of the one machine are taken out and fixed in a bracket on the top tube, and a steering pillar is put in their place, connected by a rod to the handle-bars of the other machine. As regards steering, we find this to be quite as easy as an ordinary sidecar attachment, and we can easily maintain a speed of 30 m.p.h., though the roads in this country are not conducive to comfortable riding at this rate, especially as we have only 2½ in. tyres fitted at present. This drawback we are overcoming by replacing with 3 in. steel-studded Continentals fitted to our existing rims. Another difficulty with our carrette is that we have no free engine and two-speed gear for starting purposes.

A special switch had to be made for cutting out the two magnetos simultaneously, and is fixed to the steering machine. The seat for carrying the passengers, two in number, is bolted, on either side, to the carriers on the machines, and is upholstered in green pegamoid; two drawers are fixed underneath for carrying spares and refreshments, should we intend going out for a good long spin.

We think we are justified in claiming this idea to be the first of its kind, as every time we take the machines on the road we create quite a sensation. Some weeks ago we took a run over to Pretoria, and there again had to run the gauntlet of people standing in the streets and



Loaded up. The twin cycles referred to in letter No. 5952.

staring after the uncanny contrivance on four wheels.

We feel quite pleased with the result of our handiwork, commenced more or less as an experiment, but which has turned out a very great success.

The machines are respectively as follows: That on the right of the photograph 5.6 h.p. New Comet (gear 4½ to 1), and on the left 7.9 h.p. New Comet (gear 4 to 1), both fitted with Peugeot engines.

J.H.S.W. AND C.A.M.

Johannesburg.

In Praise of a Mount used in India.

[5953].—I have read so much regarding motor cycles for colonial use in your valuable paper lately that perhaps the following may interest your readers.

I have been using a 2½ h.p., two-speed, shaft-driven F.N. for the last six months, and I have nothing but praise for it. For the last two months I have been running it with a Millford sidecar, and although the roads here are anything but good, it has given entire satisfaction, which speaks volumes for the shaft-drive and clutch.

Recently I drove the cycle, with sidecar and passenger, into the district a distance of twenty-three miles and back on the worst roads possible, and except on two or three very steep hills, where I had to help the engine a little, it ran splendidly.

Riding solo, I have been up Chamundi Hill, a steady rise of about three miles of about 1,000ft., with some very sharp hairpin bends, and without pedal assistance. In some places it was very steep, and I found that the machine could gather speed on the low gear on any part of the hill.

I have used the F.N. without sidecar on some of the worst roads in India, in which country carts find it difficult. I do not think there is anything to beat this machine for use in the colonies and in India. If I was going in for a new combination I think I would go in for a four-cylinder 5.6 h.p. of the same make, and with two-speed gear; but for solo work the 2½ h.p. is the machine.

C. THEOBALD.

Mysore, India.

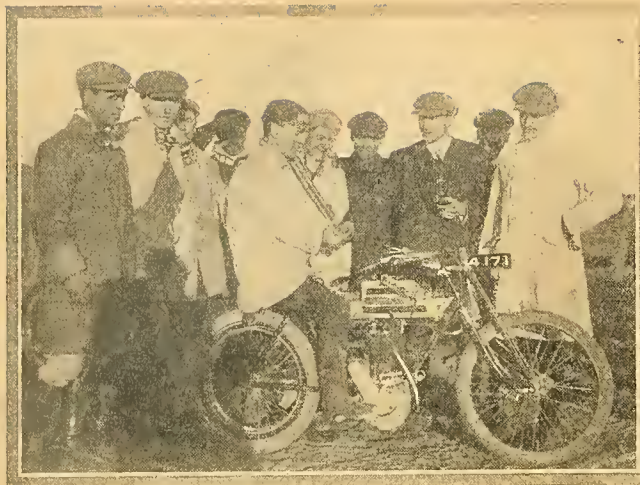
Gleanings from a Sojourn in Tasmania.

[5954].—Having only recently returned home from a trip to Tasmania, the Garden State of the Australian Commonwealth, I am venturing to recall to the memories of regular readers of your estimable journal a most interesting letter contributed by Mr. Cecil Dyer, of Laurens on, Tas., which appeared in *The Motor Cycle* in October 1908.

Mr. Dyer's epistle dealt at some length with the troubles and difficulties attendant on the path of the long-suffering motor cyclist in that far off land, and I recollect that it aroused considerable interest in my mind at the time, as I had already contemplated journeying to Tasmania, and here,



A novel passenger machine which consists of two motor cycles coupled together.



ROAD RACE IN VICTORIA, N.S.W.

James Gorman (3) T.T. Premier, winner of the ten-mile road race held by the Victoria M.C.C. on August 5th last, near Melbourne. His time was 11 min. 20 secs., which is particularly good considering the condition of the road surface.

I thought, was an excellent opportunity of acquiring certain information about the country which I desired to obtain first hand.

I took the liberty of writing Mr. Dyer, stating my wants, and in due course was the recipient of a most cordial and helpful reply. After some further correspondence, I sailed for "Tassy" in the mail boat "Osterley," leaving England on Christmas Eve, 1909, and shook Cecil Dyer's hand for the first time on February 4th, 1910, after a fine trip occupying about six weeks.

Having been a motor cyclist myself prior to my leaving the old country, and Mr. Dyer's motoristic enthusiasm dating from ancient history, and having stood the test of time well, my new found friend and I naturally had a never wearying subject of common interest for discussion. Although at the time when his contribution was published in the "Blue 'Un," Mr. Dyer was an enthusiastic member of the twin "Vindec" coterie, he has since invested in a "Triumph," and has, with the exception of a small spring fork grumble, nothing but praise for his hefty single-cylinder mount.

On it he goes snorting up the precipitous mountain slopes which abound in most parts of the State, scaring the

wallabies and kangaroos, and bound for the trappers' camps and the valuable opossum and other furs which are to be purchased there, and which, amongst other multifarious lines, he has dealings in, or I believe I should say "had" now.

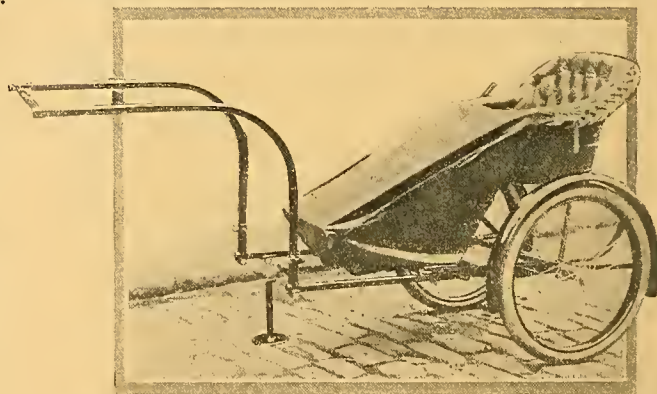
Although motorists are not so heavily taxed in the Commonwealth as in England, motor cycles are naturally scarce in comparison, as the country is only as yet thinly populated, and the heavy duties on imported machines puts the selling price out of the reach of the majority of the corresponding class to our motor cyclists here. Thus, a "jigger" costing about £48 at home would be retailed at £65 to our colonial friends, and although Australia is popularly supposed to be a veritable land of Goshen, yet not many of those who at present use the humble push-bicycle could afford to plank down sixty-five of their hard-earned yallerboys for a brand new jigger. Further, many people fight shy of it for the simple reason that the undoubted merits of the self-propelled bicycle have not yet become universally known out there, and it will, probably, be a matter of time before this desirable climax is reached.

A. M. POLLARD.

Late of Launceston and Wynyard, Tasmania.

A Motor Cycle for Professional Men.

[5955].—As a medical man who has been keenly interested in your columns since your paper has been established, and yet has never possessed a modern motor bicycle for the simple reason that one has not yet been designed which seems



A sidecar-attachment made to special order by Mills-Fulford. The rear portion is detachable as well as one of the wheels and the handles, and hey presto! the motor cyclist has in a few minutes a sidecar attachment for his motor bicycle.

to meet his practical requirements, may I be allowed to state briefly what I consider to be the essentials of a machine which would meet with a ready market among home and colonial country doctors.

For the country practitioner a single-track motor bicycle, if suitably designed, would be a great comfort and blessing. However, so long as it is necessary to wear the present type of "overalls" in order to keep clean the market will be very limited, as what busy doctor can afford the time, even if he had the opportunity, to divest himself of his dusty or mud-bespattered garments every few minutes or so as each patient is visited, and if not, what impression at the sick bedside, say of a sensitive lady patient, is he likely to make if he disregards his personal appearance and suddenly appears like a mudflat diver?

My idea of a machine to suit me is as follows: The top stay tube must be abolished (as in ladies' machines) so that I can wear a long overcoat, dustcoat, or macintosh, which will protect me from dust or weather down to my boots, and which I can divest myself of in a moment on entering the hall of the house. As the flaps of the coat might be singed or soiled by the engine (as at present designed) the latter should be encased, and as this would interfere with air-cooling, water cooling should be substituted. Worm drive (as in T.A.C.) to avoid belt and chain trouble, bucket seat (not saddle) as in T.A.C., and broad footboards amply to protect feet; also a broad wind shield might be fitted, like an apron to the front stay bar—this would make it as cosy as a car: h.p. 6 to 7. The engine silent as possible, e.g., four-cylinder T.A.C. or twin Scott, Armstrong three-speed hub and free engine clutch. Hand starting device as in T.A.C. or similar



MOTOR CYCLING IN RUSSIA.

Crossing the Schelok River by a small boat at Schemskaja, a point midway between Stary, Russia, and Novgorod. The width of the river is half-a-mile, and the surface being choppy the crossing is usually rough. The machines are a Triumph and N.S.U., which are found quite satisfactory for use on Russian roads.

(no stooping down), extra strong rims and spring forks. T.A.C. springing, sidecar attachments (for the doctor's wife occasionally), Palmer tyres, and butt-ended tubes. Speed, 3 to 30 m.p.h. quite sufficient for business needs on bad roads. All parts where possible to be enamelled, not plated. Self-generating electric light for lamps, ample clearance from road of all parts (but not too much), say 7in.

The machine should look "De Luxe," cost about £60, and the doctor would appear no more undignified than a horse rider appears compared to the occupant of a brougham. My remarks apply equally forcibly to commercial travellers.

Auckland, New Zealand. C. B. ROSSITER, F.R.C.S.

A Tyre Tip.

[5956.]—I have something to tell which must interest all motor cyclists who ride a heavy machine or use a sidecar. A friend of mine, a brother of the community and clever mechanic, has hit upon an excellent way of avoiding all tyre troubles. He simply doubles the thickness of his covers.

If they are the beaded-edge type he cuts off the bead of the inner one and fits another over it without any further modification. If the wired variety, he cuts off the wire of the inner one, but as this kind of cover has a trick of constantly revolving round the rim, he is obliged to rivet the covers together on both sides with ordinary copper rivets. He tells me that since he began to treat his covers in this way, he has had no puncture or burst. I must add that his mount is a four-cylinder F.N., and that he sometimes does as many as 300 miles a day for business on the nice *paré* of the North of France, and always at full speed.

Rouen, France.

P. GOCHE.

ORDINARY CORRESPONDENCE.

[Owing to the large amount of space devoted to letters from overseas readers, we are obliged to withhold a number of ordinary letters until next week.—Ed.]

The October Quarterly Trial.

[5957.]—With reference to the speed regulation of light-weights competing in the Quarterly Trial in order to qualify for a first-class certificate, Mr. Whitworth states that the regulations require a speed of fifteen miles per hour for engines not exceeding 300 c.c., and above 300 c.c. twenty miles per hour. As a matter of fact, this is entirely wrong, as the regulation which he instances refers entirely to the special prize awarded at the end of the year for the best all-round performance in all four trials. In the event of two machines having made non-stop runs in all four events, then the machine which had adhered closest to the stipulated speeds uphill would be adjudged the winner. Not in a single instance this year has a first-class certificate been withheld through a machine failing to climb any of the test hills at any set speed.

F. STRAIGHT,

Secretary Auto Cycle Union.

The "Banned" Liverpool A.C.C. Trial.

[5958.]—With reference to the notice in your issue of the 28th ult., the decision of the A.C.U. in the matter of the above trial is decidedly unfair. Why was it "banned"? The next quarterly trials will not be held until a week later, and upon entirely different ground, so that the trial does not clash with A.C.U. events.

In the interests of motor cyclists generally, I think that the A.C.U. action is very unsportsmanlike, and in the true interests of the sport in the North the time has now arrived for the northern clubs to throw off the yoke of the A.C.U., and prompt action should now be taken by all the northern clubs to support the Northern League and organise our own competitions.

A meeting should be held as soon as possible, say at Manchester or Liverpool, and each club send one or two representative members with full voting powers to the said meeting and thoroughly thresh out the pros and cons of this very vexatious question. Now then, "Northerners," wake up!!!

E. W. KURKOPP,

Captain Oxton (Birkenhead) M.C.C.

[If the A.C.U. is to govern the pastime and retain its position in the world of sport, it cannot permit clubs to hold what are practically open events by driving a coach and horses through its regulations. We hold no brief for either side, but can hardly agree with the Liverpool method of enrolling members for this event only.—Ed.]

Novel Method of Repairing a Broken Petrol Pipe.

[5959.]—When out walking the other night I met two motor cyclists who were stranded by a broken petrol pipe, and nothing and no one near to mend it. I happened to be sucking a Russian toffee tablet and casually offered to stick this round it. It was most effectual, and they went on their way rejoicing, so it is perhaps as well to have a few Russian tablets in one's pocket. Wishing *The Motor Cycle*, from which I have had much useful information, continued success,

D. W. TEVIOTDALE.

Sidecar Steering.

[5960.]—I have noticed trouble with the steering of my sidecar, and found it to be caused by about 1in. to 1 1/2in. play in the attachment on the back stay, that is to say the sidecar could move away from and return to its proper track. The swerving was more pronounced when the front bicycle tyre was on the soft side.

I thought the attachment was quite tight, as I could not move it myself, but travelling on the road at any pace over fifteen miles per hour would pull on the cross tie (the one to the saddle pin), and this levered on the other connection.

Your readers may like to know this.

J. W. NAYLER.

Single-cylinder Records.

[5961.]—May I, through the medium of your widely circulated journal, ask when the hair-raising single-cylinder Indian is going to emulate the twin of that ilk?

I have been away, but on returning to London and seeing the 500 c.c. hour record broken again, I was prompted to write. I am only a humble private rider, and know but little of racing, but on quietly watching Brooklands both on off days and at public meetings, it has struck me that private record attempts must cost a lot of money, and surely, whether successful or not, cannot prove so valuable as having a bold whack at record at a public race meeting.

I must apologise for troubling you at such length, but in July I quite excited myself at the prospect of seeing the single-cylinder Indian projectile pulverising records, as in my mild way I always take an interest in a fast single, and I am impatient, or curious, to hear more of it.

What directly brought the matter back to my mind was a letter from a foreign friend of mine, who asked me what English records the Indian holds at present; but my knowledge of racing matters is not sufficiently extensive to enlighten him. Can you inform me?

ARTHUR M. C. SCOTT.



A STORM APRON noticed on W. Pratt's two-speed P and M. and Montgomery sidecar, which should especially appeal to winter tourists. Inset the upper part of the apron folded down. When not wanted the top half can be folded under and out of the way, or even used as a cover should the sidecar be left in the rain.

Lamps and Winter Riding.

[5962.]-Having read your leaderette on the above, we would like to point out that we should be only too glad of a trial such as you suggest. We heartily endorse your statement that reliability in the generator is of more importance than the volume of light given by the lamp. As manufacturers of electric lamps we have found the life of a standard 4 c.p. four volt Osram bulb to run into many thousands of miles, the breakage even then being usually the result of pure carelessness on the part of the user. We trust that a trial of some sort may be arranged, in which we should be only too eager to compete.

THE BOWEN AND ODERY MANUFACTURING CO.
R. W. ODERY.

[5963.]-I note in your issue of September 28th that "Ixion" has something uncomplimentary to say about modern lamp outfits, which I should like to confirm. My 1911 outfit consists of a well advertised head lamp and patent generator, each of which cost me 25s. I have nothing to say against the lamp itself, which when fully supplied with gas, gives an excellent beam, enabling me to travel safely at 30 or 35 m.p.h. along clear roads. But the generator, supplied by the same makers, is absolutely the most unsatisfactory article that could be designed for practical night riding. It is the most modern type. When the generator is absolutely clean it will supply gas well for, say, half an hour, but then the trouble begins and the light fails. The drops of water come into the carbide chamber through a perforated central tube, the perforations of which get clogged up with a stiff paste of moist lime gathering all round the central tube, and gas is only generated so long as the lump carbide is violently agitated in contact with this paste. A goodly portion of the water trickles through the mass of paste directly to the bottom compartment without touching the lump carbide on the grid. On coming to a village or a stretch of road which requires careful driving, down goes the light to zero, and it can only be resuscitated by making the engine race by continually slipping the clutch, or by tapping the generator vigorously to make the carbide rattle about. Correspondence with the makers only elicited the suggestion that too much water was passing; the trouble is really occasioned by a starvation of water in the right place. The other night the last twenty miles of my ride took over two hours, with constant stoppages to prod the contents of the generator. Finally, I had to dismount the whole thing, put the carbide in the bottom chamber, and use the generator after the old-fashioned method of the cheap German pattern to which "Ixion" refers. It seems to me that the grid principle is quite a wrong departure, unless means are provided for distributing the moisture all over the carbide on the top of the grid.

J. F. BRIGGS.

The Cause of some Tyre Troubles.

[5964.]-I think some of your correspondents must either have very bad luck with their tyres, or not take sufficient care in driving. I am almost a novice, and my experience is as follows: In the middle of August I bought a Bradbury 3½ h.p. and sidecar. From that time I have ridden 2,100 miles; at least 1,400 of them having the sidecar attached. About 250 miles were ridden over very rough bye-roads in Norfolk, and the only expense I have been put to, apart from the cost of running, has been a new exhaust valve, and in addition I have had one puncture in the back wheel.

My tyres are still in good condition, and bear very little appearance of giving way just at present. On the 1st I went from Nottingham to Northampton and back, and on the return journey, although I was travelling twenty-nine miles an hour, another motor cyclist simply shot by me with a passenger on his carrier.

From what I can see many motor cyclists ride their machines to death. I have got more enjoyment out of reasonable running than, I believe, many others get from mere speed, and I think the latter may account for some of the tyre troubles your correspondents complain of.

F. J. FLANAGAN.

Will Hill-climbs Survive?

[5965.]-I think I am right in considering that the remarks of "Observant" re Coventry and Warwickshire hill-climb are intended to apply to myself.

"Observant" complains that my machine was taken to the hill on a car, and also hints that the compression of the engine was so high that it could not have been conveniently ridden over. In other words, he suggests that mine was a freak machine made for the job, and that it was useless for an ordinary amateur to compete against it.

I think I can claim to have ridden in nearly all the most important hill-climbs held during the year, yet the Newnham climb is the only occasion on which I have not ridden my machine to the start. The facts are these:

At 10.50 the morning of the climb I got delivery of my machine from the makers. All competitors had to weigh in at Newnham before 12 noon. A journey of over forty miles to do on a brand new machine in one and a half hours, and no lamps for the return run.

Was it to be wondered that I accepted the offer of a lift by a friend who was going to see the competition?

It is easier and safer for a 40 h.p. car to average thirty miles per hour than for a motor cycle.

Now for the capabilities of a high-compression engine:

The engines I use both for hill-climbs and reliability trials are the standard competition 3½ h.p.

I used an exactly similar engine in the London-Edinburgh-London run, M.C.C. Winter Trials. Quarterly Trials, etc. It is an engine that driven in a commonsense manner is in every way suitable for touring.

If "Observant" is at all inclined to doubt this I shall be only too pleased to arrange a little non-stop reliability test over any distance and any road he may select. I will ride the same machine with which I compete in open hill-climbs, and he any 3½ h.p. single-gear machine he likes.

I think we should then be able to see if the 3½ h.p. Precision competition engines are "incapable of keeping their best tune in a run of forty miles" or not.

JACK WOODHOUSE.

Sidecars and Change-speed Gears.

[5966.]-I have read with much interest the correspondence on the suitability of the 3½ h.p. single-cylinder for sidecar work. My own experience is that a 5-6 h.p. two-speed twin is absolutely the lowest powered machine with which it is possible to do any enjoyable sidecar touring.

In letter 5913 Mr. Hugh Gibson gives it as his opinion that the 3½ h.p. single-cylinder and sidecar can do anything that the 5-6 h.p. outfit is capable of. Would he have us believe that the extra 2 h.p. is useless, and that the extra cost of upkeep is so much money absolutely thrown away? My sidecar touring has proved just the contrary.

With regard to the reliability of the 3½ h.p. single-cylinder engine over the twin when used for sidecar work, I mention that the single is more likely to give trouble owing to its lower gear ratio, and consequently greater engine speed, than the twin engine running at a normal speed on its higher gear. The weakest part of the modern sidecar outfit (with very few exceptions), it seems to me, is the frame of the motor cycle, and I hope that designers will pay attention to this most important point in next year's models.

T. M. JONES.



The private road in Luton Hoo Park which the Herts. County A.C. will use for the speed trials on the 21st inst., by kind permission of Sir Julius Wernher.

A.C.U. Quarterly Trial.

[5967.]-May I urge a word of warning to competitors passing through the narrow winding streets of Bewdley. At the worst point five roads meet, and just here is a favourite place for farmers to leave their carts and for children to run about. It is a death trap at any speed over six or seven miles an hour. A.B.

Cold Vulcanising.

[5968.]-I have had three tyres retreaded all similar in every way by a leading manufacturer. One done about a year ago has stood 1,000 miles on the back wheel, and a greater distance on the front, and though now smooth is still sound in every way. The second began to come off (i.e., the new tread) in 100 miles, and was badly off all round in 500. The third in 400 miles was worn clean through down to the original tread, and completely separated from it except close to the rim on each side. In both these cases, though the failure was different, the tread had come away from the foundation, and was in no sense amalgamated to it as when properly vulcanised. The makers say that motor cycle tyres cannot be hot vulcanised again, and that they have a special cold process. I should be glad to know if this is a fact, and what cold vulcanising means, and if it is another name for solutioning! The tyres were all 26in. by 2in. wired, and non-skid retreads were fitted; machine, 2½ h.p. F.N. RETREAD.

Silence.

[5969.]-I am very pleased at the fact that you are still persevering in your crusade on behalf of the silent motor bicycle. There is no reason why any motor cycle or car should make an objectionable noise. I do not at all agree with E. W. Knight's letter, in last week's issue of *The Motor Cycle*, re his old machine. For a few shillings he can buy a good and silent silencer, which will stop all the noise made by his exhaust. Anyone who can afford to ride a motor cycle can surely afford the few shillings necessary to purchase a new silencer. The noise made by the old motor cycles is bad enough, but these new and more powerful machines are fitted with such poor silencers that it appears necessary to fit a cut-out to them (this does not say much for the silencer), and these cut-outs are used by a certain class of rider with an entire disregard to the comfort of other people.

There is a certain class of motor lunatic about known as the "speed merchant," who imagines the road is made for his especial benefit. The animal is easily spotted: it runs on two wheels, has a humpy back, a pair of huge goggles, a cap turned the wrong way, and an engine the explosions of which shake the surrounding houses. This animal, whose other name is the "road hog," rushes furiously about the roads like a mad dog, seeing nothing but the road immediately in front of its nose; its behaviour is so gross that it has brought discredit on the decent road rider. When this animal is seen it should be caught and caged, and then the rational user of the roads would have a chance again of using them in safety, and, in addition, he could get some sleep at night. The road hog is looked upon by the man in the street as a bit of dirt, that is, matter in the wrong place.

I see "Ixion" says in his notes, "Up the phenomenal precipice, miles from human habitation. You would naturally drive

on a free exhaust." Why, might I ask? If the silencer is properly constructed there will be no back pressure, and consequently no cut-out will be necessary. Let "Ixion" try a two or three-speed gear and seal up his cut-out. M.D.

New Brighton Track.

[5970.]-I notice a few remarks by a Mr. Newmann re the above subject. May I remind him that records are usually officially timed, otherwise they are not considered. Mr. Newmann says nothing about his timekeepers. Was it by speedometer? Again the statements made are ambiguous. He says, "I attained a speed of sixty miles per hour, and the same morning I equalled his mile record for the track." Now does this mean that a mile was covered in sixty seconds, or merely that he touched sixty on the straights? The first I consider practically impossible, and the second has been done many times, and has to be, by anyone who approaches the mile figures, as the speed naturally drops on the banking. The speed I have attained, officially timed, was two laps at twenty-one seconds to the lap, and at this speed my back wheel would not hold the banking, the angle being too great. Now my 7 h.p. Rex has as short a wheel-base as any machine on the market, and were it not for special tyres with the tread specially vulcanised on the left wall, I do not consider I could hold it on the banking at a higher speed. By the way, one day in practising I was reputed (I say advisedly, repented) to cover one lap in nineteen seconds, but I do not believe it possible, although timed by an amateur with a stop watch.

I should be pleased to meet Mr. Newmann on this track, as he suggests, when next he is in this district.

Liverpool.

E. F. BAXTER.

The A.C.U. and the Liverpool A.C.C.

[5971.]-The recent action of the A.C.U. in refusing permission to the Liverpool A.C. Club to hold an open reliability trial in its own district calls for a little candid comment.

I understand that the A.C.U., in refusing to grant a permit, stated that it did not consider that such a trial was in any way called for, and moreover, the "trade" did not want it.

Traversing its objections, if the event was, as it had claimed, "uncalled for," no one would enter, even if the A.C.U. had graciously granted its august permit and patronage, and the only result would be to deplete the club funds by the amount of the permit fee paid to the A.C.U. Again, if the trade did "not want it," the trade would be at perfect liberty to stay away. These events are got up by clubs for the sport and pleasure they provide for those who care to compete, and not for trade purposes.

Certainly, the trade rider is welcome to come in, if he so chooses, but there is no compulsion in the matter. But if he does not care to do so, that is no reason why the sporting amateur should be prevented from competing in an event proposed to be run under A.C.U. rules and ordinary road traffic regulations. Imagine the National Cyclists' Union refusing a permit to a club of standing for an open race meeting on the grounds that such meeting was "uncalled for" and that the cycle trade "did not want it"!

J. F. MACNAB.

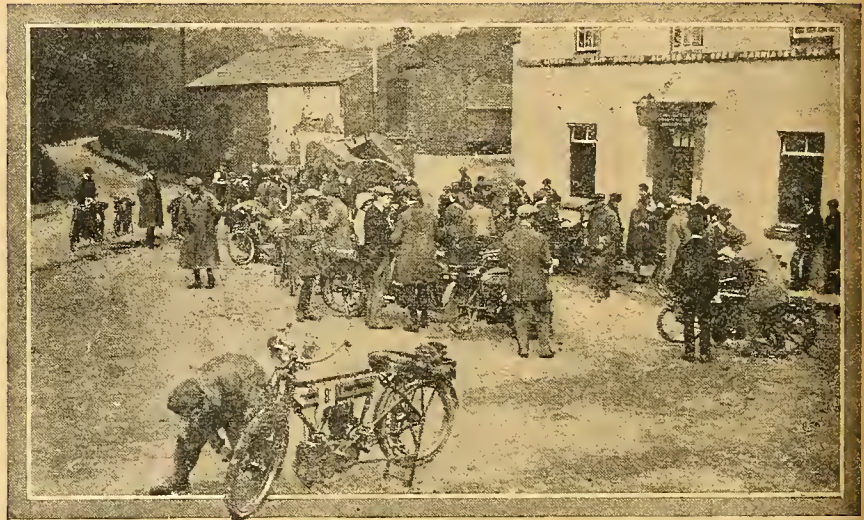


Brookdale M.C.C. hill-climb at Westerham on Saturday last. A group of competitors.

The Liverpool Club's Two Days' Reliability Trial.

AN EVENT "BANNED" BY THE A.C.U.

THE Liverpool A.C.C. two days' reliability trial was held last weekend, Ledsham (Cheshire) being the starting point, and a fair crowd assembled at noon to see the competitors leave. The riding conditions on Saturday were ideal. It will be recollected that it was intended that this event should be "open," but the A.C.U. refused to grant a permit, and subsequently threatened to suspend all motor cyclists who were non-members who took part. Saturday's route was as follows: Ledsham (start), Queensferry (5½ miles), Mold (7), Ruthin (9½), Cerrig-y-Druoidion (13½), Pentre Voelas (6), Denbigh (14½), Bodfari (3), Caerwys (3), Cilcain (3), Mold (4), Queensferry (7), Ledsham (5½). Petrol at Denbigh control, fifteen minutes compulsory stop. Thirty-eight out of forty-four entrants started, including several well-known riders. W. Heaton (A.J.S.) used gears of 6½ and 13½ to 1, evidently expecting severe ascents. H. Gibson, G. Wray, and P. Platt were mounted on Bradburys, and the Baxters on Rex machines. The competitors were got away smartly in trios, and some were early in difficulties with punctures. This seemed to be the only trouble they had to contend with, as the first part of the course was a very easy journey for a modern motor bicycle. The long hill out of Mold caused no trouble. Hugh Gibson went up with his chain-driven Bradbury and sidecar on top gear. Later in the day he retired, owing to the keyway on the counter-shaft sprocket wheel shearing off. The much talked of hill, Cilcain (observed), proved anything but difficult, yet several failures were noticed. Pedals were used very freely, and more than one rider ran alongside, and then conked



Ledsham, Cheshire, the starting point. Competitors assembling for the start.

to a standstill. Cilcain village lies in a valley, and the corresponding hill leading out of this place is really very bad, so some exciting times were anticipated on the next day's run. The road for two or three miles leading to Cilcain, from the Denbigh side, is really atrocious, there being just enough room for a passenger combination, whilst the surface is beyond description. The last quarter of a mile drops 1 in 3½ into the village. On this stretch Platt (Bradbury) gashed his back cover so badly that he retired. From this point to the finish (16½ miles)



Mrs. Baxter (Rex) dropping down into Cilcain from the Denbigh side. This was the steepest hill in the trial, and had to be ascended on the second day's run. The gradient is 1 in 3½.



Cilcain Hill, the steep and twisty descent on the way to Denbigh. The competitor is Bel' (Chater-Lea sidecar).

the run was accomplished in daylight, when a final check was taken, the competitors then wending their way to Liverpool, to place the machines *en garage* for the morrow.

The Second Day's Run.

Some thirty competitors faced the starter at Birkenhead, and the first three went off for the 115½ miles journey at 10.15 a.m. The weather conditions overhead were again splendid, but the roads for a few miles were soaked with rain, which had fallen during the night. All

The Liverpool Club's Two Days' Trial.

got safely through to Rossett (twenty-two miles), where the first observed hill was encountered.

Sunday's route was as follows: Birkenhead Ferry (start), Chester 15½ miles, Rossett 6½, Cefn-y-bedd 3½, Llandegla 9, Mold 11½, Cilcain 4, Denbigh 13, Trefnant 2½, Tremeirchion 2½, St. Asaph 7, Ruddlan 2½, Newmarket 4½, Holywell 1½, Bagillt 2½, Northop 5, Mold 2½, Chester 8, and Birkenhead 15½.

Petrol at St. Asaph, 1½ hours compulsory stop.

Marks were given for silence, and this had a marked effect in excluding the open exhaust type of rider.

The Start from Birkenhead.

The competitors crossed the Mersey on Sunday morning by ferry boat, starting from Birkenhead at ten o'clock. All went well until Cilcain was reached, and here it was that most of the competitors met their Waterloo. A crowd of nearly three hundred assembled at the 1 in 3½ hill in the anticipation of witnessing some interesting performances, as Cilcain Hill was admittedly the *pièce de résistance* of the trial. A correspondent counted over one hundred motor cycles and cars gathered at the foot of the acclivity. The police were present, and, by stopping all non-competitors from practising, rendered great assistance to the officials in keeping the hill clear. This hill was descended by the competitors on the Saturday's run, which enabled them to gain some idea of the severity of the gradient at the bend, which is seen in our illustrations which appear on the previous page.

Three Riders Distinguish Themselves.

A number of competitors, especially those mounted on single-gear bicycles, skidded at the corner. Others failed through sheer inability to climb such a steep gradient. In the end only three riders were successful in making clean ascents of Cilcain, and it seems likely that the cup will go to one of them. These riders were Pollard (3½ h.p. Triumph), Gregson (3½ h.p. 85×88 mm. Bradbury, with C.A.P. carburetter), and W. Heaton (2½ h.p. two-speed A.J.S.). These three are deserving of great credit for their magnificent performances.

Mrs. Baxter unfortunately skidded, and, further, ran into a pig, but neither the rider nor the machine was much damaged. Her husband also skidded on Cilcain, but he recovered, and ran alongside his machine. The same fate befell George Wray, whose Bradbury had a plated cylinder, and was spotlessly clean at St. Asaph. He had been fancied for the Reliance Cup, offered as the chief award in the contest, so that his skid is all the more unfortunate.

It must be admitted that the sidecars made a very poor show, as only one succeeded in reaching the summit of the hill unaided, and this at the second attempt.

Lunch was well served at the Plough Hotel, St. Asaph. Hobbs (Triumph) retired with a broken piston, and Moggor was noticed repairing a puncture near Bagillt. At Chester lamps had to be lighted for the final stage of the journey.

The first to arrive at Hope Street Garage, Liverpool, was Wray, who checked in at about 7.30 p.m.

Great enthusiasm was displayed along the route, although some trouble was caused to competitors by urchins removing the direction arrows.

On the second day Hugh Gibson rode round the course as a marshal, with Platt seated on his carrier.

Despite the A.C.U. ban we are told that only some five or six entrants refrained from riding. The trial proved a great success in every sense. The course and conditions were arduous. The officials all worked with a will, and the judge, Mr. S. W. Carty, was indefatigable in the performance of his duties. He was mounted on a 6 h.p. twin N.S.U., and by cutting across country he was enabled to watch the competitors on most of the hills.

Newmarket Hill Unobserved.

Unfortunately, he was unable to reach the hill at Newmarket in time, and as this gradient practically accounted for the whole of the competitors, it is to be regretted no official account was obtained. It is rumoured that only W. Heaton, on the A.J.S., and a Rudge rider climbed Newmarket at the first attempt, and it is highly probable that the cup will now go to Heaton, as he also climbed Cilcain and made a non-stop run. The first prize for best performance on a single-gear machine will no doubt go to either T. Pollard (3½ h.p. Triumph), or A. Gregson (3½ h.p. Bradbury).

All machines were very minutely examined by the judge in Hope Street Garage, Liverpool, at the finish.

Mrs. Baxter pluckily completed the course, although she had suffered from several minor mishaps.

Next Year's Prospects.

A more ambitious trial is already being projected for early next year. Motor cyclists generally seem to look upon the action of the A.C.U. as an insult to the whole motor cycling community in the Liverpool district. An

indignation meeting is shortly to be called and a plan of action decided upon.

No accident was reported, and all the retirements were due to most unforeseen and very rare breakdowns.

Complete List of Survivors.

Of the 38 starters, 25 in all duly finished as follows:

MOTOR CYCLES.

F. C. Jones (3½ Bradbury).
Geo. Wray (3½ Bradbury).
L. V. Barton (3½ Mead-Precision).
W. W. Hague (3½ Triumph).
J. W. Baker (3½ Triumph).
D. Lloyd (3½ Triumph).
T. W. Pollard (3½ Triumph).
G. Gregson (3½ Bradbury).
H. C. Marston (3½ Rudge).
N. Brown (3½ Rudge).
H. Marston (8 Bat-Jap).
F. Markland (3½ Spa-Jap).
S. W. Phillpott (2 Humber).
E. F. Baxter (7 Rex).
Mrs. Baxter (3½ Rex).
M. G. Rolls (5.6 Bat-Jap).
M. Glasgow (3½ Triumph).
J. H. Fox (3½ Triumph).
J. J. Scott (3½ Triumph).
W. Heaton (2½ two-speed A.J.S.).
T. Carroll (3½ Bradbury).
A. Bell (3 N.S.U.).
E. W. Kirkcup (3½ Matchless).

PASSENGER MACHINES.

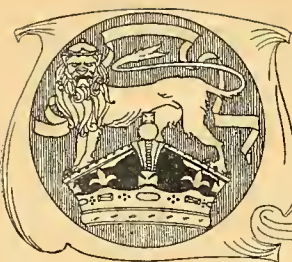
G. Anderson (7 Waverley and sidecar).
T. C. Smythe (6 Zenith and sidecar).
65.8% of the total number succeeded in finishing the trial.

The State of our Roads.

A correspondent named A. E. Ball wrote last week and pointed out that we might change our minds regarding the filling of pot-holes by stones and tar if we were to try a spin from Nottingham to Doncaster *via* Mansfield and Worksop. Our correspondent is doubtless absolutely correct with regard to this particular section of road, but in other parts of England this filling process is carried out in a surprisingly efficient manner.



The observed hill at Rossett. Mrs. Baxter has just passed another competitor.



CURRENT CHAT



TIME TO LIGHT LAMPS.

Oct. 12th	...	6.12 p.m.
" 14th	...	6.8 "
" 16th	...	6.4 "
" 18th	...	6.0 "

A Difference.

C. R. Collier writes us to the effect that he still holds the five miles record for the Crystal Palace track, his time being 5m. 33s. Harry Martin's time of 5m. 58½s. was claimed as record, but this refers to a track record for engines of limited dimensions.

Proposed Club for Beckenham.

A movement is on foot to establish a motor cycle club at Beckenham and the district. Mr. D. Lavender, proprietor of the Albemarle Motor Cycle Exchange, Beckenham, has kindly granted the use of a suitable club room at the first named place.

Motor Cyclist Awarded £50 Damages.

Last week, at the Harleston County Court, S. W. Denny claimed damages from Mr. Epps, of Maidstone, for damage caused by the negligent driving of the defendant's servant. It appears that the defendant's motor car, in approaching the main road from a cross road, crashed into the plaintiff, and completely wrecked his bicycle, but fortunately did not seriously injure the rider, although he was incapacitated for some weeks from work. The Judge, in giving judgment, said the evidence was quite sufficient to show that the accident was entirely the fault of the driver of the car, against whom no charge of excessive speed had been made. He did not exercise care in coming off a by on to a main road. Damages awarded, £50 with costs.

Motor Cycle Activity in Italy.

On the 15th inst. an important motor cycle race will be held, starting from the gates of Turin, over the Orbassano-Bruino-Piossasco circuit, 100 kilometres in extent, for which the Grand Prix de l'Exposition will be contested. The contest will be divided into five classes, according to cylinder capacity, for engines not exceeding 250, 300, 333, 500, and over 500 c.c. Except as regards auxiliary exhaust ports no restrictions will be imposed. The Società Sportiva la Torino reserves for itself the right to cancel any class represented by only one make and to transfer this to another class. The Grand Prix de l'Exposition will be competed for between all classes and will be awarded on formula. The race is likely to be a great success, since all the firms who showed at the Turin Exhibition will take part. Very high speeds are expected.

Are Brazing Lamps Dangerous?

An action of considerable interest to motor cycle traders, and bearing particularly on the liability of makers of tools, was held in the Watford County Court on the 2nd inst. The makers of a petrol brazing lamp were mulcted in £100 damages, the decision of the jury being that the lamp was defective between the container and the vaporiser, and they considered, as reasonable business men, that the defendants ought to have known that it was dangerous.

We Hear

That Jake de Rosier has ordered a Matchless twin from H. Collier and Sons, Ltd.

That if someone can find a suitable spot to build a three-lap track, Indian Wells can find the cash.

That O. C. Godfrey's Indian is fitted with Jake de Rosier's racing cams. (Now we shall see if it is "in the engine.")

That the Devonshire riders at the Streatham and District open hill-climb gave the finest display of corner work seen in the South.

That the Zenith people were all smiles at the Streatham hill-climb.

That Harry Martin contemplates taking a trip across the Atlantic to capture some of the American records, or dollars.

That the Bowden people have 10,000 handle-bar controls for magneto on order for 1912.

That an attempt was made by burglars to force an entrance into the premises of the New Hudson Co. in Gray's Inn Road.

That Harry Bashall is suffering from water on the knee.

That Fred Barnes is going to give a champagne supper to all his friends after his recent run of successes.

That Father Tessier was as "keen" as the "keenest" down Brasted way.

That some private members of the A.C.U. have not yet received the handbook.

That James Merton is none other than Bert Goodswain, and that several of our leading manufacturers would like to meet him.

That "Billy" Cooper was conspicuous by his absence at the Southern hill-climb.

That another American firm—the Peerless—are about to invade England with their motor cycles, and are already looking out for suitable showrooms.

That Harold Karlake contemplates applying for the old age pension for his Dreadnought.

That one of our leading 3½ h.p. single-cylinder manufacturers is out for "70" before the show.

That O. C. Godfrey has made a bet that he gets the hour record before the show on the single-cylinder Indian.

SPECIAL FEATURES.

OVERSEAS NUMBER.

Experiences and opinions of motor cyclists in all parts of the world.

1912 MODELS.

THE QUARTERLY TRIALS. BROOKLANDS EVENTS.

An American Consular Report.

Motor cycle manufacturers will be interested in an American Consular report which says: "Mexico presents a fine field for the exportation of automobiles (presumably motor cycles are included). During 1910, 209 motor vehicles arrived at the Port Vera Cruz and were re-shipped to Mexico. Of these 151 were from Germany, 38 from the United States, 11 from France, 8 from England, and 1 from Spain.

A Speedy Arrest.

The other day the Witham police received a telephone message from Chelmsford stating that a man wanted by the Cambridge borough police for stealing a motor cycle would no doubt pass through the town on the stolen machine. Two constables at once started for the cross roads near Bridge Street, where after a few minutes' wait they saw a motor cyclist approaching. The man, whose name was given as Charles Vivian Sumpter, *alias* Claude Graham, was stopped by the officers, detained, and subsequently handed over to the Cambridge police.

Left the Plug Intact.

A Greenwich motor cyclist had a curious mishap with his single-cylinder machine of this year's make. He was starting up when with a loud report the cylinder head blew off in several pieces. He picked up the inlet valve cap thirty yards away, and the other with the plug intact was hanging on the terminal wire from the magneto. The force of the explosion buckled the under part of the tank. Fortunately, he had a spare cylinder at home and after fitting the same and repairing the tank was able to use the machine again the following day.

Scientific Matters in Germany.

A prize competition has been held in Germany under the auspices of the Prussian War Office, for treatises on various subjects connected with motor cycles, which are as follows: "Protection against the danger of "skidding," "Transmission, especially as regards reliability, silence, and simplicity," "Free engine and change speed gears," "Springing," "Protection against dirt and dust." None of the papers received proved good enough for a first prize, but there were several minor awards. The Prussian War Office purposes co-operating with the General German M.C. in organising a reliability run next year.

The Man and the Rim.

A. H. Sanderson, one of Australia's army of ten thousand motor cyclists, recently crashed into a closed railway gate at night. The gate was undamaged: not



The man and the rim.

so the front wheel rim, which under the strain assumed a peculiar deltoid shape. Being an amateur photographer, and desiring a memento of a fortunate escape, Mr. Sanderson faked a negative, with the results shown in the picture.

The Gaillon Hill-climb.

The results of this French hill-climb, which was held last week, are as follows: Quarter-litre class—1, Brunet (Griffon); third-litre class—1, Laudel (N.S.U.); under 50 kilos—1, Magnat-Debon (Pierrard), 1m. 24½s.; over 50 kilos—1, Peugeot (Guillon), 42½s.; tricars—1, Riviere (Mototri-Contal).

The fastest time of the day in the motor cycle class was accomplished on the Peugeot, 42½s.; the fastest car time being made on the 6-cylinder Rossel, 32½s.

Auto Cycle Union News.

At the last meeting of the A.C.U. Committee 229 touring members were elected and twelve full members, a total of 241.

AFFILIATION.—The following clubs have been affiliated to the parent body: Canterbury and District M.C.C. thirty members; Aberavon, Port Talbot and District M.C.C. thirty-three members; Furness M.C.C. thirty-seven members.

AN A.C.U. TOURING COMMITTEE.—The A.C.U. has appointed a special Touring Committee to deal with the appointment of hotels and repairers, which consists of Messrs. Otto Thomas, W. Cooper, A. J. Moorhouse, H. P. E. Harding, and C. C. Cooke.

OLYMPIA SHOW.—During the Olympia Motor Cycle Show, from November 20th to 25th, the A.C.U. will have Stand 172, while members will have their own club rooms, known as the Princes Rooms, thanks to the courtesy of the Motor Cycle Manufacturers' Union. The A.C.U. has sent a vote of thanks to the Union.

In place of Mr. Cove (who has resigned and gone to America) Mr. Moorhouse has been elected to the Competitions Committee, and Mr. Hart to the Legal Committee.

A.C.U. ANNUAL DINNER.—The A.C.U. annual dinner will be held on a Saturday in January. Ladies will be invited.

SIDECAR RECORDS ON THE TRACK.—The A.C.U. has decided to recognise sidecar records on the track, and it has been left to the Competitions Committee to define a sidecar accurately.

S. African Trade Increase.

All those who are interested in the motor cycle industry will be gratified by the phenomenal increase during the last twelve months in the imports of British motor cycles into South Africa. The extent of the advance are shown by the following figures:

1908.	1910	1911 to September.
£10,781	£23,005	£40,205

These show that for the first eight months of this year shipments from Great Britain are £17,200 more than for the whole of 1910.

M.C.C. Winter Run.

We understand that the winter run to Exeter and back will take place on Boxing Day and the following day, and it is quite likely that the schedule speed will be accelerated. A suggestion was made to carry the run on to Plymouth, but it should be remembered that if severe winter conditions prevail (the weather was rather favourable last time) an extended run is likely to be uncomfortable in bad weather. Last year there

FUTURE EVENTS

Oct. 13.—A.C.U. Council Meeting at the Imperial Hotel, Birmingham, at 7.30 p.m., to be followed by a Smoking Concert.

.. 14.—A.C.U. Quarterly Trial (Midland Centre).

.. 21.—Herts. County A.C. Autumn Open Speed Trials.

Nov. 20-25.—Motor Cycle and Cycle Exhibition at Olympia.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.

was no fog and no snow, and a schedule of 15 m.p.h. was easily adhered to. This year if the schedule goes up to the 18 m.p.h., it will be, in our opinion, unwise to extend the course. A dozen entrants have already notified their intention of competing.

Ladies in the Quarterly Trials.

Mrs. C. C. Cooke is the first and only lady to accomplish a non-stop run in a quarterly trial, which she did at the end of last year, riding her 3½ h.p. Triumph. Miss Hough will attempt to equal Mrs. Cooke's feat in the Midland Quarterly Trial on Saturday, although it must be admitted that this year's quarterly trial courses have been much more severe than hitherto. Miss Hough's mount is a two-speed Douglas.

Racing at Toronto, Canada.

Canadian records were broken and re-broken at Toronto on the 16th ult., new times being put up for every distance from three to twenty-five miles. The feature of the afternoon was the twenty-five mile race for the J. W. Commeford trophy. At five miles Cole's time was 6m. 11s. which beats Canadian record by 23s. His ten miles time was 12m. 30s., fifteen miles were covered in 18m. 30½s., twenty miles in 24m. 45s., and the full distance of twenty-five miles in 30m. 56½s. The English machines were very successful. W. Stower, on a Triumph, won the Auto Tire Co.'s cup, while W. Banfield, also riding a Triumph, won the five miles race for belt-driven machines.

Snowdon an Almost Impossible Climb.

In search of "unclimbable" hills, H. G. Bell has been touring North Wales on a two-speed four-cylinder F.N. and sidecar, and seriously commenced arranging an ascent of Snowdon by the railway track. It was Mr. Letts and Mr. Bell who climbed Snowdon in 1905 on a 6 h.p. single-cylinder Oldsmobile car, the journey occupying 56m., the distance being approximately five miles. On inspection of Snowdon with a view to a sidecar ascent, it was found almost impracticable to drive either a motor bicycle or sidecar combination to the summit, that is without numerous stops. In places the ballast is inches below the sleepers, and running water crosses the line at intervals. Mr. Bell thinks that with many stops to lift a machine from one side of the track to the other, a motor cycle ascent might prove successful.



Liverpool A.C.C. Two Days' Reliability Trial. A general view looking down Cilcain Hill.



MOTOR CYCLE RACING AT PORTMARNOCK. (See page 1070.)

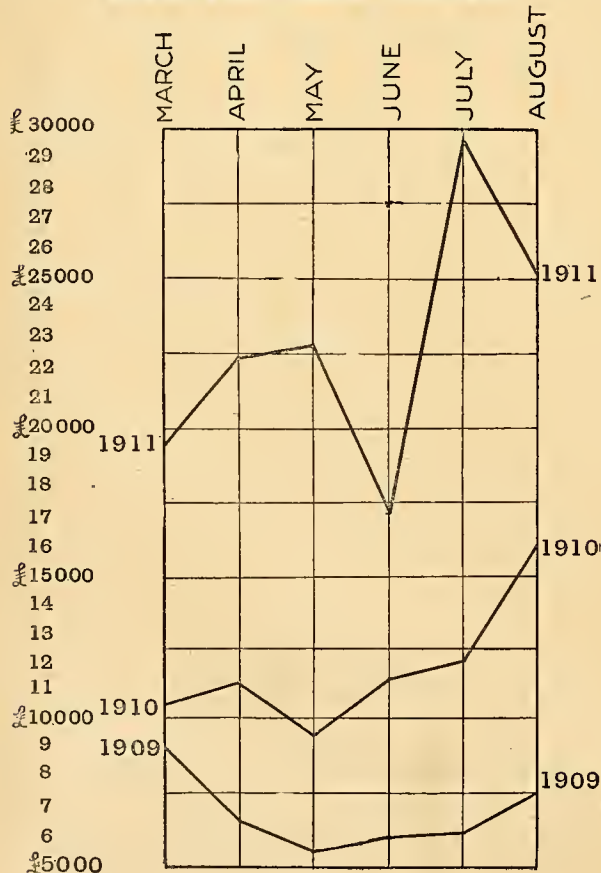
A general view of the beach with the martello tower in the distance.

C. J. Franklin (7 h.p. Indian), the winner, takes one of the turns close in.

BRITISH IMPORTS AND EXPORTS.

THE accompanying table and chart show the enormous increase of the exports of motor cycles and parts during the last three years. In the case of July and January the value of the exports in 1911 is more than four times as great as in 1909. The imports have also increased, but not to anything like the same extent. In 1909 the value of the imports exceeded that of the exports in April, May, June, and July. In March, 1910, the imports

SHOWING RAPID INCREASE OF EXPORTS.



also slightly exceeded the exports in value, but in 1911 the value of the exports was always vastly in excess, in January and August being over three times as much, and on the average more than double. This is a very satisfactory state of affairs from the British manufacturers' point of view. The complete totals for the year are:

Exports.—1909, £105,435; 1910, £161,130; 1911 (to end of August), £181,418.

Imports.—1909, £70,452; 1910, £99,248; 1911 (to end of August), £79,651.

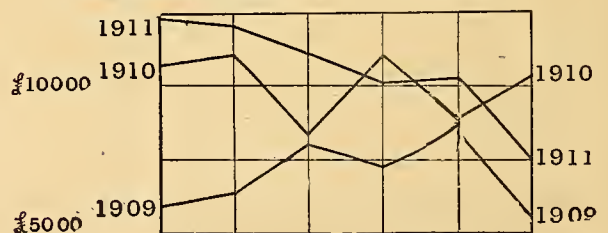
	EXPORTS.		
	1909.	1910	1911.
	£	£	£
August ...	9,054	16,038	25,487
July ...	6,764	12,045	29,660
June ...	5,551	11,428	17,139
May ...	6,001	9,495	22,706
April ...	6,183	11,196	22,339
March ...	7,629	10,461	19,439
February ...	6,463	9,460	20,949
January ...	4,504	10,935	23,699

	IMPORTS.		
	1909.	1910	1911.
	£	£	£
August ...	5,541	10,411	7,472
July ...	8,377	8,712	10,238
June ...	7,364	11,004	10,117
May ...	8,263	8,497	11,163
April ...	6,374	11,020	12,106
March ...	5,965	10,885	12,342
February ...	4,581	6,348	9,107
January ...	3,213	7,564	7,106

Since completing the chart and table given, we have received the returns for September, which are as follows: Exports.—1909, £9,666; 1910, £15,543; 1911, £32,579 considerably the largest monthly total up to date).

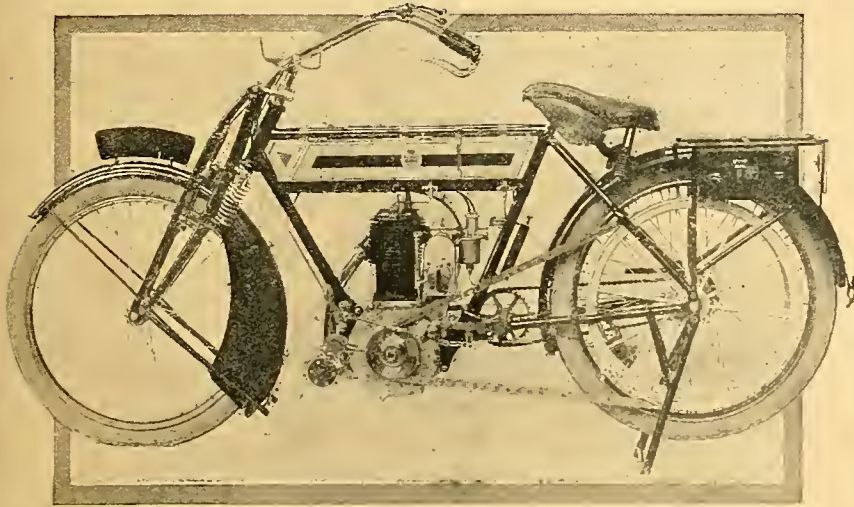
Imports.—1909, £3,878; 1910, £7,297; 1911, £8,208 (about one-quarter of the value of the exports).

MOTOR CYCLE IMPORTS, MARCH TO AUGUST.



1912 MODELS.

Advance Details of New Pattern Motor Cycles.



Next year's free engine Rover, the alterations from this year's model being in detail only.

Components, Ltd.

For next year, Components, Ltd., will enlarge their engine to $86\frac{1}{2}$ bore \times 85 mm. stroke, as used in the T.T. Race. Other features will be an automatic sight-feed lubricator, and an improved form of their variable gear. The control of the decompressor has been redesigned.

Another Counter-shaft Gear.

Bowden Wire, Ltd., is the latest firm to devote attention to the two-speed question. A fortnight ago we encountered Mr. Alec Ross on a Bat machine, fitted with the Bowden two-speed bottom bracket gear, which he was testing. It will shortly be dealt with in these columns.

The M.M.

We illustrate below the new 7-9 h.p. twin M.M., the bore and stroke of which are 82×91.5 mm. The magneto is a

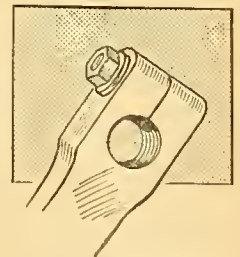
Bosch and the carburetter a Schebler. The attachment of the engine to the frame by the cylinder heads is interesting. The 4 h.p. single-cylinder model is of the same dimensions. It is illustrated on page 1082. The engine is attached to the frame at three points: at the cylinder head, to the lower of the two top rails, and fore and aft at the crank case. The carburetter and magneto control are carried out in the usual American manner by long rubber twist handles and rods. The back wheel is very easily detachable, and is provided with a chain adjuster which serves to adjust the tension of the belt. The bottom bracket is carried above the forward end of the chain stays, and is able to be rocked backwards and forwards, the amount of movement being controlled by means of an adjuster which enables the pedalling chain to be very easily tightened. The stand is sub-

stantial, and when the machine is taken off it automatically flies quickly up into position. The front wheel is suspended on a flat laminated spring fork. It is interesting to note that the engine-shaft revolves on roller bearings. The tank is of brass, and provided with spun steel ends.

Both models will be fitted with a free engine clutch, which is of quite a simple nature, consisting, as it does, merely of an expanding brake which takes up the drive quite sweetly, so we are informed. It is worked by a long lever adjacent to the top tube.

The New Rover.

Rover motor cycles for 1912 will be improved in detail only, the general design remaining the same. The engine



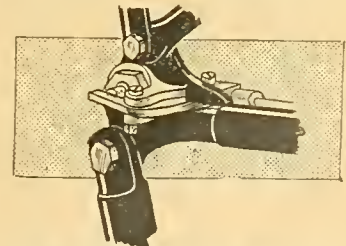
The method of fixing the pedal spindle on the new Rover.

The wearing surface of the cam gear has been increased as much as fifty per cent., and the adjustable tappets are now held up to the valve stems by enclosed springs. Neater clutch leverage is

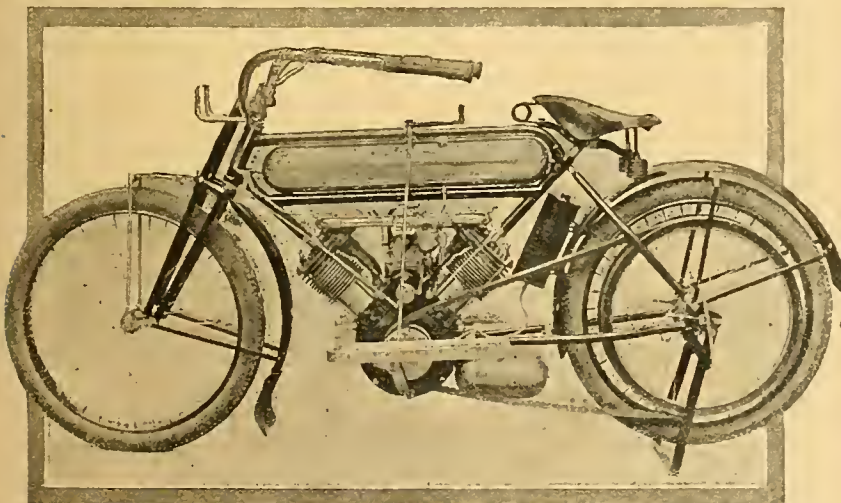


Combined lamp and generator bracket which is a standard fitting on next year's Rover.

employed, the pedal having a direct pull on the operating bell crank lever. Ignition is by the new type Bosch magneto driven by a wide silent chain and controlled from the left handle-bar, while the cut-out is now operated by a pedal. The spring fork is more compact, and is fitted with stronger springs than formerly. The tank has an extra sup-



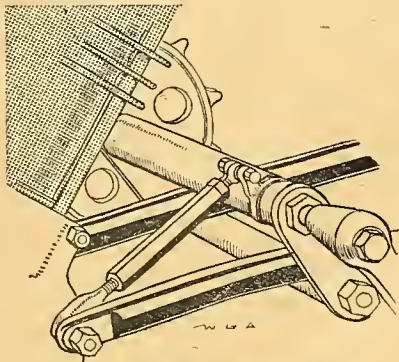
New method of actuating the clutch on the 1912 Rover. It will be observed that the rod is inside the chain stay, enabling a direct pull on the bell crank lever.



A new model twin from the States—the 7-9 h.p. M.M. Note the special engine fixing.

1912 Models.—

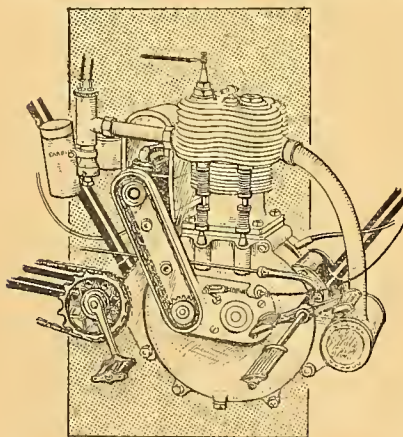
porting clip, both fillers are fitted with strainers, and the oil pump has larger valves. Neater front and rear wheels stands are employed and the former is kept in place by an improved clip. Both brakes have been improved, the rear brake being fitted below the chain stay and operated by more substantial connections. The wheelbase has been shortened two inches. The alterations generally have made the machine considerably neater in appearance. Three models can be supplied. A fixed gear, and a free engine model, and another embodying the Armstrong three-speed gear. As will be noted from the illustration the firm have reverted to an L saddle pillar, and use a frame of the ordinary diamond pattern.



M.M. device for tightening the chain.

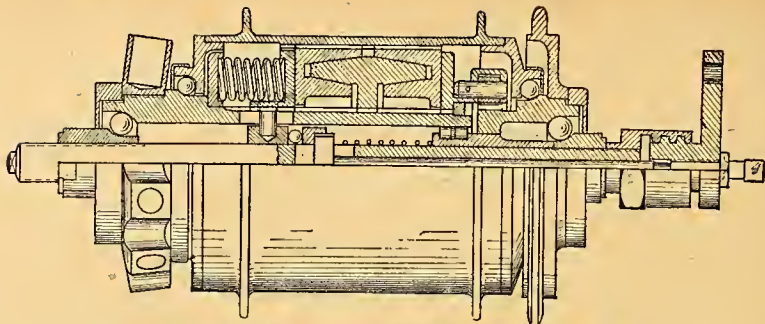
New Hudson Engine.

Mr. Roy Walker called at our offices last week with the experimental New Hudson $3\frac{1}{2}$ h.p. engine fitted to a three-speed motor bicycle and sidecar. We append a line sketch of this new power unit, which is on standard lines and does not present any novel features. The bore



The 1912 New Hudson engine and appurtenances.

and stroke are 85×88 mm. = 499 c.c., and a silent chain is used for the magneto drive; the cylinder is a particularly clean casting. The tappets are provided with springs to keep them in close contact with the valve stems. A short run with the new model, which had already covered several thousand miles, including 1,500 miles in Yorkshire, convinced us that the three-speed Armstrong sidecar gear and 1912 $3\frac{1}{2}$ h.p. New Hudson engine are a



Section of the B.S.A. free engine hub clutch for next year.

really excellent combination. A new belt caused a certain amount of slipping on the low gear, but the first time it ascended Stoneleigh Hill it took the combined weight of 25 stones with plenty of reserve power on the low gear, the top gear being 5 to 1. Mr. Walker told us that the machine had taken two passengers, combined weight 20 stones, up Sutton Bank, also Farlow Bank, which he claims to be a record for a $3\frac{1}{2}$ h.p. engine and sidecar.

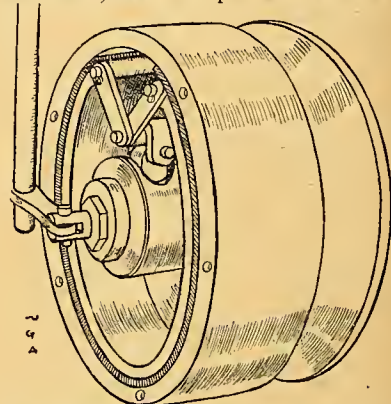
B.S.A.

We publish a section of the free engine clutch which has been fitted to this year's B.S.A. machines, the same design having been decided upon for 1912. As will be seen, it consists of a double cone keyed to the belt rim, which is gripped between blocks with corresponding grooves on each side, and sliding in the hub shell. We have had an experience with one of the B.S.A. clutch machines, and found the clutch beautifully smooth in action.

The Racing B. and B.

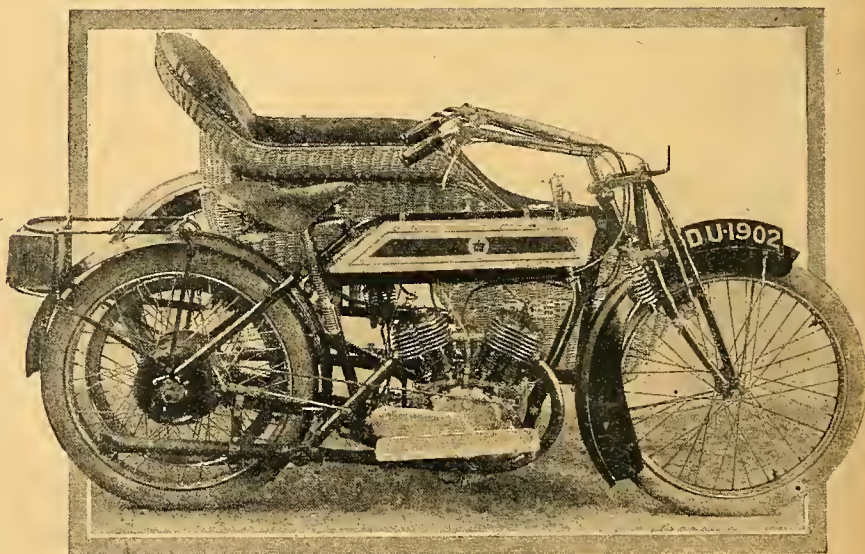
Last week we described the new design B. and B. carburetter for 1912, illustrating its special features on page 1037. Our description applies to the lightweight and heavyweight standard models, but the firm have a racing pattern for those who wish to obtain racing results. This carburetter is similar to the universal type, but has a straight through air

opening with an extension pipe at the rear. To adjust this carburetter, the throttle and air orifices should be placed in the fully open position, the jet being set to suit. The makers say that this carburetter, which is put on the market



Arrangement of M.M. expanding engine pulley clutch

to oblige their racing clients, is not so controllable or as economical for ordinary touring purposes as the universal models with the adjustable primary and secondary air openings. The variable jet is standard on the racing model as well as the others already described. Readers will be interested to know that the firm



The new pattern 6 h.p. Rex Sidette, the engine of which, as will be seen, has side-by-side valves—a new departure for the Rex. Co. in connection with twin-cylinder engines.

1912 Models.—

has lately moved into well equipped works at the address mentioned, where every part will be made on high class automatic machinery, thereby ensuring accuracy and perfection of workmanship. We made a short tour of the works in company with Mr. C. Brown and his right-hand man, Mr. Evans, and found the works fitted up in the latest style. We mention the above as an instance of thoroughness and to prove to our readers that Messrs. Brown and Barlow intend to spare no expense or trouble to maintain their already high position in the motor cycle industry. A 1912 model was fitted to one of our machines in a few moments, and as we returned to the office by road we could detect an improvement in the running of the machine—a $3\frac{1}{2}$ h.p. and sidecar. It is an advantage with a low powered sidecar machine to be able to increase the petrol supply uphill.

New $3\frac{1}{2}$ h.p. Premier.

An important improvement has been made in the $3\frac{1}{2}$ h.p. model Premier for 1912, which still remains 85×88 mm. The whole cylinder has been re-designed, and outwardly has a neat pear-shaped appearance, while the cylinder head and valve ports have been somewhat modified in design, especially inwardly.

The frame has been considerably lowered, but the straight top tube is still retained. Detail improvements consist of a detachable rear mudguard, a belt rim guard, and an improved carrier with provision for pannier tool bags.

A New Quadrant Engine.

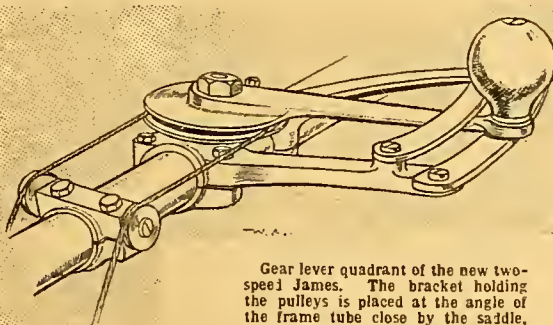
The Quadrant Co. have decided to add to their previous list of models an engine of 87×95 mm. for sidecar work. They will also manufacture a two-speed gear and free engine of their own. The gear will be placed in the rear hub, and will be of the epicyclic type.

Kynoch Redivivus.

Kynochs, Ltd., will place a $3\frac{1}{2}$ h.p. motor cycle on the market for 1912. It will be fitted with the J.A.P. 85.5×85 mm. engine, Druid forks, and the B.S.A. two-speed gear or free engine at option.

A Small Twin J.A.P.

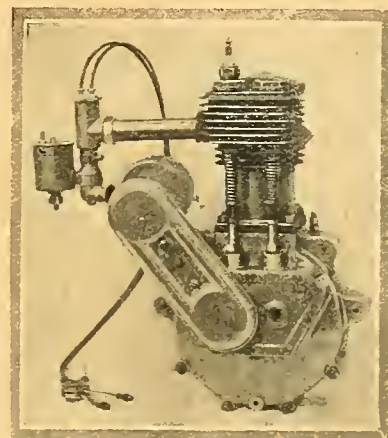
We visited the works at Northumberland Park one day this week where the J.A.P. engines are made, and fortunately found Mr. J. A. Prestwich at home. A discussion on 1912 prospects elicited the information that the firm have one or two new designs in hand for the show. The 3 h.p. lightweight twin engine which has been used on a New Hudson in one or two 1911 events will be one of the 1912 standard models. It has V cylinders with bores and strokes of 60 by 76 mm., 425 c.c. side by side valves, and is a miniature model of its parent, the 8 h.p. Although called 3 h.p. it will give more and should be successfully applied to lightweight models where the even torque and smooth running of a twin are often preferred to the more powerful impulses of a 500 c.c. single.



Gear lever quadrant of the new two-speed James. The bracket holding the pulleys is placed at the angle of the frame tube close by the saddle, and not in the position shown in our sketch.

Gradior.

The 1912 Gradior engine, made by the Gradior Machine Co., Stafford, has an engine of $86\frac{1}{2} \times 90$ mm. and ball bearing crankshaft. It is designed for those who find a 500 c.c. engine hardly powerful enough, and should appeal to heavyweight riders and also sidecarists.

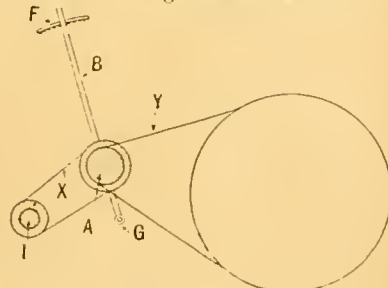


A new Gradior power unit for sidecar work. The engine dimensions are 86.5×90 mm.

A COUNTER-SHAFT VARIABLE BELT GEAR.

We have been favoured with a description of a counter-shaft variable belt gear, invented and made by Mr. L. Dugdale, 96, Dall Street, Burnley.

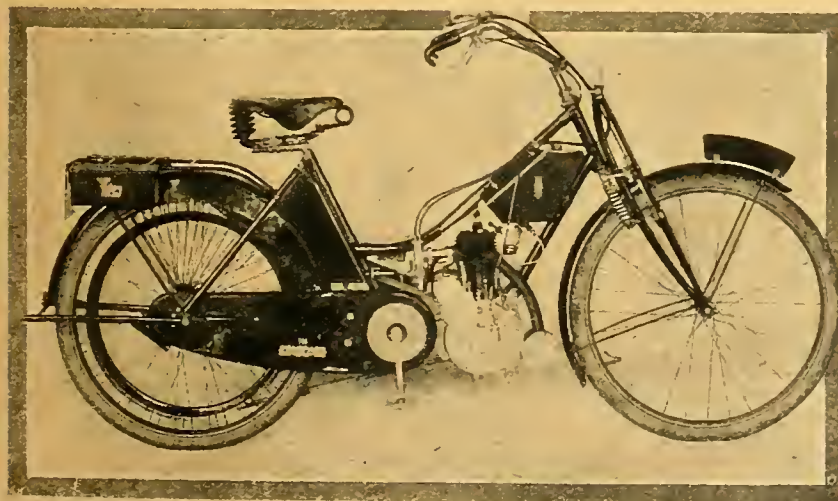
A is the pulley which runs on ball bearings on the stud E, carried by the actuating rod B. This rod can be fixed at its lower extremity to the bottom bracket or to a lug brazed on to the frame.



DD are the fixed flanges, and C the movable flange which is made to slide but not to turn upon A. The pulley is shown in its low gear position. It will be

noticed that as the lever B is moved backwards the change in belt tension will cause the flange C to move to the left, thus raising the gear, both from engine to counter-shaft and from counter-shaft to back wheel. No jockey pulley is needed, as the movement of the lever B does not affect belt tension. Mr. Dugdale says that he does not find the belts slip, and that the gear does all he

claims for it. He makes it to give six speeds, the lever B being held in six positions by slots in the quadrant F. It is obvious that quite a low gear is attainable with the usual engine pulley.



The 1912 model 2 h.p. Humber lady's machine, which is a standard mount for next year.

One Hundred Miles Race at Portmarnock.

THE open race meeting promoted by the Dublin and District Motor Cycle Club at Portmarnock on Saturday last proved a fitting wind-up to a very successful season. The novelty of the meeting was a hundred miles handicap, the longest race that has heretofore been held on the Velvet Strand being a fifty miles race. It attracted the entries of a couple of English riders, Stanhope Spencer, who beat the hour record at Brooklands last week, and another Rudge rider W. H. Elce. Although the former was on the course he did not feel sufficiently well to compete, and as a consequence the race lost a good deal of interest. Franklin gave a splendid exhibition of cornering at the turning points in both of the races on Saturday. In the two miles he won from scratch, covering the distance in 2m. 4s. from a standing start, and in the hundred miles race he just failed to get first place by ten seconds, the winner

turning up in T. Green, who on a $3\frac{1}{2}$ h.p. single-cylinder machine was in receipt of 25m. start. It was a very nice bit of weight allotting on which the handicapping committee deserve to be congratulated, for not only were the first and second men so close together, but the third and fourth were in their last lap when the winner finished. The prize in the hundred miles race was a silver cup presented by Rudge-Whitworth, Ltd. Details of the two events are appended:

TWO MILES HANDICAP.—C. B. Franklin (7 h.p. Indian), scratch, 1; J. J. Harvey (5 h.p. Bat), 18s., 2; P. Brady ($3\frac{1}{2}$ h.p. Rudge), 36s., 3.

HUNDRED MILES HANDICAP.—T. Green ($3\frac{1}{2}$ h.p. Blackrock Special), 25m. start, time 2h. 22m. 50s., 1; C. B. Franklin (7 h.p. Indian), scratch, 1h. 56m., 2; N. E. Drury (7 h.p. Indian), 3m. start, 2h. 2m. 33s., 3; J. J. Farrell ($3\frac{1}{2}$ h.p. Triumph), 33m. start, 2h. 35m. 26s., 4.

Next Saturday's Quarterly Trial.

The fourth and last of the series of 1911 Quarterly Trials is to take place in the Midland centre of the Auto Cycle Union on Saturday next, the 14th inst., starting from the Kemp Head Hotel, Hagley Road, about three miles out of Birmingham, at 9 a.m.

The course is about 150 miles in length, embracing Hagley, Kidderminster, Bewdley, Farlow Bank (test hill), Ludlow, Tenbury, Bromyard, Martley, Worcester (one hour stop for lunch), Tewkesbury, Gloucester, Birdlip (test hill), Cheltenham, Winchcombe, Evesham, Bromsgrove to Birmingham.

Entries are as under:

*W. Cooper ($3\frac{1}{2}$ Bradbury)
J. Stevens ($2\frac{1}{2}$ A.J.S.)
A. J. Stevens ($2\frac{1}{2}$ A.J.S.)
G. T. Gray ($3\frac{1}{2}$ Rudge)
C. S. Burney ($3\frac{1}{2}$ Rudge)
B. Alan Hill ($3\frac{1}{2}$ Rudge)
W. B. Gibb ($2\frac{1}{2}$ Douglas)
*N. G. Blackwell (6 Zenith-Gradua)
A. M. Lomax ($3\frac{1}{2}$ B.S.A.)
Quadrant ($3\frac{1}{2}$ Quadrant)

*E. H. Paul ($3\frac{1}{2}$ Elliston and Fell)
P. Brewster ($4\frac{1}{2}$ Norton)
V. Busby ($2\frac{3}{4}$ Humber)
G. Bell (4 New Hudson)
H. Graham Dixon (4 New Hudson)
E. H. Allday ($3\frac{1}{2}$ Alldays)
A.S.L., Ltd. ($3\frac{1}{2}$ A.S.L.)
*H. J. Beal (3 N.S.U.)
*E. W. Merrill ($3\frac{1}{2}$ P. & M.)

A. Webster ($2\frac{1}{2}$ Hohart)
*R. C. Owen Wells ($3\frac{1}{2}$ Bradbury)
J. J. Woodgate ($3\frac{1}{2}$ Singer)
H. C. Newman ($3\frac{1}{2}$ Ivy-Precision)
*H. Branchester ($3\frac{1}{2}$ P. & M.)
R. W. Duke ($3\frac{1}{2}$ Zenith-Gradua)
*F. Southam (6 Zenith-Gradua)
*N. Allday ($3\frac{1}{2}$ Alldays)
*Rev. E. P. Greenhill ($2\frac{3}{4}$ Douglas)
*A. H. Lowe (5-6 A.C.)
F. Smith (5-6 Clyno and sc.)
*T. E. Walker (5-6 A.C.)
*J. E. Tassell (8 Matchless and sc.)
*Basil Fawcett (8 Chater Lea and sc.)

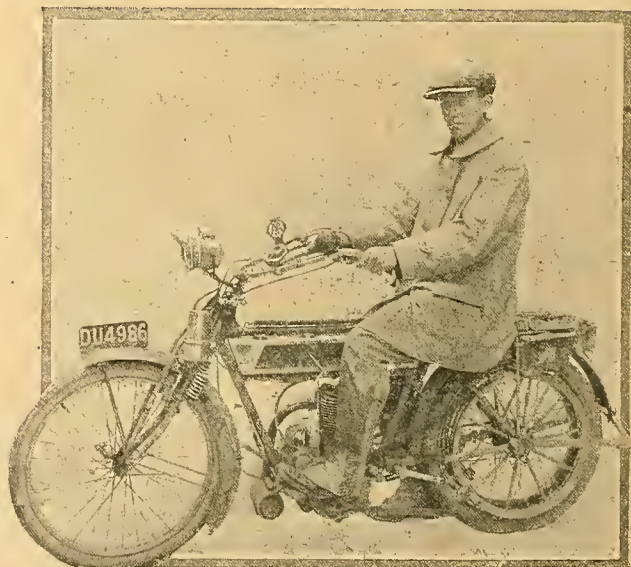
*S. K. Jones ($3\frac{1}{2}$ L.M.C.)
P. J. Evans ($3\frac{1}{2}$ Humber)
B. Bourke (4 New Hudson)
*E. B. Ware (8 Chater-Lea sc.)
V. Temple ($3\frac{1}{2}$ Arno)
H. F. S. Morgan (8 Morgan runabout)
*Miss N. Hough ($2\frac{3}{4}$ two-speed Douglas)
J. Woodhouse ($3\frac{1}{2}$ Dene-Precision)
W. R. Jones ($4\frac{1}{4}$ Ixion-Precision)
Ernest Smith ($4\frac{1}{4}$ Regal-Precision)
J. H. Percox ($3\frac{1}{2}$ Alldays)
Colmore Depot—
 $2\frac{3}{4}$ Douglas
 $3\frac{1}{2}$ Scott
 $3\frac{1}{2}$ Premier
 $2\frac{3}{4}$ Enfield
8. Matchless sc.

*Private owners.

3,000 Miles Road Trial Completed.

D. R. O'Donovan, whose progress we have chronicled week by week since the commencement of his attempt to cover 3,000 miles without using a spanner on the engine, successfully completed his self-imposed task on Monday this week. At the end of that day's run he brought his total to 3,091 miles, but the exhaust valve had been showing signs of stretching for 300 miles. On the way from his home at Bedford to our Coventry offices on Tuesday the valve broke and the valve cap seals had consequently to be broken. The checkers on Monday, however, assert that all six seals affixed by *The Motor Cycle* were intact on that day. During the ride, Mr. O'Donovan has had no mechanical troubles of any kind, and the seals, etc., were intact at the finish. He rode about 160 miles a day, and on Sundays was accompanied by his wife, who also rides a $3\frac{1}{2}$ h.p. Singer clutch model. The back tyre—a $2\frac{1}{2}$ in. Michelin—easily lasted the 3,000 miles test and looks good for many more miles.

The rider has had one or two amusing experiences during the last week or two. One in particular he related to us and is worthy of publication. Naturally, everywhere he stopped he was asked all about the ride, what he was doing, how much he got for it, and whether he had trouble, etc., and while at Luton, checking at W. A. Sale's depot, an interested bystander of the artisan class asked to see his checking book, and when he found out that the authenticity of the ride depended on signatures, he suggested that he could be of some assistance for a consideration, as he had a brother at York, and he would sign the book in his brother's name, thereby proving an addition to the performance of about 187 miles. Needless to say, Mr. O'Donovan did not avail himself of this offer.



D. R. O'Donovan, who has just completed 3,000 miles on a $3\frac{1}{2}$ h.p. Singer without using a tool on the engine.

A SECOND SPIDER RUNABOUT.

Some Notes by the Designer and Maker.

MOTOR cyclists are slowly but surely accepting the small light runabout into their camp. Why? Because being constructed practically with cycle parts, having a motor cycle engine as power unit, and transmission to all intents and purposes identical, it is, in fact, a motor cycle on four wheels. And while with a similar engine it cannot beat a motor bicycle for speed, yet in the matter of cleanliness, accessibility of engine, transmission, and tyres,

it has undoubted advantages—not to mention absence of side-slip, a thing not to be lightly passed over.

My experiences—and they extend for seven years on the practical side of spider runabout building—lead me to the conclusion that a 500 c.c. single-cylinder engine with a variable gear is ample to propel a runabout weighing anything up to 3 cwt unladen, and I consider gears of 5, 8½, and 12 to 1 most suitable, or a little lower for hilly districts.

The essential features of a successful spider quad are—(1) lightness, (2) strength, and (3) perfection of design. The accompanying illustrations show what is meant.

Points of Design.

All engineers know that the greatest strength is attained by keeping the tubes straight. The first illustration, which shows the chassis alone, will clearly demonstrate that this has been done. Perhaps a few details will interest readers of *The Motor Cycle*. J.A.P. engine, 85×85 mm. bore and stroke, 482 c.c., J.A.P. carburettor, Bosch magneto. The engine drives the counter-shaft by means of a 3in. by 1½in. Renold chain through a two-speed rotating gear box on the principle of the back gear of a lathe, and 3in. Elswick belts transmit the power to the back wheels, which are shod with 26in. by 2¼in. Goodrich tyres. The long lever on the side of the chassis operates the belt rim brakes (the second photograph shows this very clearly). The small lever gives a free engine by holding the high speed clutch out of action. The engine is lubricated on the J.A.P. system. Weight without body 2 cwt. The body, which weighs 20 lbs., slips into the cradle-like chassis without any fastening whatever.

What it can do.

The following runs will illustrate its capabilities and prove that a 3½ h.p. engine is sufficient.

Eynsford, Sevenoaks, Tonbridge, Tunbridge Wells, Crowborough, School Hill, Lewes, and Hove. 52 miles 2¼ hours non-stop.

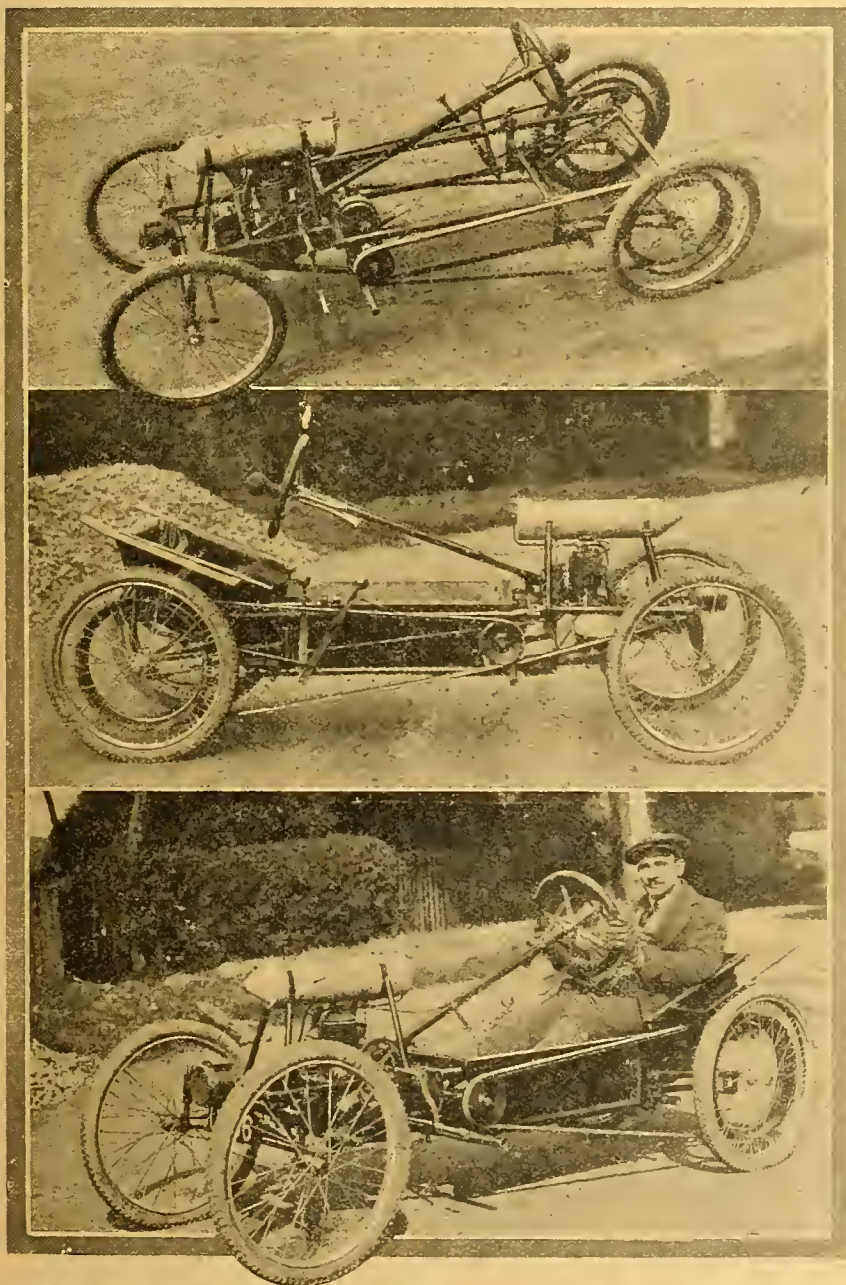
Hove, Handcross, Crawley, Reigate Hill, Sutton, Tooting, and Battersea Park. 50 miles. Two hours non-stop of engine.

The lowest gear was used only on the steepest hills and for starting from a standstill. I am, of course, aware that a 3½ h.p. motor bicycle could make better times than the above. But I prefer four wheels.

HAROLD E. DEW.

GOVERNMENT MOTOR CYCLES IN NYASSALAND.

This year, Messrs. Phelon and Moore, Ltd., have supplied to the Crown Agents for the Colonies, three machines for use by the Sleeping Sickness Commission in Nyassaland. The machines are fitted with a Montgomery sidecar with luggage board and hood. The P. and M. was chosen on account of its two speed gear and chain drive, and also, particularly the low compression engine. Sir David Bruce, the chief commissioner, was given instructions in driving the machine, and also as to its general management, before despatch abroad. Each one underwent a severe road test of 100 miles with the chief engineer in the sidecar. The test included the climbing of a certified gradient of 1 in 4½ with passenger, and a petrol consumption of 100 miles to the gallon. On the completion of this test, the makers were, we understand, complimented on the manner in which the machines had acquitted themselves.



THE SECOND SPIDER QUAD built to the design of H. E. Dew. This handy little runabout, the construction of which is rendered clear by the above illustrations, is described in detail on this page.

CLUB NEWS

Durham and District M.C.C.

The result of the all night ride held on September 23rd and 24th, under severe weather conditions, to Ferrybridge and back, is: F. C. Wake first, and R. W. Holmes second. Mr. Forster's attendance cup for club runs and competitions has been won by R. W. Rushworth, and Mr. Harrison's silver medal by W. P. Cross. The novices' competition will be held on October 15th, leaving Neville's Cross Hotel at 9 p.m. for Barnard Castle and Darlington.

Birmingham M.C.C.

A reliability trial will be held on October 28th in conjunction with the Sutton Coldfield A.C., for which the first prize is a silver cup, presented by Mr. P. J. Evans, winner of the Junior T.T. race. There are several other valuable prizes. The competition will take the form of a non-stop run *via* Stratford, Sunrising, Kineton, and Edge Hill. Particulars from Mr. Howard Smith, The Dingle, Four Oaks, or Mr. R. V. C. Brook, Oakdene, Cambridge Road, King's Heath. The "All Equal" hill-climb, in which all competitors had to ride the same two machines, proved to be a fiasco owing to the absolute inability of the machines to climb the hill.

Herts County A.C. (Motor Cycle Section).

The speed-judging competition, starting from the Red Lion, Hatfield, on October 7th, was held under wet conditions over a 23½ miles course at set speeds ranging upwards from 17 m.p.h. The result is appended:

	M. S.
1. E. C. Jarvis (¾ Triumph) ...	0 52½ fast
2. F. J. Beard (¾ Wanderer) ...	1 18 "
3. Mrs. C. C. Cooke (¾ Triumph) ...	3 51 slow

Bristol B. & M.C. (Motor Section) v. Bath C.C. (Motor Section).

An interesting match was run off on Saturday, the 7th inst., on a course of 43½ miles between Bath, Bristol, and Wells, including some severe hills. The teams were: Bristol—Clark, Fletcher, Wasley, Kickham, and Symes (2¾ h.p. Douglasses), Davies (¾ h.p. Rudge), and Bevan (5 h.p. Rex sidette); Bath—Powell, Wills, Provost, and Keevil (¾ h.p. Triumphs), Burden (Lincoln Elk), Bush (¾ h.p. Scott), and Kelly (¾ h.p. Scott and sidecar). The best climbing was done by Davies (¾ h.p. Rudge), and Kickham (2¾ h.p. Douglas). In the end the result lay between Kickham and Bush, all the rest having failed or missed the course. Kickham's error was 47s., while Bush was 64½s. out of his reckoning, so the Bristol club was declared to have won. The winners were entertained at dinner by the losers. The whole of the arrangements were in the hands of Mr. Philip Grout. Mr. A. E. Deacon acted as timekeeper.

North Middlesex M.C.C.

The petrol consumption tests were held on Saturday, September 30th, over a twelve miles course comprising several steep hills. The A.C.U. formula was used, and the following were the results:

	Figure of merit.
1. W. Noble (¾ Rover) ...	336.2
2. P. Dangerfield (¾ Zenith) ...	303.5
3. W. S. Bennett (¾ T. Norton) ...	302.9

A social run will take place on October 15th, meeting at the Gatehouse, Highgate, at 10.30 a.m.

Helensburgh M.C.C.

The members of the above club held their last hill-climb of the season at Garshake, Dumbarton, on the 30th ult. At the finish of the climb a speed-judging contest was run off over a stretch of road at the foot of the hill. Both contests were a decided success, and the principal results are as follows:

HILL-CLIMB.

Figure of merit.

H. W. Ballardie (T.T. Triumph) ...	522
R. McCulloch (T.T. Triumph) ...	514
T. Brash (T.T. Triumph) ...	493

SPEED-JUDGING.

E. Hunter (7 h.p. Indian) ...	1½s. error
P. Blair (¾ h.p. Triumph) ...	3s. "
G. W. Orr (¾ h.p. Ariel) ...	3½s. "

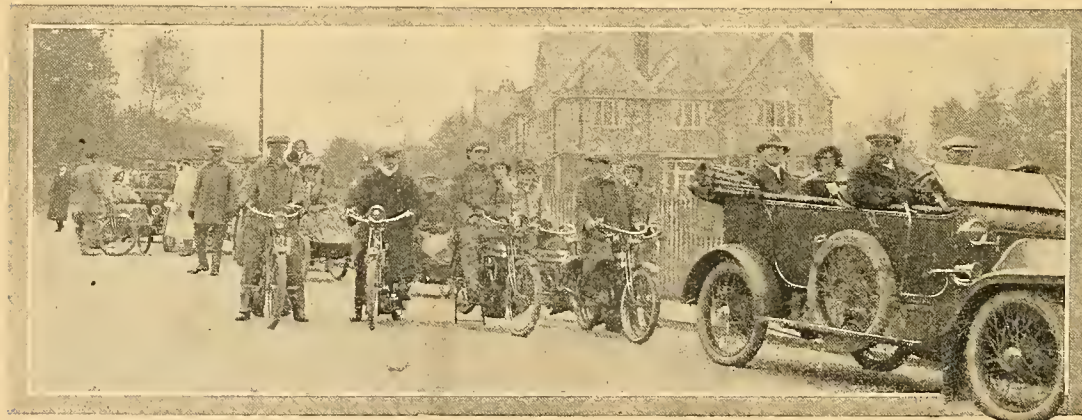
Coventry and Warwickshire M.C.

Last Saturday the closing run and speed-judging competition was held, four prizes being offered—two for cars and passenger motor cycles and two for motor bicycles. The hon. sec., Mr. Geoffrey Smith, acted as "hare," and laid a tortuous paper trail among the Warwickshire lanes from a 12 h.p. Humber car. The course, which measured twenty-three miles, included Styvechall, Baginton, Ryton, Birdingbury, Long Itchington, Stretton, Napton-on-the-Hill, and Southam, the finishing point being about a mile from the last mentioned place. The running was exceedingly close, as will be seen from the results announced by the president, Mr. J. V. Pugh, J.P., who presided over a company of thirty at the Bath Hotel, Leamington Spa, where tea was taken:

MOTOR BICYCLES.

1. S. Wright (¾ h.p. 1912 Humber) ...	30s. fast
2. B. S. Gorton (¾ h.p. Rex) ...	45s. slow
3. P. W. Johnson (¾ h.p. Triumph) ...	2m. 30s. slow
3. J. F. Spencer (¾ h.p. Triumph) ...	2m. 30s. slow

The prizes in the passenger section were won by 1, D. J. Corser (15 h.p. Rover car) with no error whatever; and 2, A. Wright (¾ h.p. Triumph and sidecar) 15s. fast.



Closing run and speed-judging competition of the Coventry and Warwickshire M.C. last Saturday. The "hare" car starting.

Club News.—

Leicester and District M.C.C.

The results in Lightweight Class sent last week contained an error. These should read: 1, G. W. Main (2 h.p. Humber); 2, W. H. Chapman (2½ h.p. A.J.S.).

Southampton M.C.

At the recent hill-climb of the Southampton and District Motor Club, held at Bishop's Waltham, the first place on formula was taken by S. J. Rodgers, on a 2 h.p. Humber lightweight, M. Tuffin, on a 5 h.p. Indian, being second, and S. W. Woolford, on a 2½ h.p. Minerva, third.

Mersey M.C.

A members' secret hill-climb was held at Llangollen on the 1st inst., the secret being so well kept that no one knew of the hill until a few minutes before starting time. The winner on time in the single-cylinder class was F. C. Jones (3½ Bradbury). The formula results are not yet worked out. A pair of tyres were presented by the Kempshall Tyre Co. as prizes.

Scarborough and District M.C.

Programme for October, 1911.—October 15th (Sunday), reliability trial, open to all members. The course will be kept secret until day of trial; distance 100 to 150 miles; start from Scarborough. October 18th (Wednesday), petrol consumption trial, open only to full members. Course, Whitby and back; start 2.30. Time allowed for journey, minimum two hours, maximum three hours. Pedalling chains removed on machines of 476 c.c. and over. October 21st (Saturday), petrol consumption trial continued for those who cannot compete on the 18th. October 25th (Wednesday), flexibility hill-climb, open only to full members. Venue, Hay Brow, near Scarborough; start 2.30. Winner to be the one who makes greatest difference between his fast and slow climbs.

Nottingham and District M.C.C.

A hundred mile circular course was selected for the Dennis-Bayley Challenge Cup in Derbyshire, which included some severe test hills. Nineteen competitors started, but only seven finished. The conditions were: Non-stop run, to be completed in five hours, petrol stop allowed. The following finished:

Error in schedule time.

1. F. P. Johnson (Humber) ...	5m. 16s.
2. Geo. Brough (Brough) ...	18m. 5s.
3. J. E. Poole (Rudge) ...	19m. 5s.
4. A. F. Cullen (Bat) ...	20m. 58s.
5. J. D. Mitchell (Triumph) ...	21m. 2s.
6. W. O. Soresby ...	21m. 39s.
7. A. W. Brittain ...	41m. 7s.

Naval M.C.

The Naval Motor Club held a very successful speed-judging competition on Saturday, 30th September. The meet was at the Hard, Portsmouth. Six competitors took part, and other members who were not competing joined in along the route, which was from the Hard to Petersfield, through Midhurst to Chichester. The competition area was to a point just outside Chichester. Any route was allowed to be taken so long as Petersfield and Midhurst were passed through, though the distance was officially thirty-seven miles. Each competitor drew a slip of paper upon which the speed he had to average was written. No one was allowed to tell anyone else what speed he had drawn. Speedometers and clocks on machines were covered over with paper. As a matter of fact, each competitor was given the same speed, viz., nineteen miles per hour. The result of the competition was as follows:

	m.p.h.
1. Lieut. D. I. McGillewie (3½ Rudge) ...	16.95
2. C. Ford (3½ Triumph) ...	16.91
3. Lieut. H. T. Bowen (3½ Triumph) ...	16.70
4. Sub-Lieut. J. H. Steel (3½ Humber) ...	15.94
5. Lieut. H. F. M. Peto (7 Indian) ...	14.98
6. Capt. Brown (10 Sizaire) ...	13.78

The finishing point was close to the barracks, Chichester, where the competitors were timed by Capt. Wyley and the hon. secretary. Tea was provided at the Dolphin Hotel, where a clock and case was presented to the winner, after which everyone started for home.

The Motor Cycling Club.

Mr. Southcomb May has been appointed hon. secretary to the Motor Cycling Club in place of Mr. A. Candler, who, to the great regret of the committee, has resigned. All communications should in future be addressed to Mr. Southcomb May, 15, Endsleigh Gardens.

The annual dinner will take place at the Café Monico on December 9th. New members joining now have the benefits of single subscription up to the end of next season.

Shropshire M.C.C.

A non-stop run to Aberystwyth was held on September 24th. The distance from Shrewsbury, through Newtown and Llanidloes, totalled seventy-five miles. Messrs. H. G. Potts and A. G. Benham carried out the timing arrangements, and the results were as follows: 1, J. F. Crellin (8 h.p. Dot-Jap), non-stop, error 3m.; 2, W. E. Trott (3½ Rudge), non-stop, 6½m.; 3, F. Hallows (3½ Rudge), one stop (oiled plug), 4½m.; A. T. Doody (3½ Premier and sidecar), ran out of petrol; W. Richards (3½ Humber), retired; J. Henshaw (3 h.p. Wolf), burst tyre. A run has been arranged for October 14th to Farlow Bank. Meet at Crown Hotel, Bridgnorth, at 9 a.m. prompt

Doncaster and District M.C.C.

Results of the hill-climb at Stainboro' Lowe on September 28th are as follows:

Class I. A and B. (300 c.c. and 345 c.c.)—1, J. A. Bassett (2 h.p. Humber), .073; 2, A. D. Robinson (2½ h.p. J.A.P.), .19; 3, W. Skiumore (2½ h.p. Douglas), .229. Four entries.

Class II. Standard Touring Singles (560 c.c.)—F. H. Dunstan (3½ h.p. Rudge) and E. Goult (3½ h.p. Triumph), tied .0935; D. Gill (3½ h.p. Calthorpe), .094. First three competitors will run again for first place at an early date. Eleven competitors.

Class III. Unlimited. For fastest time only.—1, J. Hemsworth (6 h.p. Zenith-Gradua), X; 2, T. Dunk (5 h.p. Rex), 1½s.; 3, A. T. Smith (6 h.p. Zenith-Gradua), 5s.

Herts County A. & A.C. (Motor Cycle Section).

Open speed trials will be held in Luton Hoo Park (by permission of Sir Julius Wernher) on Saturday, October 21st, at 1.30 p.m. The classes will be as follows:

Division A (open to any type of standard touring motor cycle).—Class I., single-cylinder motor cycles up to 300 c.c.; II., twin-cylinder motor cycles up to 343 c.c.; III., single-cylinder motor cycles up to 560 c.c.; IV., twin-cylinder motor cycles up to 750 c.c.; V., any machine; VI., any passenger machine.

Division B (for amateurs) and Division C (for racing machines) dimensions as above.

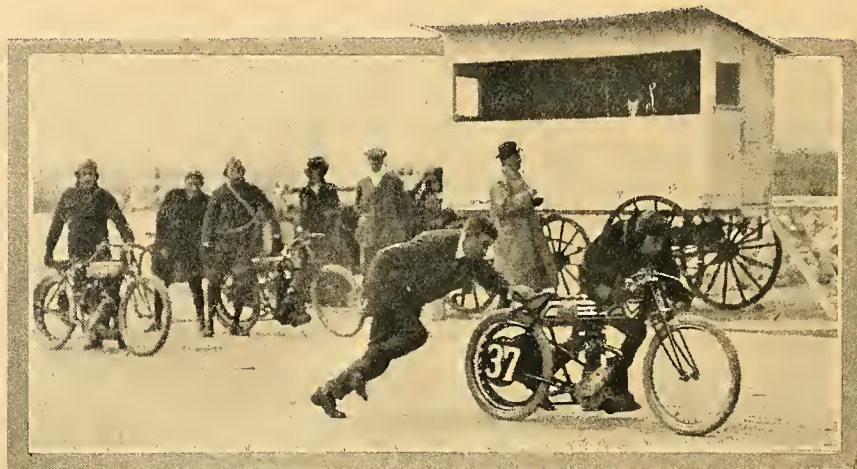


Miss N. Hough (2½ h.p. two-speed Douglas), who has entered for next Saturday's Quarterly Trial, and has already climbed Farlow Bank and Birdlip. The machine is geared 5 and 8 to 1.

WORLD'S SINGLE-CYLINDER RECORDS.

RUDGE SUCCESSES.

TUESDAY the 3rd inst. will be remembered for a long time to come in the annals of Rudge-Whitworth Ltd., owing to the number of successes gained by the firm on that day, and which we briefly referred to last week. It was fine and rather cold, windless at first but squally later. The first event was for Stanhope Spencer, W. H. Elce, and W. L. T. Rhys to try and beat the hour and two hour records. All three machines were practically identical externally. Mr. Ebbelwhite gave the word to go at 11.39 a.m. Spencer started first, while the other two followed at minute intervals. Elce soon retired through magneto trouble, but Rhys was travelling at between 62 and 63 miles an hour. Spencer, however, was going magnificently; he covered his second lap at 66.29 miles an hour, and managed to maintain this splendid speed. Rhys's average then fell



OFF! ON A MEMORABLE RIDE. W. Stanhope Spencer (3½ h.p. Rudge) being timed by A. V. Ebbelwhite. W. L. T. Rhys and W. H. Elce are on the starting line.

50 miles in 45m. 34½s. Previous best, J. R. Haswell, 47m. 24½s. (3½ Triumph), 26th August, 1911.

100 miles, 1h. 34m. 8s. Previous best, J. R. Haswell, 1h. 37m. 52½s. (3½ Triumph), 23rd September, 1911.

One hour, 65 miles 803 yards. Previous best, J. R. Haswell, 63 miles 194 yards (3½ Triumph), 26th August, 1911.

Two hours, 122 miles 210 yards. Previous best, G. Lee Evans, 108 miles 1,367 yards (4 Indian), 13th November, 1909.

Rhys rode consistently and well throughout the two hours, and in this period he covered 115 miles 336 yards.

Spencer's fastest lap was his sixth, which he covered at the rate of 66.65 m.p.h.

A One Hour Sidecar Record.

After lunch Pither set out to establish a sidecar record. The machine was a standard 3½ single-gear Rudge, with

mudguards removed, attached to a Portland sidecar fitted with apron and a wicker canoe-shaped body. The combined weight of the machine, sidecar, driver and passenger was 548 lbs. Pither kept up a consistent average of 42 m.p.h. until a plug blew out, reducing the average of that particular lap to 25 m.p.h., and in the hour he covered 40 miles 1,660 yards.

The final event of the day was Spencer's attempt to lower the five miles record held by the Rudge-Whitworth firm and to the credit of the late Victor Surridge. Spencer covered the distance in 4m. 33½s., beating the previous record by 2½s.

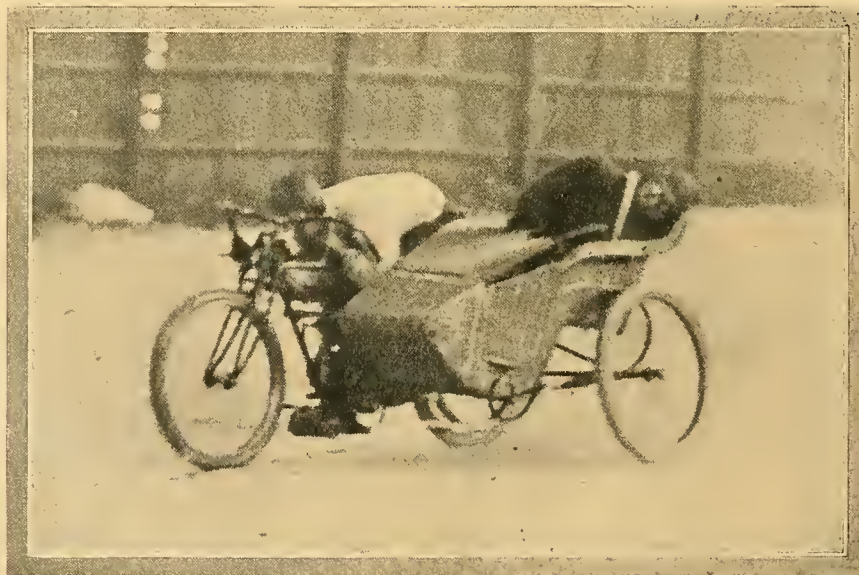
His machine was fitted with Dunlop tyres, Lyso belt, C.A.V. magneto, Brown and Parlow carburetter, was lubricated with Price's oil and fed by Pratt's spirit. The Rudge-Whitworth firm has every reason to be proud of these magnificent performances.



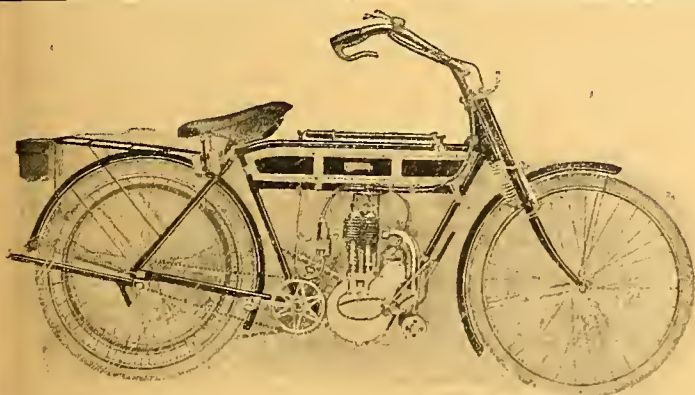
W. Stanhope Spencer, who first took to a motor bicycle last spring, when he bought a mount from the Rudge-Whitworth Bradford depot. He had not seen Brooklands until after the T.T. race. His age is 21.

to 60 and then to 59.30, but his running improved later on. At the end of thirteen laps Spencer was 1m. 12s. inside record, and after eighteen laps he was holder of the fifty mile record. At the end of the hour Rhys picked up to a 63 m.p.h. average, and Spencer had gained both the coveted hour and the fifty miles.

Towards the end of the hour a gusty wind sprang up, which pulled down Spencer's speed considerably. His speed at half time had been 66.47 m.p.h., and if it had not been for the wind he would have covered over 66 miles in the hour. During the second hour Spencer reduced speed to 64 m.p.h., and at the forty-third lap, with only eight minutes to go, he stopped with a broken inlet cotter. This, however, jammed so that the spring did not come adrift, and allowed him to finish. The following are Spencer's records:



F. E. Pither establishing his hour record of 40 miles 1,660 yds. on a 3½ h.p. Rudge and sidecar.



Wheels.—Front rim with inverted lever, rear brake on belt drum, foot operated.
Saddle.—Lycett's La Grande, three spiral springs.
Mudguards.—Extra wide steel, with piece extending well over front wheel.

SINGER TOURIST MODEL 3 1/2 h.p.

Specification :

Engine.—Single cylinder, 3 1/2 h.p., with cage type double ball bearings to main shaft, bore 85 mm., stroke 88 mm., capacity 499 c.c., M.O. valves, interchangeable; efficient silencer fitted, with pedal-operated repeating cut-out.
Ignition.—Bosch or Simms' high tension magneto, gear driven, bolted to table cast on crank case, operated by lever fixed to frame.
Carburettor.—Brown and Barlow, fitted with "Singer" patent ratchet handle-bar control.

Frame.—Specially designed, top rail curved downwards to afford low position.
Forks.—"Singer" registered design, spring girder pattern.

Foot Rests.—Aluminium plates, rubber studded, adjustable to any angle.

Tank.—Extra strong, fitted to bottom rail by means of brazed lugs; petrol gauge, concealed oil pump.
Capacity.—Petrol 1 1/4 gallons, oil 1 quart.

Handle-bar.—As illustrated, and affording the most comfortable position.

Wheels.—Front rim, with inverted lever; rear brake on belt drum, operated by left foot.

Spokes.—26 in., with heavy gauge spokes, extra strong rims, beaded edge.

Tyres.—Dunlop, rubber studded, non-skid, 26 in. x 2 1/4 in.; Palmer to order, at extra.

Carrier.—Variable pulley, highest 4 1/2 to 1, lowest 6 1/4 to 1.

Foot.—7 in. Lycett rubber.

SINGER LIGHTWEIGHT 2 1/2 h.p.

Specification :

Engine.—Single cylinder bore 69 mm., stroke 80 mm., c.c. 299, m.o. valves, efficient silencer fitted.

Ignition.—Bosch high tension magneto, gear driven.

Carburettor.—Brown & Barlow, fitted with Singer patent ratchet handle-bar control.
Frame.—New design, very low and convenient.

Forks.—Patent spring, girder pattern.

Wheels.—26" beaded edge.

Tyres.—Dunlop studded Motor Cycle, 25 x 2".

Tank.—Extra strong, fitted with petrol gauge and oil pump.

Belt.—3/4" Lycett rubber.

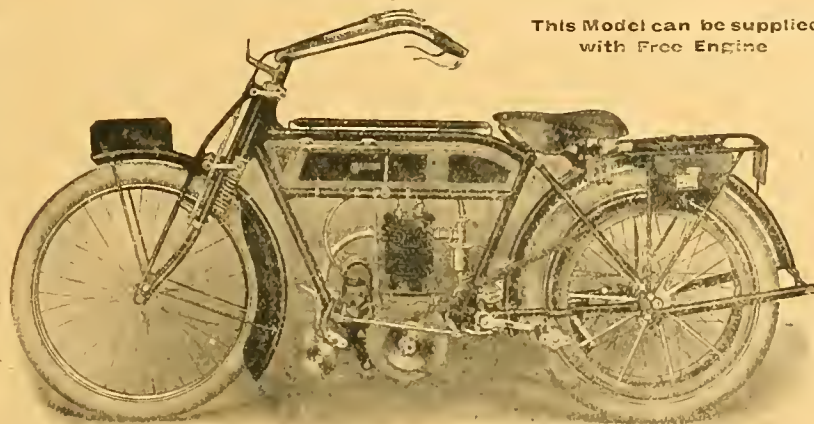
Carrier.—Tubular, large and serviceable.

Foot Rests.—Rubber, adjustable to angle.

Finish.—Best quality black enamel, bright parts plated on copper, rim centre enamelled; tank aluminium, panelled green.

Gear.—Variable pulley, high 5-1, low 7-1.

This Model can be supplied with Free Engine



Saddle.—Middlemore and Lamplugh 920B, padded top, Lycett, or Brooks' B105.

Mudguards.—Extra wide, front with side shields and extending well over wheel; "Singer" patent rear guard, readily detachable to facilitate tyre repairs.

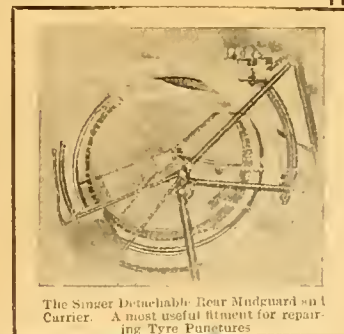
Stand.—Very strong, kick-operated type.

Carrier.—Strong tubular, attached to a special lug bolted to mudguard bridge, quickly removable with mudguard.

Toolbags.—Substantial and serviceable, with roll and complete set of tools, secured to side of carrier by strong clips.

Finish.—Best quality black enamel, bright parts plated on copper, rim centres enamelled and lined; tank aluminium, panelled in green.

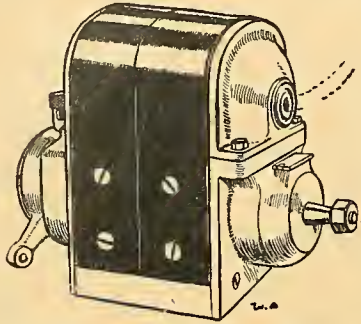
Priority



The Singer Detachable Rear Mudguard on Carrier. A most useful device for repairing Tyre Punctures

Bosch Magneto

for 1912.

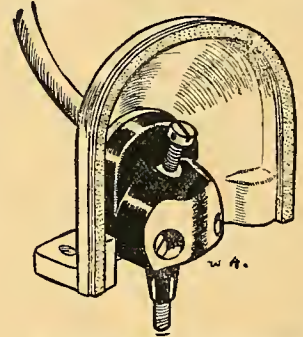


The 1912 pattern Bosch magneto with enclosed high-tension terminal.

Before specifying your 1912 mount see our latest type of magneto which will be on show at the Motor Cycle Exhibition, - - -

Stand 284.

ABSOLUTELY THE MOST PERFECT IGNITION SYSTEM IN THE WORLD. WATER AND DUSTPROOF. INCREASED EFFICIENCY. - - -



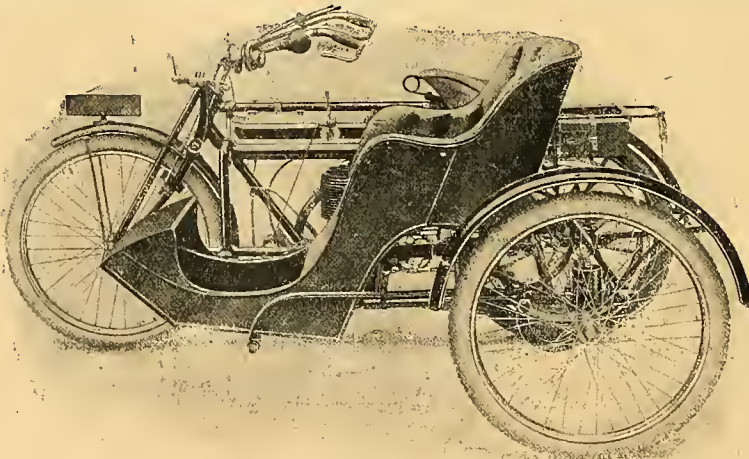
The new Bosch high-tension terminal and its casing.

Note. We can deliver the single-cylinder type corresponding to our DA2 after Nov. 15th. The twin-cylinder model will not be ready until January, 1912.

Telegrams :
"Bosmag,
London,"

THE BOSCH MAGNETO CO., LTD.,
40-42, NEWMAN STREET, OXFORD STREET, LONDON, W.

Telephone :
Gerrard 430
(5 lines).



There is
no
difficulty
in fitting a
GLORIA
Sidecar.

A special patented attachment is employed whereby all strains and stresses are widely distributed, and the car can be attached and detached at a moment's notice.

The wheel is provided with a Patented Spring Suspension, quite insulating the passenger from road shocks, and the car has a perfectly free trailing movement ; none of that binding and drag common to badly designed sidecars.

Let us send you full particulars and prices.

GLORIA CYCLE CO., LTD., COVENTRY.

In answering these advertisements it is desirable to mention "The Motor Cycle."

WHAT AUSTRALIA WANTS.

I WILL endeavour to keep entirely away from what some would probably say was the writer's ideal machine, and to give an accurate account of what the majority of riders would look for in vain when purchasing a mount.

My object is to awaken the English manufacturer to colonial requirements. Several firms have informed me that the home trade meets their output, and in some cases exceeds it, hence at present they find it unnecessary to consider export trade. This evidently accounts for the fact that in Australia to-day there are few of the prominent English makes that can be purchased without a dreary wait of many months.

Surely there is some solution of this "can't deliver" trouble? I do assert that the present Australian market is indeed large. The industry here is entirely in its infancy, it wants to stretch its legs, but is hobbled by this "can't deliver" question. Here is an opportunity for a manufacturer with some keenness who will adapt his wares to colonial conditions.

I might mention a commission I have in hand from an Australian firm to obtain English agencies. They impress very forcibly upon me that first consideration will be deliveries. When this matter of deliveries has been mastered, then will colonial requirements receive serious consideration from the English manufacturer. I say English, for it is only here that deliveries cannot be obtained. American and Continental people can deliver, and do deliver, in large quantities, but the demand in the English production has increased enormously. Surely this colonial proposition is worthy of weighty consideration.

Colonial Models.

The present popular type machine, on the whole, has certainly met with success. I do not contend that the manufacturer would have to market a machine that would only suit colonial requirements. The alterations I am about to suggest, I think, will find favour with many motor cyclists in the homeland. I shall not say much on engine matters, for the present power unit is all that is required, but the magneto should be behind the engine.

Road clearance is of vital importance. I have seen engines of four prominent types, all English, that had seriously suffered through contact with road obstacles. Spring forks of several designs lower the clearance when in action, but at no time should this be less than five inches. Lubrication is not at all satisfactory, and needs to be automatic.

Carburetters and their Control.

Carburetters need some dust-excluding arrangement to the air intakes. I have just read of Mr. Hardy's filter, and before long I hope to give one a test on Australian roads, where in places you plough through dust two or three inches deep, mile after mile.

While on the subject of carburetters, I am reminded of control wires. They are a continual source of trouble. Some manufacturers do not seem to give these the consideration they deserve. It appears to be a simple matter to attach the levers neatly and securely, yet make them easily detachable. The fastenings generally employed are more or less temporary arrangements, and only serve their purpose while the machine is in the showroom.

Outside levers and cables for controls should have the preference, though admittedly not as neat, but the advantage is that, should a wire give way, you are in a position to make a repair, whereas with internal wires it means a new length, which is difficult to purchase in the country districts, and if you are fortunate enough to have a spare it is not a roadside job to fit it.

Spring Forks

must still be much improved before they meet colonial requirements. The Druid is very popular. Makers are evidently not aware of the vile condition of Australian roads. It is beyond me to describe them, but I know they account for many failures where motors are concerned. They seem to have a particular weakness for rims, more especially the plated rims usually found on motor cycles of English manufacture. I have yet to see one of these rims that had done a season on Australian roads and was not in a bad condition. Thicker gauge spokes would be a welcome improvement.

Transmission

does not give as much trouble in Australia as it appears to in England. Perhaps the more favourable weather conditions account for this. I have started on a tour of some eight hundred miles with a $\frac{3}{4}$ in. plain Continental belt fitted to a 6 h.p. J.A.P. that had previously done six months' service, without a spare to fall back on, yet have not experienced the least trouble. This particular tour was through country where belts could not be purchased. This brand of belting is eminently suited to Australian climate. When first imported it is exceedingly hard and harsh, but a few days in the warm climate and it is quite flexible. Chain drive we are anxiously waiting for, and I think shall have ere long. It will require to be entirely enclosed, accessible, and easy to adjust. When this is the rule, chain drive will be welcomed.

Tanks and Fittings.

Tanks soon develop a tendency to shed their contents *via* the various joints. As their capacity is limited, and the supply at times difficult to obtain, makers would do well to increase the capacity to one and three-quarter gallons at least, and in some way reinforce the joints.

Fittings, such as lamp and generator brackets, should be part and parcel of the machine, preferably in conjunction with the handle-bars, where they are somewhat insulated from road shocks. Not till the manufacturer equips the machine with the necessary fittings can satisfaction be expected in this quarter. Horns, etc., should be included in the equipment of all machines.

That some rear shock absorbing arrangement is required is hardly necessary for me to mention—something that does not depart very much from the standard frame, neat in appearance, and effective in action. I am aware of several firms who do fit a very satisfactory rear-springing arrangement to their machines, but more important colonial requirements are missing. Immediate success awaits the maker whose machine embodies all these points, for such is what Australia wants.

S.L.B.

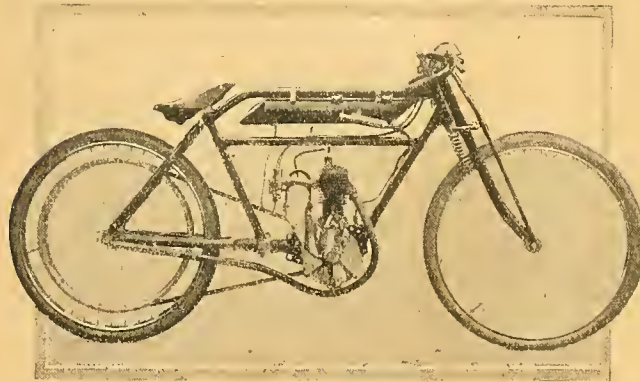
The Last Brooklands Meeting of the Year.

THE MOTOR CYCLE RACE.

THE last meeting of the season was held on Wednesday of last week in cool, damp, and dull weather. The one motor cycle race was run off early in the afternoon, fortunately while the weather was fine. The event was down on the programme as the Fourth Long Motor Cycle Handicap, distance about $8\frac{1}{2}$ miles (fork start). The machines had to pass the fork twice and then enter the straight. The entrant of the winner to receive 10 sovs. or cup at option; the entrant of the second 5 sovs. or cup at option; and the entrant of the third 3 sovs. or cup at option.

Several of the competing machines possessed interesting features. For example, Schmidt's N.S.U. was fed by a Claudel-Hobson carburetter, car size. D. C. Bolton rode a machine which was erected at his uncle's private workshop, and was fitted with a special short stroke J.A.P. engine. Pollard rode a Quadrant with a flat belt; and Slatter's Alcyon was fitted with a C.A.P. carburetter.

Thanks to the kindness of Mr. A. V. Ebbelwhite, we were given a lift on the B.A.R.C. Sizaire to the starting-point, whence the start and the first and second lap performances could be witnessed. D. C.



A REAL LIGHTWEIGHT.

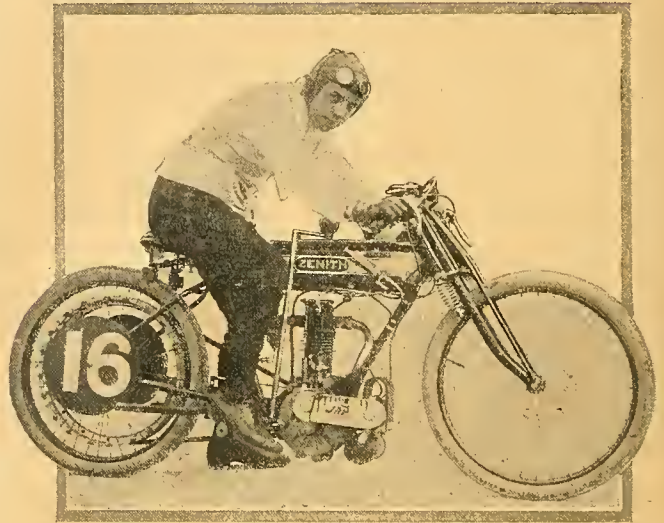
D. C. Bolton's home-made racer, which is fitted with a 1 h.p. J.A.P. engine.

Bolton failed to start, and lost much time in coming back for a second attempt; Pither (Rudge) shed his belt at the outset; and Schmidt (N.S.U.) failed to get under way. At the end of the first lap, Slatter led by about a mile, Powell rode second, and the remainder flashed past as follows: D. C. Bolton, Weatherilt, Hands, Pollard, Oldman, E. J. Bolton, Winfield-Smith, Slaughter, Hill, Martin, Johnson, C. R. Collier, Godfrey, and H. A. Collier.

The second lap order was considerably changed. Weatherilt led, followed by Hands, Pollard, Oldman, Martin, Winfield-Smith, Powell, C. R. Collier, D. C. Bolton, Hill, Godfrey, H. A. Collier, and E. J. Bolton.

Slatter was going so well at the end of the first lap that he appeared to be certain for a place at least, but a broken belt put him out of the running.

C. R. Collier had a stiff task to overhaul everybody from scratch, but his now famous chain-driven Matchless travelled at a splendid speed, and the winner



H. W. Hands (2½ h.p. Junior T.T. Zenith-Gradua) winner of the $8\frac{1}{2}$ miles handicap at a speed of 55½ m.p.h.

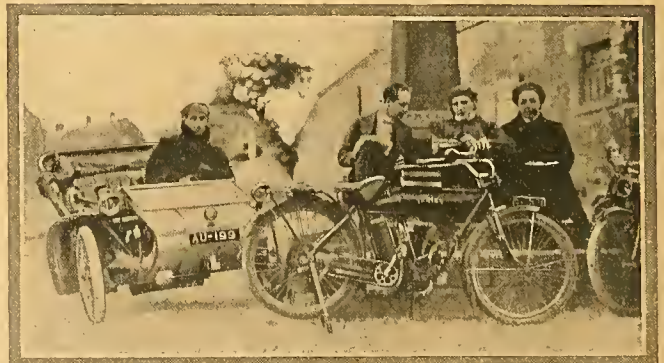
was the only competitor he did not pass. The final result was as follows:

Rider, cylinder, and machine	Bore and stroke.	c.c.	Start M. S.
1. H. W. Hands (1 cyl. Zenith-Gradua) ...	76 x 65.5	299	2 45
2. C. R. Collier (2 Matchless) ...	90 x 78.5	998	—
3. P. Weatherilt (1 Zenith-Gradua) ...	76 x 65.5	299	2 45
4. O. C. Godfrey (2 Indian) ...	82.5 x 93	998	6
5. H. A. Collier (2 Matchless) ...	90 x 77.5	984	6
6. H. Martin (2 Martin-Jap.) ...	76 x 55	498	2 24
7. W. O. Oldman (1 Zenith-Gradua) ...	85.5 x 85	488	2 24
8. W. Pollard (1 Quadrant) ...	81 x 88	453	2 45
9. G. Hill (1 Rudge) ...	85 x 88	498	1 51
10. E. J. Bolton (1 Martin-Jap) ...	76 x 65.5	299	2 36
11. D. C. Bolton (1 Bolton-Jap) ...	60 x 53	150	5 30

The success of the Junior T.T. Zenith will be noted.

The winner's speed was 55.5 m.p.h.

Some splendid flying was witnessed during the afternoon, despite two heavy showers. First Pixton battled with half a gale of wind, and then later, after the wind had dropped, five aeroplanes were at times in the air at once.



Group of Nottingham and District M.C.C. officials at the Old Cross, Crick, Derbyshire. Left to right they are R. E. Massey, J. King (sec.), and H. W. Gardiner.

QUALITY STILL TELLS!



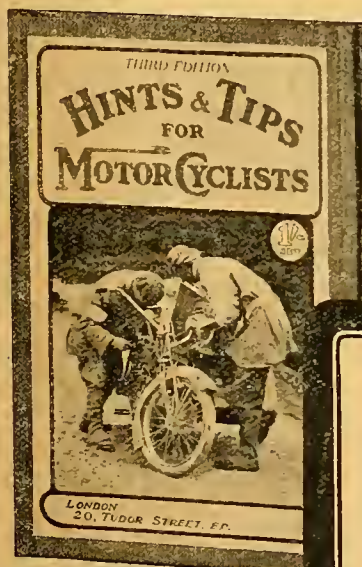
MARVELLOUS RECORDS

—ON—

PRATT'S PERFECTION MOTOR SPIRIT

At Brooklands, Oct. 3rd, Mr. Stanhope Spencer,
on Rudge-Whitworth Motor Cycle, set up the
following records on Pratt's Perfection:—

Flying 5 miles	-	4 minutes 33 $\frac{3}{5}$ seconds.	1 hour	-	-	-	65 miles 803 yards.
" 50 "	-	45 " 34 $\frac{1}{6}$ "	100 Miles	-	1 hour 34 minutes 8 seconds.		
		2 hours	-	-	122 miles 210 yards		
Sidecar Record, with passenger, for one hour			-	-	40 miles 1,660 yards.		



SPECIAL NOTICE to READERS of "THE MOTOR CYCLE."

A NEW EDITION of this USEFUL BOOK IS NOW READY.

EXTRACT FROM PREFACE TO THIRD EDITION.
In thanking the Press and Public for the kind reception accorded to the two previous editions, I desire to explain that the present (3rd) edition contains many minor alterations, and two main additions. The first is a radical revision of the sections referring to chain transmission. . . . The second is a special section devoted to the Scott two-stroke engine.

ROAD RIDER.

¶ Crammed with valuable information and useful "wrinkles"—which represent the experience accumulated in years of riding and by intimate association with the sport and pastime from its early days—this book will prove helpful to every user of a motor cycle. Nearly 400 Hints and Tips are given, and reference is rendered simple by marginal sub-titles and a copious index.

Price 1/-

By post, 1/2

*Small enough for your pocket or valise, yet big
enough to help you out of numberless difficulties.*

Obtainable of all leading Booksellers and Railway Bookstalls, or direct (with remittance) from Iliffe and Sons Ltd., 20, Tudor Street, London, E.C.

In answering these advertisements it is desirable to mention 'The Motor Cycle.'

ARIEL MOTOR CYCLING SUIT

Double-breasted Jacket, made in strong cashmere to twill lining. Rubber proofed. Will keep out the heaviest rain indefinitely. Fitted with wind cuffs, wrist tabs, non-conductors. Stock sizes, 36in. to 44in. chest.

CENTAUR OVERALLS.

Fitted with V-shaped wind shield and fastened with patent spring clasps. Stock sizes, 28in. to 32in. inside leg measurements.



THE MANOR BELT.

is a great favourite with motor cyclists. Can be supplied any length up to 9ft., and in four sections: 1/2 in., 1 in., 1 1/2 in., and 2 in. Your local agent will show you one.

Appearance, Comfort, Serviceableness
are factors that have popularised

DUNLOP

MOTOR CYCLE CLOTHING.

The above illustration represents the Ariel Motor Cycling Suit. It is designed at the suggestion of practical motor cyclists, who are thoroughly *au fait* with riders' requirements.

Among the hundred and one other seasonable requirements in the DUNLOP range are leather suits, leather vests, leggings, caps, driving gloves, goggles, etc. All described in our booklet, which will be sent on request.

THE DUNLOP RUBBER CO., LTD., MANOR MILLS, ASTON, BIRMINGHAM.

Home Depots:

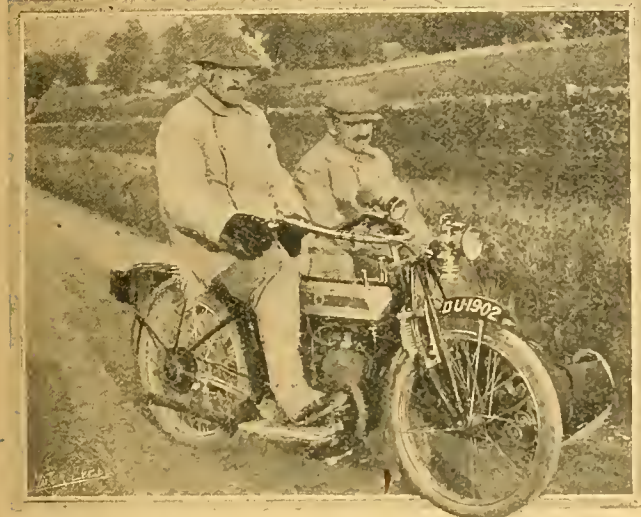
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In answering this advertisement it is desirable to mention "The Motor Cycle"

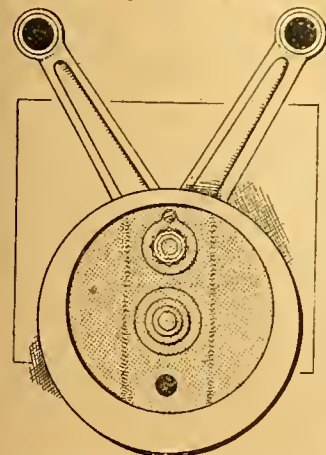
A Run on the 1912 Rex Sidette.

A FEW days ago we had an opportunity of an extended trial of a new 6 h.p. twin-cylinder motor bicycle and sidecar, which the Rex Motor Manufacturing Co. have introduced for next year, the engine bore and stroke of which are 77.5×95 mm. = 896 c.c. When we took the machine over it was with the idea of testing it on some of the steepest hills in the Midlands; we therefore directed the steering wheel towards the Cotswold Hills, where there are some famous banks which are calculated to try the hill-climbing capabilities of any motor cycle.



The 1912 6 h.p. Rex Sidette with its load of 24 stones near Stow-on-the-Wold.

Leaving Coventry, we were soon in Stratford-on-Avon, and were agreeably surprised to find that the machine, with a combined weight of 25 stones, would ascend a short steep gradient outside Stratford called Bardon Hill on top gear of $4\frac{1}{2}$ to 1. Continuing to Broadway, the left hand turn was taken to Winchcombe. There are several short hills on this route which the machine took in its stride, but we quite expected to have to drop the gear on the long ascent from Winchcombe to the top of Cleve Hill, which overlooks the lovely Severn Valley. However, a change down was unnecessary, although there are some awkward bends where cutting out is practically imperative if one is driving with consideration for other road users and one's own safety. The view from the top of Cleve Hill is very beautiful, and on the particular morning in question the whole of the valley was bathed in sunlight and there was not a cloud in the sky.



Novel flywheel balancing on all Rex engines. The rim is cast eccentrically on the discs, and is claimed to provide a better balance and higher speed.

The descent to Cheltenham only occupied a few minutes, and the sidecar and its passengers were soon on the way to Birdlip *via* Leckhampton. However, the guide proved inaccurate, and eventually we found ourselves on the road to Cirencester. A signpost pointing to Cowley caused a halt and an investigation, when we discovered that we had taken the wrong road out of Cheltenham. Leckhampton Hill is a continuation of the Bath Road, and to get to it the best way is to pass

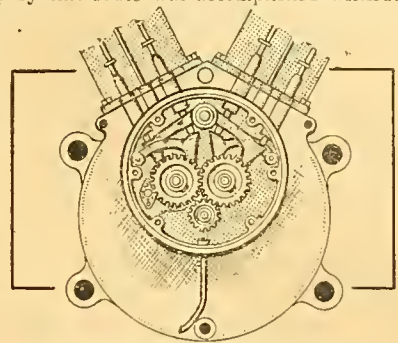
Stretton's Garage. However, we retraced our steps to Seven Springs, and passing the Air Balloon (a public-house), soon found ourselves at the Royal George Inn. The gradual ascent to the top of Birdlip by this route was accomplished without a change of gear, and although it may not be a startling performance, it is a very sufficient proof that the engine does not overheat and has an ample reserve of power.

The Ascent of Birdlip Hill.

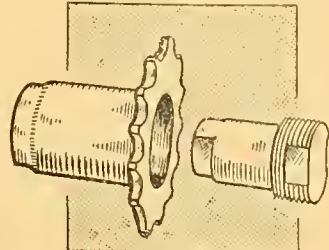
After lunch and witnessing some car trials, and the ascent of Birdlip by Miss Hough on a $2\frac{3}{4}$ h.p. two-speed Douglas, we descended the hill

and made an ascent without a falter. As we expected, the gradient at the Knap brought the low gear into requisition, and although the high gear was tried just beyond, the engine speed was too slow and the gradient too steep to enable it to be employed. The low gear of 9 to 1, however, brought the combined weight up the hill without an effort; in fact, there was a big reserve of power for a steeper gradient had it been there. Again descending Birdlip, we tackled the hill from the foot to the Air Balloon; this turns off from the Birdlip-Gloucester Road to the right, and is called Crickley Hill. This is not an easy climb, but, of course, not the equal of the direct road over the Cotswolds to Birdlip village. The journey home *via* Stow and Moreton was accomplished without incident, except that the high speed clutch had a slight tendency to slip, which was afterwards found to be due to a brass lever having slightly given way.

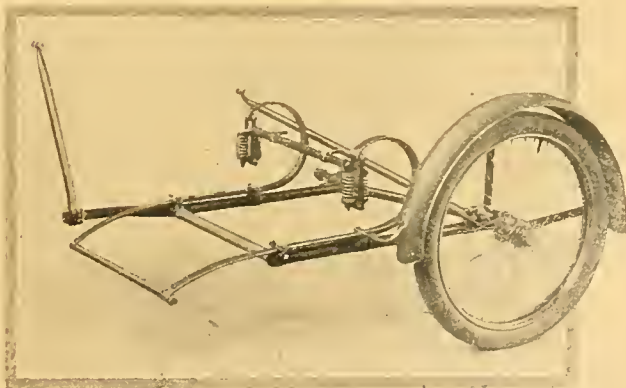
For 1912 the Rex Motor Mfg. Co. will list the following models: $3\frac{1}{2}$ h.p. single and 6 h.p. twin, both with fixed gear, cone clutch, or two speeds; and the Sidette with twin engine and two speeds. There will, therefore, be in all seven models, but only two different sized engines. This simplifies manufacturing operations, and yet enables practically any motor cyclist to make a suitable selection.



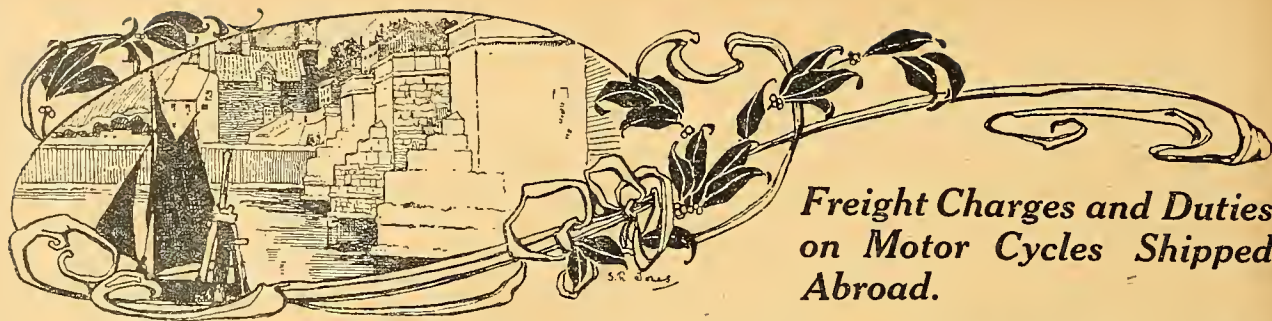
Rex timing gear, showing side-by-side valves. Both inlet and exhaust valves are operated by the same cam.



Lock nut on magneto armature-shaft. When reversed and screwed inside recess of sprocket it locks against end of shaft and withdraws sprocket.



The sidecar body springing. Observe the arrangement of coil and leaf springs. The seat suspension is most comfortable.



Freight Charges and Duties on Motor Cycles Shipped Abroad.

IN our issue of February 19th, 1908, we published some particulars relating to the cost of shipment of motor cycles from England to colonial and foreign ports. This information was greatly appreciated by our readers—so much so, indeed, that when we decided to bring out the present special Overseas issue we resolved to publish not only the revised rates and duties for the places previously dealt with, but to give them for practically every country in the world where motor cycles are likely to be sent. We very frequently receive enquiries from our readers for information of this kind, and the accompanying table of rates, etc., should therefore prove useful to many who may contemplate sending or taking machines abroad. The date of the issue containing this table should be noted, and the paper kept handy for reference purposes.

Messrs. Davies, Turner, and Co., Ltd., the old-established foreign carriers and underwriters, of 52, Lime Street, London, E.C., supplied us with the particulars which we published on February 19th, 1908, and the same firm has been good enough to furnish us with the very valuable information which

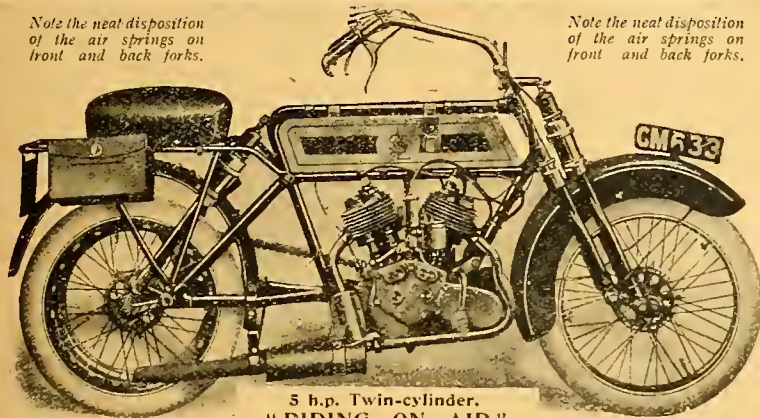
we publish this week. Readers should note that on the receipt of exact measurements and weight. Messrs. Davies, Turner, and Co., Ltd., can generally quote more advantageous terms than those given in the table. They will also supply, on application, details of the instances where the consular charges are extra (these items are marked by an asterisk in our table), and also particulars of the cases where second-hand motor cycles can be sent duty free. We might point out that the prices given are for one machine, as, of course, it is unusual and generally inadvisable for more than one motor cycle to be packed in a single crate. Therefore, to arrive at the cost of freight, duty, etc., on more than one machine, it will, in practically every instance, be only necessary to multiply the price given, by the number of machines to be sent to the same place.

The prices given are for carting, packing, and shipping a motor cycle, when the bulk of the case does not exceed 25 cubic feet and the total weight 3 cwt. The rates are those at present in force, but it should be noted that they are liable to alteration, without notice, at any time.

Name of Country to which the Rates and Duties apply.	Cost of Cartage in London within 4 mls. of the Bank, packing in Cases, Dock Dues, Shipping and Freight per Motor Cycle.	These Duties are compiled from Official Sources, but without Responsibility. % = per centum <i>ad valorem</i> .	Name of Country to which the Rates and Duties apply.	Cost of Cartage in London within 4 mls. of the Bank, packing in Cases, Dock Dues, Shipping and Freight per Motor Cycle.	These Duties are compiled from Official Sources, but without Responsibility. % = per centum <i>ad valorem</i> .
ANTIGUA St. John's	£ s. d. 2 15 6	13½ %	BULGARIA Sofia	£ s. d. 3 12 3	£3 1s. per cwt.
ARGENTINE REPUBLIC Buenos Ayres	3 2 0	£5 8s. each motor cycle*	CANADA Halifax, N.S.	2 5 6	30 % but if imported from the United Kingdom accompanied by a preferential certificate that the cycles are of British manufacture 20 %
AUSTRIA-HUNGARY Trieste	2 6 0	£2 10s. each motor cycle	Montreal	2 5 6	
AUSTRALIA Adelaide	2 12 0	British manufacture, 25 % Foreign manufacture, 30 %	Quebec	2 5 6	
Brisbane	12 0		St. John's, N.B.	2 5 6	
Fremantle	15 6		Vancouver, B.C.	2 14 9	
Hobart (Tasmania) ..	15 6		Victoria, B.C.	2 14 9	
Launceston (Tasmania)	15 6		CEYLON Colombo	2 5 3	5½ %
Melbourne	12 0		CHINA Hong-Kong	2 17 3	Free
Sydney	12 0		Shanghai	3 0 6	5 %
BAHAMAS ISLANDS Nassau	2 17 9	5/- each motor cycle	CYPRUS Larnaca	2 9 0	10 %
BARBADOES Bridgetown	2 5 3	10 %	DENMARK Copenhagen	1 19 0	£1 13s. 10½d. per cwt.
BELGIUM Antwerp	1 11 0	12 %	DOMINICA Roseau	2 15 6	12½ %
Brussels	1 13 3		EGYPT Alexandria	2 1 9	8 %
Ostend	1 10 3		FIJI Suva	3 6 3	12½ %
BERMUDA	2 17 9	5/- each motor cycle	FINLAND Helsingfors	2 2 0	£1 4s. each motor cycle
BRAZIL Bahia	3 17 6	25 %, or £3 15s. each motor cycle	Hango	2 2 0	
Rio de Janeiro	3 10 6				
Santos	3 8 9				

Note the neat disposition
of the air springs on
front and back forks.

Note the neat disposition
of the air springs on
front and back forks.



5 h.p. Twin-cylinder.
"RIDING ON AIR."

THE 'A.S.L.' MOTOR CYCLE

One client writes:

"After a full season's riding on one of your 3½ h.p. motor cycles, I feel I ought to tell you how absolutely satisfied I am with same. The beautiful manner in which the air springs absorb the road shocks make it a machine that the most liverish person could ride."

Another writes: "I feel convinced that anyone who tries your A.S.L. machine will never ride any other."

MADE IN TWO MODELS: 3½ h.p. single-cylinder, 5 h.p. twin-cylinder.

Stand No. 103, Cycle & Motor Cycle Exhibition, Olympia.

Full particulars post free on request.

A.S.L., Ltd., Corporation Street, STAFFORD.

Telephone: 156, Stafford. Telegraphic Address: "Airsprings, Stafford."

is not an untried
novelty, proof of
which is best
demonstrated by
the many testi-
monials which con-
stantly reach us.

C.D.C.

The Autocar

FOUNDED 1895.

Although devoted to the interests of the car owner, motor cyclists will find much to interest and instruct.—It is not a long step from the motor cycle to the small car, and small car talk is a permanent feature in "The Autocar."

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PAPER,
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PAPER,
1d.

— EVERY FRIDAY —

HUNTS Ltd.

The City & West End Motor House
117, LONG ACRE, LONDON, W.C.

RELIABLE ACCESSORIES AT
London's Lowest Prices



"ANTARNISH."

A non-greasy, weather-proof and INVISIBLE Lacquer for applying to the plated parts of Motor Cars, Cycles, etc., and also to bare clean steel, brass, or any other metal.

Price per tin, 9d. Postage 2d.



"COVEROLE."

For Repairing Leaky Petrol Tanks, Pipes, Unions, etc.

DIRECTIONS:

For Worn Unions.—Paint the treads and cone liberally with Coverole, screw up tightly and give a final application to the outside.

Price 1/-. Postage 2d.

For Cracked Pipes, &c.—Smear a piece of paper, canvas, tape or similar material with Coverole, and wrap tightly round the pipe.



"ROSCO"

CYLINDER PAINT.

Keeps the engine cool, prevents overheating, produces a smooth dead black surface. Unaffected by heat or water.

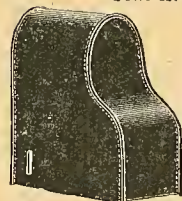
Price per tin, 6d. Postage 2d.



THE HUNT MAGNETO AND ENGINE PROTECTOR.

For fixing in front of engine, and thereby protecting engine and magneto from mud and dirt. In solid leather, both sides enamelled black.

Price 4s. 6d. Postage 4d.



THE HUNT MAGNETO COVER.

Manufactured of best patent leather, far superior to rubber as it does not crack or perish. Will fit all types of magnetos.

Price 2/3. Postage 2d. extra. Protects the magneto from dust, dirt, rain, etc.

THE NEW MODEL MUD PROTECTOR, With Side Wings.

Manufactured of best patent leather, strengthened with iron supports. It is attached by means of thumb screws to front mudguard, and can be fitted to any make of machine in one minute; protects both rider and motor from all dust and mud thrown up by the front wheel.

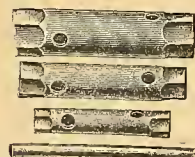
Price 5/-. Postage 4d. extra.



SPECIALLY PREPARED REPAIR BANDS.

For use on outside of cover after same has burst or been gashed. The outside edges are tucked inside rim, i.e., between rim and cover.

Price 1/-. postage 2d.



Motor Cycle Box Spanners.

Containing six sizes, with tommy. English manufacture. Guaranteed.

Sizes 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/2 in. Price 2/6 set, postage 3d.

THE "HUNT" REGD. COAT.



This coat is essentially a storm one. From the collar, where the opening is started under a watertight pocket, to the bottom the fastening is cut on a curve, so as to fall perpendicularly and down the side of the wearer when riding. This excludes the severest head storm, and gives the user a coat the equal of the leaved poncho without its disadvantages. Pockets are placed not on the hips, where but little can be carried, and with inconvenience, but on the chest. The large one is pleated, and takes Bartholomew's 3in. scale motor map, and has a small cash pocket within. On the other side is a smaller pocket, suitable for a "vest" screw-driver and minor tools. The contest and trials rider will find this coat a boon, for by means of the push buttons used it can be fastened and adjusted while riding, notwithstanding the thickest gloves being worn.

Manufactured of Double Texture Paramatta, thoroughly waterproof, fitted with collar, wind and rainproof sleeves, ventilated under arms. Best guaranteed proofing. Length 58in. Stocked to fit chest 40in., 42in., 44in. (outside measurement).

PRICE, quality No. 1, 40/-. Quality No. 2, 25/-.

The Hunt North Road Overalls, suitable for wearing with the above coat.



Manufactured of Double Texture Paramatta, thoroughly waterproof.

PRICE, quality No. 1, 24/- per pair.

" " " 2, 16/6 "

" " " 3, 13/6 "

THE HUNT DRIP FEED LUBRICATOR.



For inserting in existing oil pipe. Adjustable to any number of drips. Oil can be forced through by pump if desired.

Price (plated) 5/6, postage 3d.

The Hunt

Valve Spring Remover.

By means of the compound action the stoutest spring is easily raised by a slight turn of the winged nut, leaving both hands free.



Price, 2/6 post free.



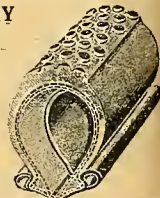
THE HUNT HELLESEN DRY CELL.

No corroding terminals. No acid. No charging. Always ready, clean, and dry. The "Flash," Height 6 1/2 x 4 1/2 x 2 1/2 in. Approx. mileage, with single-cylinder engine, 1500. Price 6/6. The "Flight" ditto. Height 5 1/2 x 5 1/2 x 2 1/2 in. Price 6/6. The "Midget" emergency ditto. Height 5 1/2 x 4 1/2 x 1 1/2 in. Will run approx. 300 miles. Price 4/4. Postage 6d. extra.

IMMEDIATE DELIVERY

of Motor Cycle Tyres. All standard sizes stocked. Clincher A Won, rubber-studded, 26 x 2, 33/-; tube 11/-, 26 x 2 1/2, 35/-; tube, 11/-, London Agents for Continental Tyres. All standard sizes stocked. Standard patt. 26 x 2 2/4, tube 9/-, 26 x 2 1/2 2/9, tube 10/9, 26 x 2 1/2 3/2, tube 11/6.

Continental Rubber Non-skids, 26 x 2 3/2, 26 x 2 1/2 4/9, 26 x 2 1/2 4/9. Continental combination rubber and steel-studded, 26 x 2 1/2 8/1, 26 x 3 11/10. Rom combinations, rubber and steel studded non-skids, 26 x 2, £2 12s. 26 x 2 1/2, £2 15s. 26 x 2 1/2, £2 17s. 6d.

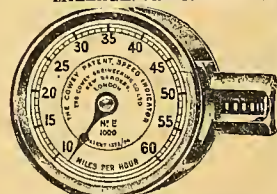


THE HARTFORD ROUGH RIDER GRIPS.



The ideal grip for motor cycles. Made of stout studded rubber. Only half the handle is fixed to the rigid bar, the end remaining free. This gives a grip which completely absorbs the slightest vibration and for long non-stop runs will be found a perfect boon. Size 7/8 in. or 1 in. Price per pair, 4s. Postage 3d.

THE COWEY SPEED INDICATOR AND MILEAGE RECORDER (Guaranteed).



Registers a speed up to 60 miles per hour. Mileage recorder registers up to 10000 miles, then automatically starts again. The indicator can be easily attached by any motorist, and once fitted requires no attention or adjustment whatever. It will continue to render good service as long as it is attached to the cycle, for it is constructed throughout of the best and most suitable materials by expert British mechanics at Kew Gardens. Price, in Nickel, 84/-, carriage paid.

THE "ACME" WATCH AND CASE.



These Watches are constructed to stand vibration. Each watch guaranteed for twelve months. To clip on handle-bar. Very neat. Made in Aluminium. Complete with Ingersoll Watch.

Price 8/6, postage 2d. Case only, 3/6.

THE "PATCHQUICK" REPAIR OUTFIT.

Motor cyclists will find this equipment a boon and a blessing, and will save themselves much leg-aching and heart-breaking by being able to repair their worst punctures, etc., within five minutes.

Price 3/-. post free.



Illustrated Catalogue sent gratis and post free.

In answering this advertisement it is desirable to mention "The Motor Cycle."

Freight Charges and Duties on Motor Cycles Shipped Abroad.

Name of Country to which the Rates and Duties apply.	Cost of Cartage in London within 4 mls. of the Bank, packing in Cases, Dock Duties, Shipping and Freight per Motor Cycle.	These Duties are compiled from Official Sources, but without Responsibility. % = per centum <i>ad valorem</i> .	Name of Country to which the Rates and Duties apply.	Cost of Cartage in London within 4 mls. of the Bank, packing in Cases, Dock Duties, Shipping and Freight per Motor Cycle.	These Duties are compiled from Official Sources, but without Responsibility. % = per centum <i>ad valorem</i> .
FRANCE	£ s. d.		NIGERIA	£ s. d.	
Bordeaux	1 19 6	£4 9s. 5d. per cwt.	Lagos	3 4 9	Free
Boulogne	1 11 9		NICARAGUA		
Marseilles	1 12 3		Corinto	4 6 6	If declared on invoice and b/l as "automovil" 7½d. per kilo, if declared as "bicicleta" 1/10½ per kilo.*
Paris	1 10 9		NORWAY		
GERMANY		Weighing each 50 kilos. (about 1 cwt.) or less, £2 9s. 11d. per cwt.; over 50 kilos. (about 1 cwt.) and up to 100 kilos. (about 2 cwt.) £1 17s. 6d. per cwt.; over 100 kilos. (about 2 cwt.) and up to 250 kilos. (about 5 cwt.) £1 15s. per cwt.	Christiania	1 19 0	£1 13s. 4d. each motor cycle
Bremen	1 17 0		PERU		
Hamburg	1 13 3		Callao	3 9 3	3/- per kilo.
GREECE			PORTUGAL		
Piræus	1 18 3	10%	Lisbon	1 18 3	£11 5s. each motor cycle*
GOLD COAST		Free	ROUMANIA		
Accra	3 8 0		Bucharest	3 16 9	Under 100 kilos. (or about 2 cwt.), £1 16s. 7d. per cwt.; between 250 kilos. (about 5 cwt.) and 100 kilos. (about 2 cwt.), £1 10s. 6d. per cwt.
Cape Coast	3 8 0		RUSSIA		
GRENADA	2 14 3	10%	St. Petersburg	1 18 0	With 2 wheels, £2 2s. 3d. each With 3 wheels, £7 7s. 9d. each With 4 wheels £14 15s. 7d. "
GUATEMALA		12½% plus 5% on the amount of duty leviable	NEVIS		
San Jose	4 6 6		Charlestown	2 16 9	11%
GUIANA (British)		45%	SAINT LUCIA	2 15 6	15%
Demerara	2 8 6		SAINT VINCENT	2 15 6	10%
HAWAII	3 2 6	8¼ each motor cycle*	SERVIA		
HAYTI	4 0 3		Belgrade	3 3 3	12%
HOLLAND		5%	SIAM		
Amsterdam	1 12 0		Bangkok	2 17 3	3%
Rotterdam	1 9 6		SIERRA LEONE	3 4 9	10%
HONDURAS (British)		12½%	SPAIN		
Belize	2 19 3		Barcelona	2 1 9	£6 2s. per cwt.*
INDIA		5%	Bilbao	1 18 3	
Bombay	2 1 9		Gyjon	2 1 9	
Calcutta	2 2 1 9		Santander	1 18 3	
Karachi	2 2 1 9		SOUTH AFRICA (British)		
Madras	2 2 1 9		Capetown	2 13 9	15%, but if accompanied by certificate that the cycles are of British manufacture 12%
ITALY		£3 1s. each motor cycle	Delagoa	3 0 6	
Genoa	1 12 3		Durban (Natal)	2 19 0	
Leghorn	1 12 3		East London	2 18 3	
Naples	1 18 3		Port Elizabeth	2 13 9	
JAPAN		10%	STRAITS SETTLEMENTS		
Kobe	2 19 0		Penang	2 13 9 1	Free
Yokohama	2 19 0		Singapore	2 13 9 1	
JAMAICA		16½%	SWEDEN		
Kingston	2 5 3		Stockholm	1 19 0	15%
LIBERIA		12½%	Gothenburg	1 19 0	
Monrovia	3 8 0		SWITZERLAND		
MONTSERRAT		13½%	Basle	1 16 0	£1 4s. 5d. per cwt.
Plymouth	2 16 9		TRINIDAD		
MEXICO		£5 14s. 1d. per cwt.	Port of Spain	2 5 3	£2 10s. each motor cycle
Vera Cruz	1 18 3		TOBAGO	2 14 0	£2 10s. each motor cycle
MONACO		£1 9s. 5d. per cwt.	TURKEY		
Monte Carlo	2 11 6		Constantinople	1 18 3	11%
MOROCCO		12½%	U.S.A.		
Tangiers	2 0 3		Boston	2 5 6	15%*
MAURITIUS	2 7 3	12%	New York	2 5 6	
NEWFOUNDLAND		10%	Philadelphia	2 5 6	
St. John's	2 5 6		VIRGIN ISLANDS (Dan.)		
NEW ZEALAND		30%, but if of British manufacture accompanied by preferential certificate 20%	St. Thomas	2 18 9	10%
Auckland	2 12 0				
Dunedin	2 13 9				
Lyttleton	2 13 9				
Wellington	2 12 0				

* Consilage charges extra.

To find cubic measurement of a motor cycle when packed in a case, measure its greatest height, breadth, and length, add six inches to height and two inches to breadth and length for packing, and cubic contents = height × breadth × length.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Mansfield to Spalding.

Please let me know the best route for a motor cycle from Mansfield, Notts., to Spalding, Lincs. Are there any police traps to be avoided on the route?

Kindly let me know the distance between each town.—R.W.S.

Your best route would be as follows: Mansfield, Southwell (11½ miles), Newark (7½ miles), Grantham (14½ miles), Threkingham (12½ miles), Donington (7½ miles), Gosberton (3½ miles), Pinchbeck, Spalding (6 miles)—total, 63½ miles. Ride carefully from Bennington to Grantham.

Easy Starting.

My 1911 pattern lightweight is not a success for business, having to make frequent calls, as I cannot start it seated by pedalling except on a slope. However easy it may be I feel it impossible to get into the way of running with it and vaulting to saddle by pedal. What would you advise?—A.S.

Under the circumstances we should advise you to buy the lightest possible machine you can and start by pedalling, unless of course, you can have a free engine and change speed gear fitted to your present machine, which would allow the engine to be first started, and you could then start by engaging the low speed.

Vibration.

I am thinking of taking up motor cycling, and would be glad if you would answer these few questions: (1.) As I have been ill I want the cycle with the least vibration; in fact, I should like the vibration to be practically nil. Is there much difference in the vibration between the lightweight and the heavier class and between single and twin cylinders? (2.) Is it possible to go at five miles per hour on a 5 h.p. machine?—H.P.F.

(1.) As regards road vibration, we do not think there is much difference between the lightweight and the heavyweight, but a twin will give considerably less engine vibration. If you find starting a difficulty it would perhaps be better to go in for a lightweight machine. The great thing to do is to get a really comfortable saddle. (2.) Certainly; when a change-speed gear is fitted it is possible to travel at four miles an hour with a 5 h.p. engine.

Machine for Sidecar Work.

I propose changing my 6 h.p. Chater Lea-Jap single gear for some reliable two-speed or multi-gear machine. I want one that will take itself, sidecar and passenger up anything it is likely to come across, and I prefer a twin Jap engine. I also want one that will act as a solo mount when desired. The machines I fancy are Zenith 6 h.p., Matchless 6 or 8 h.p. two-speed, Bat-Jap 6 or 8 h.p. two-speed, or four-speed if it is possible to get it. Is the Zenith a thoroughly reliable machine, and can you get it to start by handle instead of requiring to run alongside of it? I simply cannot do with that run alongside, as I am a country doctor, and require to mount possibly twenty or thirty times a day.

From that you will see I must have a machine to start easily, by hand for preference. I very often use a sidecar, and I object to shed my passenger as I am obliged to do now sometimes. I will be glad if you will tell me what you consider the most reliable mount for the above purpose, and if it is better to wait till after the November Exhibition before doing a deal. One other thing. Do you prefer a chain or a belt drive? From your paper, the chain seems to be coming to the fore.—A.B.

All three machines mentioned in your letter are quite reliable, and, having the same engine, it is a question of personal choice. Perhaps it would be better to wait until after the Show before you make a purchase. Certainly, for sidecar work, we prefer chain transmission.

HILL-CLIMB AT STAINBORO' LOWE, OPEN TO MEMBERS OF THE NORTHERN LEAGUE.



The results of this contest, which was organised by the Doncaster and District M.C.C., are given on our club news pages.

October 2nd.

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Size.		Covers.		Tubes.	
		Standard.	Rubber N/S, Basket or Rubber Studded Pattern.	Endless.	Butted.
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Tel. Address: "Pneumique, London."

C. R. COLLIER on— Shamrock-Gloria Belts

Dear Sirs,

September 8th, 1911.

I beg to inform you that in my recent record rides, in which a speed of over 91 miles per hour was attained, the belt fitted to my machine was one of your standard Shamrock-Gloria lin., which gave me every satisfaction. I think it is most remarkable, and a fact which speaks well for the quality of your belts, that one of this section should transmit the enormous amount of power developed by this engine, which is something in the neighbourhood of 14 h.p. It will also be interesting for you to know that I have tried several other makes of belts on this machine, but could not find another one to stand up to the work it had to do. I also used the same section belt, and with the same success, in the recent T.T. Race, which event I should easily have won but for a silly mistake on my own part.

In conclusion, I am convinced that the S.G. is still by far the best belt on the market, and I take this opportunity of wishing you continued success.

Yours truly,

C. R. COLLIER.

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The world's best for all climates.

Used everywhere.

Send for full details of S.-G. Belts and S.-E. Tyres to

The Hanover Rubber Co., 29-31, Old St., City Road, London, England.

S. & H.

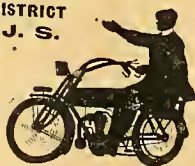
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Unaffected by oil.
1 in. x $\frac{3}{8}$ in.
1/7 per ft.



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LIGHTWEIGHT 2-SPEED
CHAIN DRIVE MOTOR
CYCLE. No belt troubles.

Just the right reliable kind
of machine wanted in the
Colonies. Lists free.



2½ h.p., 2-speeds, 44 GUINEAS.



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Fits in vacant space between carrier
and back mudguard. Handiest,
most useful, for Tool Kit and Long
Tools, 7/6.

TAYLOR'S RAIN & DUSTPROOF MOTOR CLOTHING FOR ALL CLIMATES.

Heavy North Road Jackets, double-breasted
with windcuffs £1 4 0
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Light and warm weatherproof
suits of very tough proofed
Mackintosh Jacket 0 18 9
Overall Leggings, with gussets at side 6 11
or suit complete, £1 5 6
Lightweight Mac Suits £0 19 3



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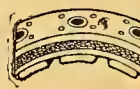
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1/6 1/9 2/-
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Telephone—10957 Central. Telegrams—"Dynametro, London."

Wanted, a Book.

? I am hoping shortly to get a motor cycle and sidecar, and (1) should be greatly obliged if you could tell me of any publication which would enable me to understand the workings of the engine, etc. It should be elementary and not too technical, as at present I am an ignoramus. (2.) I am told that the Bradbury, Scott, and Triumph are all good makes; is that so?—J.C.S.

(1.) What you require is "Motor Cycles and How to Manage Them" (1s. 2d. post free from 20, Tudor Street). (2.) The machines you mention are all very good and reliable in every way.

Engine Too Hot.

? I found some months back that my engine was only getting oil occasionally, owing to leather washer in the pump being worn. The result was I had to have it taken down and re-bushed. In spite of this the engine overheats, and appears to me to "hammer" along and make more noise than it should, and more vibration is felt than before the trouble. When I say the engine overheats, I will explain by saying that after a mile or two the crank case (upper half) is too hot to touch, as also is the throttle sleeve of the carburetter. Does this signify that the engine gets too hot? With regard to the carburetter, when a speed of about 25 miles has been attained the engine will take full air and about one-third throttle, but until this speed has been reached it will only take a little more air than throttle with the cut-out open. With the cut-out closed it takes rather less air than throttle if latter is about one-third open. Do you think (a) there is overheating; (b) I could cause any improvement by fitting a smaller jet; (c) is there any other cause for the overheating—could you make any other suggestion to improve the running? (d) Is it better to ride with cut-out open?—M.D.

We have carefully considered the symptom described, but cannot see that this directly points to overheating, but only to the engine getting somewhat hot. The unmistakable signs of overheating are pre-ignition and a slowing down of the engine, which results finally in a complete stoppage. The lubrication seems to be about right.

With regard to the behaviour of your carburetter, this is quite as it should be, except that still more air should be taken at a high speed. It is worth experimenting with a smaller jet, especially in the hot weather. Of course, it keeps the engine cooler to run with the cut-out open, but it is most annoying to other road users.

Preston to Ruthin (Wales).

? I intend riding to Ruthin (in Wales) shortly. Would you kindly give me the best and most direct route from Preston and the mileage?—P.M.S.

Your best route would be as follows: Preston, Ormskirk, Liverpool, by ferry to Birkenhead, then through Eastham, after which you take the first important road fork on the right, and go through Mold to Ruthin. The distance is approximately sixty-four miles.

Two-speed Gears.

? Will you please tell me whether there is any reliable two or three-speed gear which could be easily fitted to a free engine Triumph motor bicycle?

I do not wish to fit anything that is not thoroughly reliable.—C.W.K.

The following could be fairly easily fitted: N.S.U., N.S.U. Motor Co., 186, Great Portland Street, W. Armstrong Three-speed, Armstrong Three-speed Gear Syndicate, Ltd., Icknield Street, Birmingham. Millennium, Lake and Elliot, Ltd., Albion Works, Braintree, Essex. The Gradua gear is made applicable to a Triumph, also the Roc conversion set is largely used.

Manchester-Tenby-London.

? Please give me the quickest route from Manchester to Tenby (South Wales) and from Tenby to London, together with the distances. I do not mind hills, but want good roads.—G.S.

The routes you require are: (1.) Manchester, Northwich, Chester, Wrexham, Oswestry, Welshpool, Newtown, Llandilo, Aberystwyth, Cardigan, Tenby—130 miles. (2.) Tenby, Carmarthen, Llandilo, Llandovery, Brecon, Abergavenny, Monmouth, Ross, Gloucester, Cheltenham, Andoversford, Northleach, Witney, Oxford, High Wycombe, Beaconsfield, Uxbridge, London—245 miles.

The Effect of a Fall.

? I shall be obliged if you will tell me how to remedy the defects mentioned hereunder, which have become apparent in my 1909½ 3½ h.p. Humber cycle since it sustained a bad fall some days ago. The machine when in its normal condition would always run well on quarter throttle and threequarter air, with ignition fully advanced. Since the spill, however, it is extremely difficult to start, will not start unless the spark is fully advanced, throttle wide open, and air shut off. When it gets going, it will not take any air at all, and when running on full throttle it very soon gets about red-hot if I allow it to run long enough. I find that if I keep on depressing the carburetter plunger when I am riding, the machine at once gathers speed, and will take air as formerly, but immediately I cease to do so, unless the air lever is at once closed, it stops directly until the air is shut off. Is it possible the petrol level in carburetter has become altered in the fall, with the effect of starving the jet? If so, how is it remedied?—A.M.P.

Your suggestion seems to be the correct one. Your best plan will be to get a new needle valve from Messrs. Brown and Barlow, of Birmingham, at a cost of 1s. You can raise petrol level by driving the collar on the needle towards the point.

EXPERIENCES WANTED.

Readers desirous of obtaining the experiences of others with various motor cycles or accessories must enclose a stamped addressed envelope in which the replies may be forwarded. Answers to the queries below should be addressed c/o The Editor.

"R.W.M." (Whalley). 3½ h.p. Zenith-Gradua.

"W.H.R." (Bury). T.A.C., particularly with regard to silence, reliability of gears, also for sidecar work; also Binks two-jet carburetter.

"G.S." (Ilford). Kempshall heavy non-skids on 3½ h.p. and sidecar.

"Novice" (Peterborough). 3½ h.p. two-speed Kerry Abingdon with a sidecar.

"B.D. 1192" (Northampton). 5-6 Bat-Jap, P. and M. gear and sidecar, petrol consumption, life of tyres, etc.

"F.T." (Hampstead). 3½ Zenith-Gradua with sidecar.

"S." (Perthshire). (1.) Eli mudguard (with speedometer). (2.) Chemico, F.R.S., and Brooks's backrests.

Members of the Walthamstow Motor Club who attended last week's run to Audley. Passenger motor cycles have always predominated at club runs of the Walthamstow members.



The Ubiquitous Motor Cycle.

A.C. tricarcs and sociables are in use in India, Mexico, the Straits Settlements, South Africa, Japan, Nigeria, Australia, and New Zealand, not mentioning most European countries.

New Appointments.

Mr. Harold Williamson, late sales manager of the Rex Motor Manufacturing Co., Ltd., is now engaged with Singer and Co., Ltd., of Coventry. His brother, Mr. W. Williamson, has also resigned his position as managing director of the Rex Co., and will shortly be heard of in another capacity.

Winter Riding Equipment.

The Service Company, of High Holborn, who make a point of anticipating the wants of motor cyclists, are introducing what promises to be a most useful addition to the rider's winter outfit. It is an overboot, and is in effect a knee-high boot minus the heel and the back part of the foot portion. The leg portion is divided down the back and fastens with patent clips. It affords ample protection to the whole of the foot and the leg from the knee downwards, and has the great merit of being easily slipped on or off.

Gear Lubrication.

The almost universal adoption of change-speed gears causes one to think that before long the method of lubricating the gears will have to be considerably improved. There is no reason why it should be necessary to remove a screw, plug, or similar device, and inject a pumpful of oil every two or three hundred miles. A first-class car gear is usually lubricated by means of an oil pipe, i.e., if the box be oiltight. A lead from the usual motor cycle oil pump with a two-way tap would overcome all difficulty, and although we recognise that it is very difficult to arrange in the case of epicyclic gears which revolve either with the hub or engine-shaft, it is comparatively easy with counter-shaft gears with a stationary box.



British Machines Abroad.

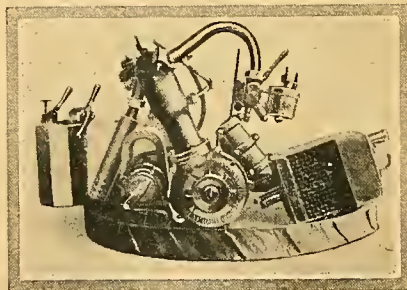
P. and M. two-speed motor cycles have been sent to all parts of the world, viz., Australia, New Zealand, Federated Malay States, South Africa, India, Ceylon, Nyassaland, Japan, Mexico, and South America.

A Double Spiral Piston Ring.

The Lehmann double spiral piston ring is manufactured by A. Binet et Cie, and sold by the City Ignition Co., 274a, Goswell Road, E.C. This ring consists of two spirals wound one above the other with one head only to each complete circle. The advantages claimed for it are that the ring having no interruption of continuity is absolutely gas tight and no pegs are required to prevent it turning round.

A Lightweight Power Unit.

Messrs. Leo Ripault and Co., 64a, Poland Street, Regent Street, W., are turning their special attention towards a motor set which can be attached to a



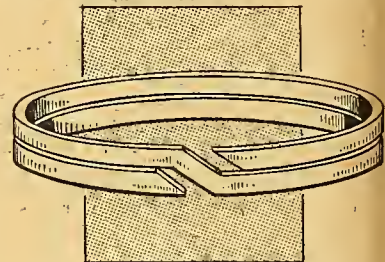
Herdtle-Bruneau engine set for a pedal bicycle.

pedal cycle. They guarantee that the Herdtle et Bruneau motor set, which we illustrate, enables a pedal bicycle to be converted into a motor bicycle with no alteration to the frame. The illustration shows one of these sets complete, consist-

ing of a 1½ h.p. water-cooled H. and B. engine, radiator, magneto, carburetter, tank, and belt pulley.

New Models on the Road.

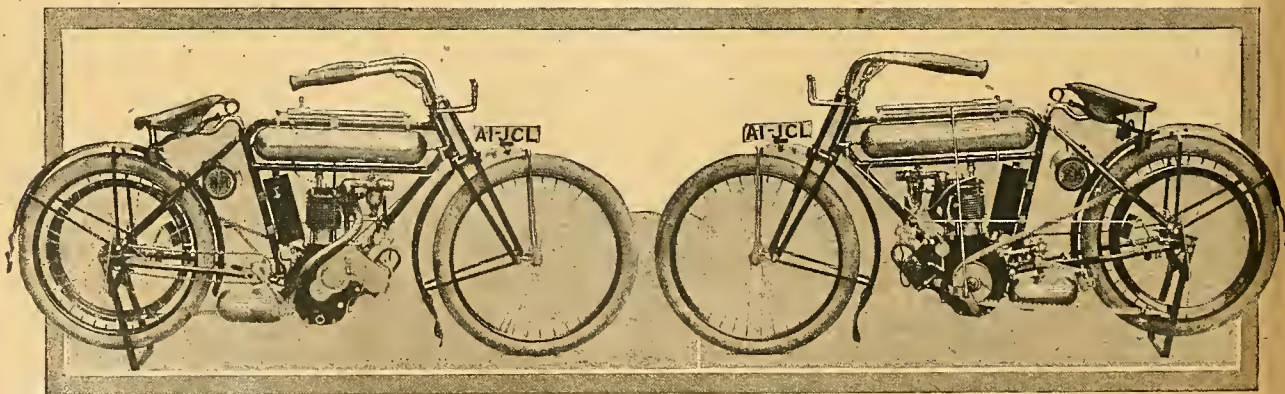
We saw the first couple of new model 3½ h.p. Humbers on the road last week, undergoing tests at the hands of those veteran riders, Bert Yates, and Sam Wright, who were both enthusiastic in their praises of the 1912 offset engine. They called upon us to demonstrate the utility of the half compression device, and it was indeed impressive to see Wright walking alongside his single-gear machine with the engine firing regularly at 4 m.p.h. The exhaust of the new Humber resembles the Triumph and the Rudge, but to the practised ear it is neither one nor the other.



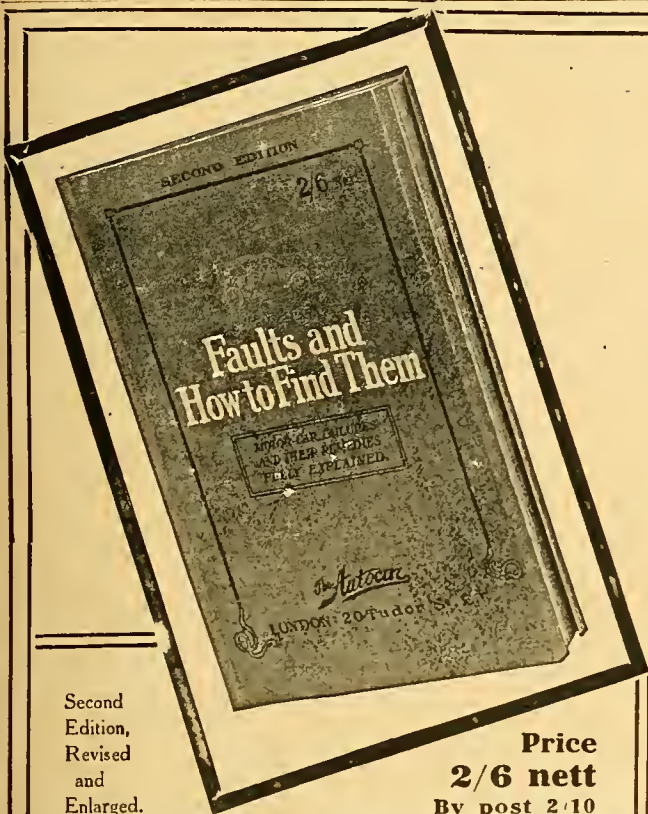
Lehmann's double spiral piston ring.

Lubricating Hubs and Clutches.

Is there any reason why the average motor cycle hub, with or without clutch, should be lubricated by means of an enlarged cycle lubricator in the centre of the hub barrel? Would it not be far better and more accessible to have lubricators on each side of the barrel, or make a screwed connection to the oil gun or squirt, so that, when it is screwed on to the pump and the oil injected, no leakage can occur? What usually happens now, unless one be very careful, is: the squirt is filled and the lubricator opened, the point of the squirt is inserted in the lubricator (so-called) and the plunger depressed, and unless great care be exercised the majority of the oil gets on the tyre cover and rim instead of in the hub. By the way, on one or two machines we have ridden it is an easier matter to inject oil into the hub clutch with the engine and belt rim running and the back wheel at rest. The revolving clutch parts seem to draw the oil in.



Both sides of the 4 h.p. single-cylinder M.M., a leading American mount represented in this country by J. C. Lyell and Co.



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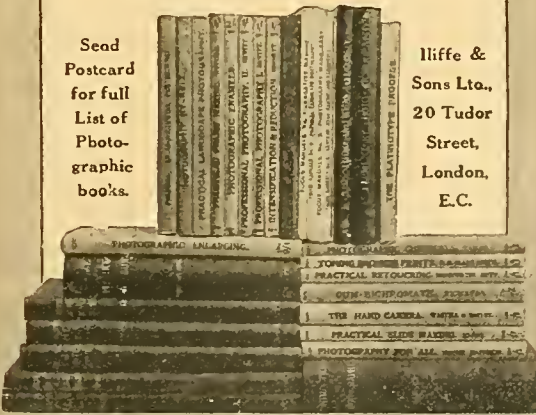
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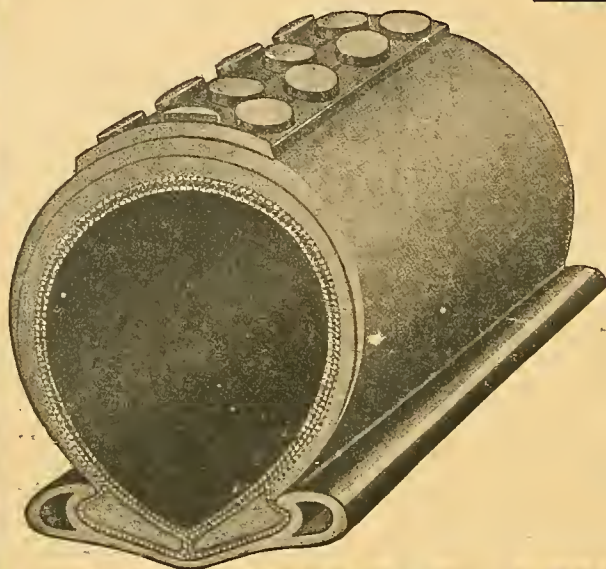
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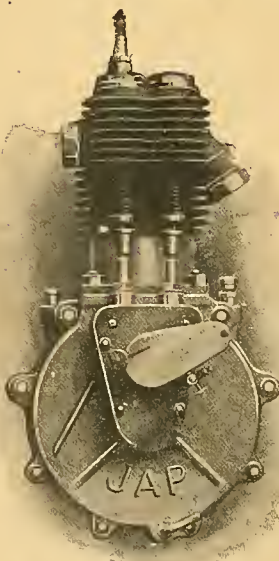
A CAR TYRE will not fit your rim. The only alternative is to fit a cover made on car tyre lines for a motor cycle rim. You also want something stronger than rubber on the tread. The tread should be of special hard steel studs that will not break off or pull out, and the casing should be specially re-inforced. Then you have an ideal tyre for your work. The maximum of strength for the minimum of weight. The tyre illustrated is made on these lines, and costs very little more than an ordinary rubber cover. You can have the same tread fitted to your own tyre.

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J.A.P. 2nd on formula—
S. T. Tessier on Bat-J.A.P.
J.A.P. 3rd on formula—
G. F. Hunter on Zenith-Gradua.
J.A.P. 1st on time—
F. W. Barnes on Zenith-Gradua.
J.A.P. 2nd on time—
G. F. Hunter on Zenith-Gradua.

J.A.P. 3rd on time—
S. T. Tessier on Bat-J.A.P.
Class 4.
J.A.P. 1st on formula—
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J.A.P. 2nd on formula—
T. H. Tessier on Bat-J.A.P.
J.A.P. 1st on time—
G. F. Hunter on Zenith-Gradua.
J.A.P. 2nd on time—
A. J. Butler on Zenith-Gradua.
J.A.P. 3rd on time—
F. W. Barnes on Zenith-Gradua.
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J.A.P. 2nd on formula—
G. F. Hunter on Zenith-Gradua.
J.A.P. 3rd on formula—
W. Oldman on Bat-J.A.P.
J.A.P. 1st on time—
G. F. Hunter on Zenith-Gradua.
J.A.P. 2nd on time—
F. W. Barnes on Zenith-Gradua.
J.A.P. 3rd on time—
W. Oldman on Bat-J.A.P.

J. A. Prestwich & Co., Northumberland Park, Tottenham, London, N.

Telephone—1936 (2 lines).

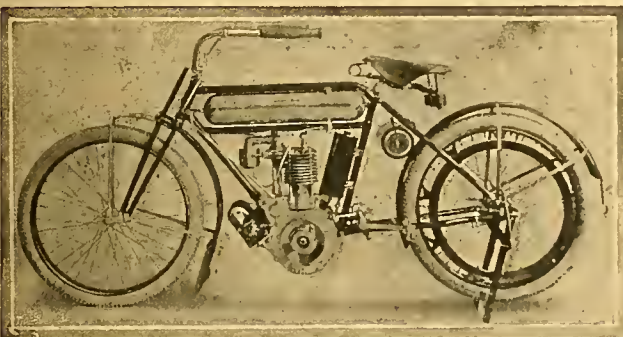
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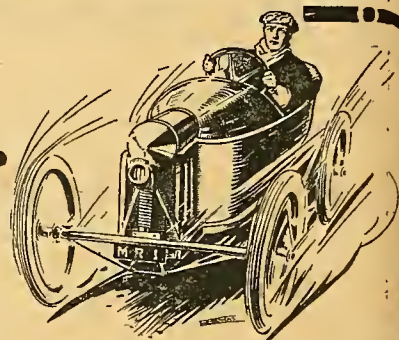
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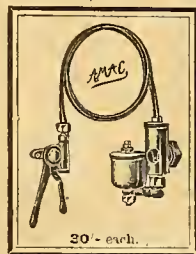
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Extract from "The Motor Cycle,"
Sept. 14th, 1911:

**The Inestimable Value of
the Speedometer.**

I notice many riders still
pursue the hobby without
the aid of a speedometer.

It is indispensable to the competition rider, for its readings tell him how he stands for both time and distance—the vital factors in the modern trial. It is equally indispensable to the private tourist, for it affords valuable information about engine tune, petrol consumption, state of one's tanks, and so on, besides guarding him against slowing down too little for a bad corner after a burst at high speed.

Nothing is more deceptive than dropping the pace after a sprint; the machine is invariably travelling much faster than one fancies, and most of the accidents at corners are due to this deception.

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THE MOTOR CYCLE

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1912 Competitions.

AN important meeting of manufacturers was held last week, when the question of next year's competitions was discussed. The outcome is that about twenty members have signified their willingness to sign a bond agreeing not to compete directly or indirectly in a Tourist Trophy Road Race next year, the arrangement to hold good for one year only. This, of course, means that if the event be held, the A.C.U. will be forced to look elsewhere for the major support in the way of entries, the biggest proportion of the entrance fees having been received from trade entrants in the past.

The members of the Manufacturers' Union who are prepared to abstain are not antagonistic towards racing, but they are of the opinion that the conditions of the Isle of Man races are not conducive to the best results, i.e., the perfection of a touring mount.

The suggestion which has already been published in these columns, viz., that the T.T. be held at Brooklands, would appear to meet with favour, because, provided the race be held under touring conditions, the majority of the makers would be willing to support a long-distance race at Brooklands.

Of course, the makers' decision may not prevent races similar to those held in 1911 being run again in the Isle of Man, but the A.C.U. will have to depend on private riders, and they will have to be real amateurs, not masqueraders, because the bond will provide for the "shamateur," and makers will be under a very heavy penalty if they are discovered to have subsidised a rider in any way whatsoever.

There are objections to holding a long-distance race on Brooklands, and one in particular, which is that variable gears could not be tested quite so well.

Variable gears are of service on a track like Brooklands, where the wind may be against the rider for nearly a mile and in his favour for the rest of the distance, but a course including severe hills is necessary to show variable gears to advantage.

The October Quarterly Trial.

THE outstanding feature of the above competition held last Saturday was undoubtedly the universal use of the variable gear. There were only two fixed geared motor cycles employed. Still, the trial proved that the change-speeder is not the "go-anywhere" machine it is supposed to be, and we fancy that the A.C.U. defeated its own object in settling on such a trick hill as Farlow. It is not a very striking demonstration of hill-climbing abilities for only sixteen out of forty-nine machines to make clean ascents. All but five of the competitors who reached Birdlip successfully climbed it, but this is a main road hill. Change speed gears assisted largely toward this end, and although we witnessed the ascent of Birdlip by several non-competitors on single-gear motor bicycles, they were able to wait at the hill foot and cool their engines, whereas the actual competitors had to take this formidable Gloucestershire acclivity on the run and with hot engines.

Had the weather been wet and the roads heavy there might have been considerably more failures, and probably none at all would have got up Farlow, such was the condition of the surface.

A notable point in the hill-climbs was the general improvement among the passenger machines. No prospective purchaser need hesitate to purchase one of the seven passenger makes represented on the score of hill-climbing.

FROM THE CHANNEL TO THE ADRIATIC & MEDITERRANEAN & BACK

By Motor Cycle.

By R. M. B. J.

ALL preparations having been made, and armed with customs tickets, G.B. plaque, passport, and other necessary papers, I set out, heavily loaded, from the little village of Orlingbury at 7 a.m. on Monday, June 26th, *en route* for London (seventy-four miles) and Folkestone. It was very trying passing right across London with the heavily loaded machine, as all the Coronation decorations were up and traffic very heavy. Also I had heavy non-skid Kempshalls on both wheels, and not being used to a heavy tyre on the front wheel, the steering "swung" a good deal. I soon got used to that, however, and arrived at Folkestone Pier after a fast run, having arranged to meet my companion, X, at three o'clock.

Luggage Equipment and Embarkation.

Four o'clock came, and he had not arrived. Meanwhile I had booked my ticket and had the machine put on board; the machines are swung on board on platforms. The freight is excessive, being governed by weight, but I succeeded in getting the clerk to accept the machine's catalogue weight (185 lbs.), so it cost me 10s. and 7s. 5d. for myself. Just after four I saw X coming round the corner, and hustled him and his machine on board, and we sailed at 4.15. I may here say that he rode a 1910 free engine Triumph with N.S.U. two-speed, while I had my 1910 3½ h.p. Phelon and Moore. Both of us carried a large quantity of luggage, *e.g.*, I had a large wicker basket full of clothes and parcel of sweaters, etc., on carrier, two pannier bags in strong steel stirrups containing more clothing and spares, on the footboard a pound tin of chain-lubricant, a gallon petrol tin, a quart tin of Price's "A," a "Sirram" scout's boiling set, and a vice.

We arrived at Boulogne in rain, and our machines having been swung on shore after all else the A.A. official saw us through the customs. The travelling pass was filled in and stamped, the *permis de circulation* (60 cents) obtained, and we were off for petrol and light refreshment. At no single customs did the officers examine my luggage, for which I was very thankful, as everything had to be so carefully packed to get it all in.

Bumpy Run to Montreuil.

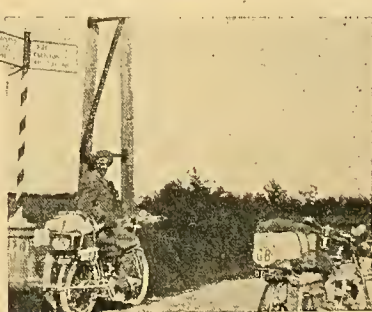
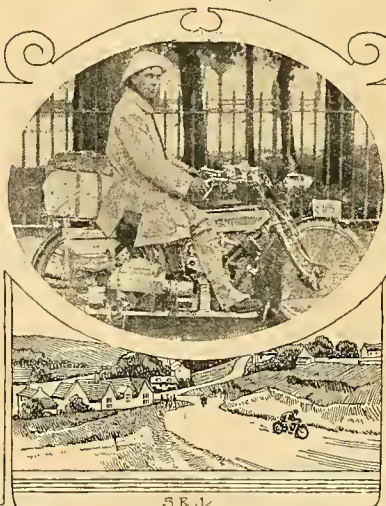
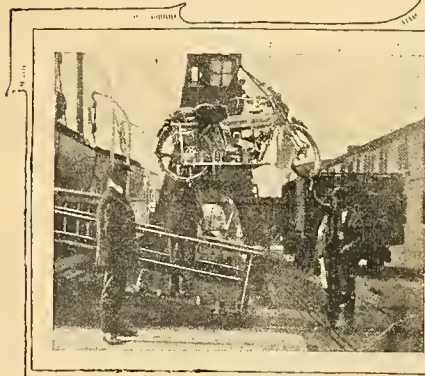
Over the *pavé* we bumped, across the bridge, and then to the right for Samer. The macadam was little better than the *pavé*, but we were fresh, and did not mind it much. The roads were greasy after the rain, and some miles on we came to a steep winding hill, and about two miles past the top I missed X, and went back, to find him struggling with a slipping (worn-out) belt. He succeeded in reaching the top at last, only to stop and shorten the new belt. Darkness and rain came on. No water in the generators. A wayside cottage gave us water in a bucket, so I dipped the Lucas in. How glad we were to reach Montreuil at 10.30, tired out by rough riding over the execrable roads in the dark. Even at that hour we were able to get a hot six-course dinner—very excellent, and we were hungry—at the Hotel Belle Vue. Our introduction to the "glorious, wide, straight roads of France" was not encouraging, and, turning in at midnight, we slept the sleep of the tired. My mileage for the day was 175.

Roads Ruined by High Speeds.

Tuesday, June 27th.—Away at 9.30, up the paved hill, through the town gate, and having purchased *alcool à brûler*, bread, and provisions,

The writer's 3½ h.p. P. and M. being slung off s.s. "South-Western," at Southampton.

Just after crossing the Franco-Swiss frontier at Vallorbe.



S.R.J.

The author—R. M. Bankes-Jones.

From the Channel to the Adriatic and Mediterranean and Back.

we ran on over pot-hole roads, and lunched by the roadside, drinking tea, made with the boiling set and "Tabloid" tea and saccharine. There was a voiturette race on, and cars decorated with various coloured flags kept roaring past (no silencers) at over 50 m.p.h. I wished for the English speed limit, as these high speeds ruin the roads. How the French cars stand the jolting beats me. No wonder they are all fitted with buffers, shock-absorbers, and various devices, and one constantly finds nuts, bolts, etc., on the road, and broken-down cars by the wayside. On through Beauvais (all gay with flags and bunting), over terrible roads to Abbeville, where we visited the cathedral. We found *pavé* in all towns and villages very bad as far as Fontainebleau. Having climbed the steep hill out of Poix, we ran through pretty country, up a long, steep hill

du Printemps, and as it was so late (11 p.m.) we had to be content with an omelette. 126 miles.

A Day of Bad Roads and Repairs.

Wednesday, June 28th.—Leaving at 9.15 (the broken-off pannier joined the petrol tin on the foot-board, and was carried there for the rest of the tour), I reached the top of the long hill out of St. Germain, and waited. Soon after, X appeared, and said his front brake blocks had twisted right round, and nearly stripped the spokes out. Afterwards we discovered that the front rim had been lented over the *pavé*, and every time the brake was applied the blocks twisted round, so they had to be taken off. While he shortened his belt I greased my chains, and having eaten our breakfast by the roadside we at last got going at twelve o'clock.

Versailles is a fine place, and the big parade grounds beat



(1) Coming down the gorge from the Coldi Tenda Tunnel. (2) A bullock wagon on the Lombardy Plain near Venice. (3) On the Simplon Pass. (4) A typical wooden torrent bridge. It has loose planks, and there is also a level crossing. (5) The first typically Italian paved village street in the valley, before reaching the Simplon Pass.

with five hairpin bends to Grandvilliers. Here I again missed X, but after threequarters of an hour he turned up, having punctured. Resuming, we struck a side road, in excellent condition, to skirt Paris, and made up a lot of time. Crossing the bridge at Pontoise over the river, and again at Conflans—very pretty in the dusk, with lights twinkling—we ran through a long forest. In the middle of it, the steel stirrups supporting the left pannier bag broke, and the whole fell into the road. The terrible bumping and vibration over the bad roads had snapped both supports at the bolt holes. Lighting up and piling the pannier bag on top of the other luggage on the carrier, we pushed on to St. Germain, where we had great difficulty in finding an hotel, the Michelin one being full up. Eventually we slept at the Hôtel

Whitehall, but the *pavé*—a nightmare! Having lunched outside the gates, we were just restarting, when X discovered that the spare Kempshall non-skid he was carrying alongside the back wheel had been cut through by some miscreant. Incidentally I might say that the Kempshalls created ceaseless wonderment wherever we went; at every stopping place the crowd felt them, dug their nails into them, and wondered at the little holes in the covers. We experienced great difficulty in finding the road south of Paris: no one knew where the roads led to apparently. All went to Paris! There was the same difficulty coming back, of which more anon. At last, by way of Essones, we reached the glorious forest of Fontainebleau, with its splendid straight flat roads through the long avenues, its open clearings, and

From the Channel to the Adriatic and Mediterranean and Back.

crosses. Over the improved surface we did some fast travelling until it was my turn to stop with a broken exhaust valve (it had done 6,500 miles): the difficulty in getting the cap to move delayed us about three-quarters of an hour. X discovered a very nasty V-shaped dent in his back rim, which exposed the bead of the cover. By 6 p.m. we had only done twenty-six miles, what with repairs, bad roads, and difficulty in finding our way, but we made good time on to Sens, doing the last few miles in the dark

taken the wheel out, we discovered that really the tyre had deflated with a big nail through it, and so come off. While he took the wheel to a garage I repaired the tube. It was blazing hot all the time. Having fixed up machine again and provided ourselves with a good lunch, we restarted at 3 p.m., having done one mile! Then we lost our way, and found ourselves going N.E. to Troyes, instead of S.E. to Tonnerre. However, taking a secondary road in rather loose condition, I reached Arcas and missed X. Waiting half an hour, I went on, and stopped in a forest to grease the chains, and he arrived soon after. He had had difficulty in starting the engine. Then we lost the way again, and found ourselves S.W. in Auxerre, instead of being at Tonnerre. So we struck off along a smooth wonderfully engineered road, through a valley with vines growing in terraces on both sides, to Chablis, where we stopped and tasted the wine. Then along a hilly, twisty, dusty road, and a long drop down into Tonnerre, and we reached the Hôtel du Lion d'Or at 8.45 p.m. A good dinner, a stroll, and bed at eleven. The roads were quite good all day, and our spirits rose accordingly. Near Chablis my other pannier bag broke one of its supports, so I had to finish the tour with it tied on with string. Day's run—seventy-nine miles.

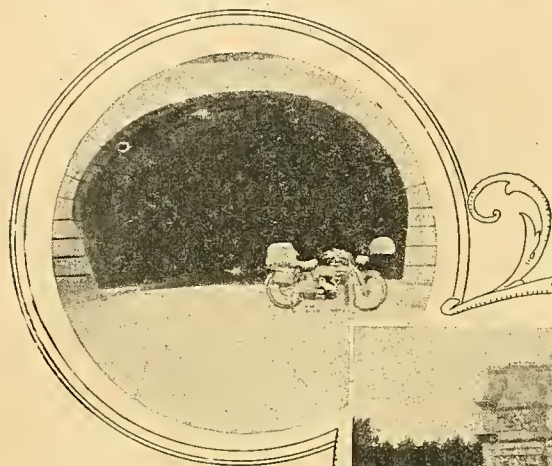
Friday, June 30th.—Although up at six, we didn't get going until 11.45, and for about ten miles to Vitteaux we thoroughly enjoyed ourselves.

with no lamps. We had to light up, however, to enter the town (9.30). The *pavé* is bad here, and streams of water flow down the gutters. At the first hotel we stopped at we intruded upon a young ladies' dance, and the "patron" was afraid the music would disturb us all night! We went, therefore, to the Hôtel de l'Ecu, a fine old place, with a courtyard, where we had a splendid bedroom and a very nice cold supper. Each night we arrived too late at hotels for dinner. Mileage per day—ninety.

Thursday, June 29th.—Up at eight, and after visiting cathedral and strolling round the town, we filled up with oil, and chatted with a Swiss lady and gentleman, who spoke fluent American-English, and were following our route to Dijon, afterwards branching off for Geneva. They expected us to pass them during the day, and we thought so, too, but we didn't know what was in store for us. Leaving at ten, in 200 yards I ran out of petrol. Got going again, and just reached the end of the town, when I saw X in trouble. He was very glum. Said that the cover had left the rim at the dent. However, after we had

The railway ran alongside the road, and a slow passenger train was going my way. I waited for it at a station, and shouted a challenge to the driver, which he accepted. At 30 to 35 m.p.h. I could easily hold the train level, notwithstanding the ox-waggons loaded with long tree trunks on the narrow road. The driver whistled and I footled, the passengers hung out of the windows, and so we went on together, until at last I went under and the train went over the bridge together, and our ways lay apart.

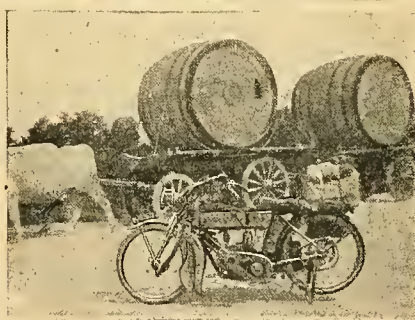
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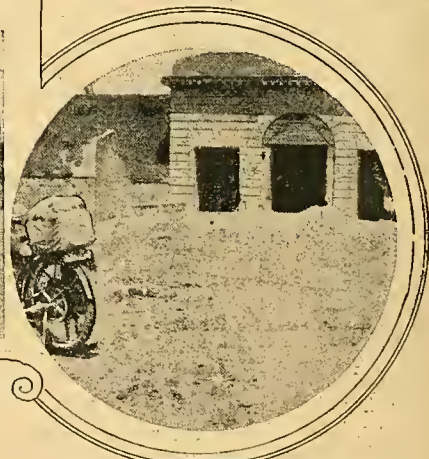
(1) The tunnel on the road between Avallon and Auxerre, France.



(2) The Roman Arch at Orange.



(3) An ox waggon and two new wine butts, five miles from Venice.



(4) Entrance to Alessandria, near Turin, Italy.

Occasional Comments 'LXION' BY

SRJ

Chain Sprockets.

The popularity of the counter-shaft two-speed gear implies an increase in machines fitted with chains as one item of their drive. May I respectfully remind makers and users that the attachment of sprockets has been a fertile source of trouble in the past, and that the locking devices used to secure the sprocket ought to be remarkably rigid. If the sprocket is of solid construction, and keyed on a taper spindle, the lock-nut ought to be tightly fastened, either by a patent washer or a second nut. If the sprocket is bolted to a flange, single nuts soon jar off the bolts. Troubles of this nature were very frequent and aggravating with the early tricars, and a firm fitting chains for the first time usually overlooks the need for strong sprocket attachments, while inexperienced users neglect to keep an eye on the locking devices.

A Broken Frame and Its Explanation.

A correspondent writes to ask whether a motor cycle manufacturer is liable to replace a broken frame gratis under the statutory guarantee. My answer is a definite affirmative, unless the machine has sustained several heavy falls. The appended diagrammatic sketch of the frame in question shows that it is very faulty in design, and probably an action for free replacement would succeed. There is a particular reason why the engine is carried offset on one side of the frame on this particular make, and it is obvious to the meanest intelligence that the strain at the joint between tube A B and lug B C is bound in time to lead to a fracture. The machine (a powerful twin) has not been used with a sidecar.

**Dog-clutch Gears.**

A very false impression may be given by a recent letter denouncing dog-clutch gears. Everybody ought to know by now that these simple two-shaft dog-clutch gears are absolutely satisfactory and reliable. The majority of cars possess such a clutch on one gear ratio. The principle has already been triumphantly demonstrated on the Douglas motor bicycle for one.

Foolish doubters should recall the old Riley and Humber single-cylinder tricars. After this lapse of time I suppose I may venture to say that these machines had rather primitive clutches, and that they lacked any device which could materially soften the rigidity of their chain drive. Yet I have seen dog-clutch gear boxes dismantled after five years' hard work on these rather prehistoric three-wheelers, and the sole defects discoverable consisted of worn keyways on the gearshafts. The bearings and the gear teeth have been almost equal to new.

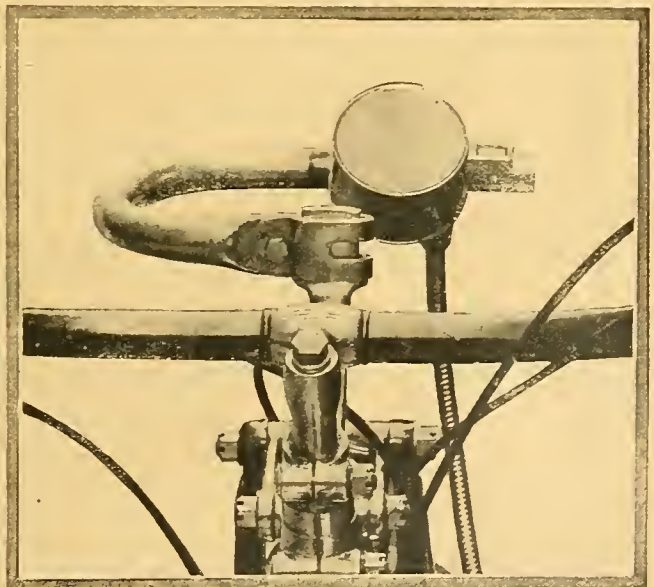
The sole real difficulty in the application of these excellent gear boxes to two-wheelers lies in the

metallic hum of the gear wheels, which is unpleasant to us after the absolute silence of a direct belt drive, but I believe one or two of our leading manufacturers have already gone far towards solving this difficulty.

For instance, the Indian two-speeder has "chain-swish" as well as "gear-hum" to contend with, but it is not unduly noisy on its low gear. This type of gear is simpler and more reliable than many counter-shaft gears embodying the double friction clutch principle, and has the further merit of requiring but two chains, each provided with a simple and substantial means of adjustment. It has come to stay, and its possibilities were emphasised in this journal seven years ago. It was even fitted to old pattern tricars of the De Dion type, but not by the De Dion firm. The result in the case of direct gear driven motor tricycle rear axles can be imagined. The Mercier gear box was one of these, and it had a tiny box which the rider of a lightweight would laugh at in these days.

How Two-speed Gears are Tested.

Occasionally riders grumble because the makers of their pet machines are rather slow in marketing a variable gear. They forget that fools rush in where angels fear to tread. I take a great interest in the evolution of a particular machine, and the gentleman responsible for the policy of the firm replies thus to an appeal from me to market a gear he has patented: "We send our motors into all parts of the world into the remotest wild countries; we cannot and will not send out machines that are not practically foolproof and reliable to the last degree. If any part of the

**HOW MOTOR CYCLES ARE TESTED.**

We noticed the above neat bracket on a Rudge machine undergoing test recently. To avoid scratching the handlebar and in order to fit the speed indicator quickly, it is mounted on a tube which is dropped over the lamp bracket in the manner shown.

Occasional Comments.—

machine had not a large margin of safety, there would be no chance of securing the large colonial trade for which I hope. For next year we shall only make a very limited number of variable gears; these will be sold only to picked riders, but samples will go into all parts of the world, and they must run for twelve months, and give absolute and universal satisfaction, before we turn them out in large quantities." *Si sic omnes!*

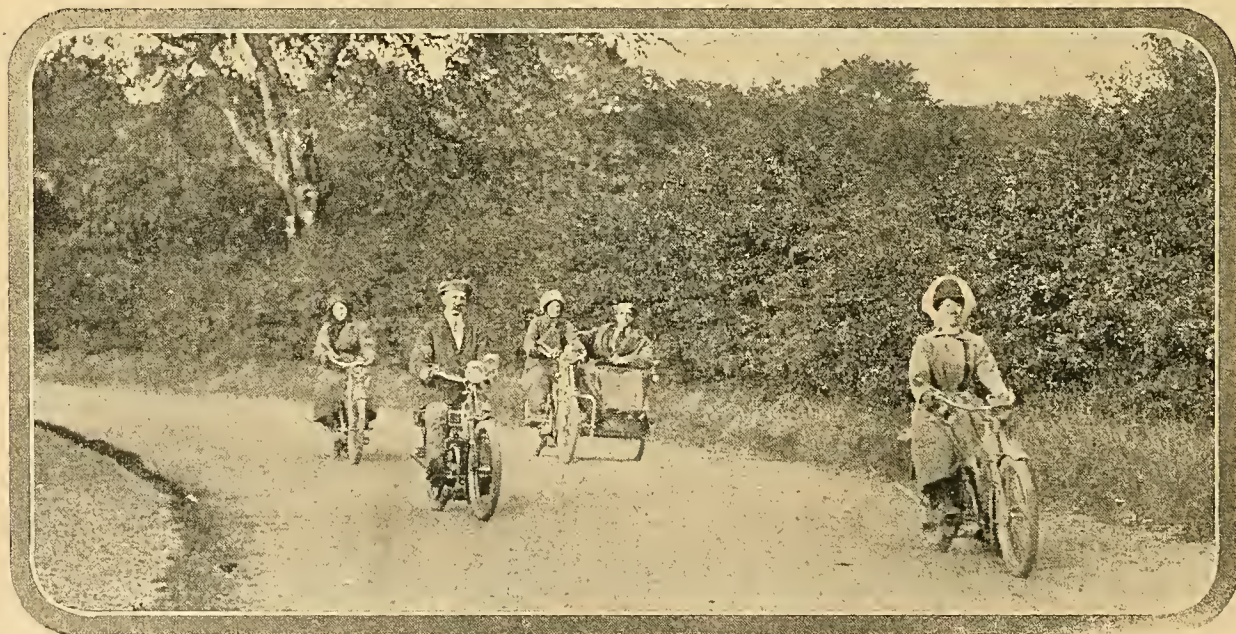
Clean Crank Cases.

As usual towards Show time, I put in my annual plea for clean crank cases. Personally I do not particularly care whether my engine keeps tidy or not—I am not one of the dapper riders eager to pose as if I and my machine had stepped out of a bandbox after a 200 mile run. But I understand the feelings of those neater individuals who use boot-trees and polish their gaiters lovingly, and keep a selvyt and a paraffin can and bristle brush in their head lamps. And at present I am very sorry for them, because the dirty crank case nuisance is much, much worse than many people imagine. I do not know a single standard engine which will keep really clean if driven hard and oiled with corresponding freedom. It is true one can see spotless machines at the end of every big trial, but the credit for this goes to the rider, not to the maker. Some of the men use every moment's leisure for cleaning, and others have spent hours in caulking every joint in their engines before the trial started, and will have to face the weary process over again when they take their engines down and break the joints. I was unlucky enough to buy a particularly filthy engine last spring; I tried to make it oil-leak-proof by taking it to pieces and spending hours with paper washers and seccotine, but I abandoned the attempt in disgust on discovering that the surfaces were so undulating that a lot of machining would be essential to a clean job. One of these machines ran in the

Yorkshire trials, and gained golden encomiums from all and sundry because its engine was spotless at the finish, and had received very little attention *en route*. But I happened to know that the rider responsible had laboriously performed the task which I shirked, and all standard editions of this engine are as naturally filthy as my own. One large firm is experimenting with a self-contained lubrication system for the timing gear. There are no oil holes between crank case and timing gear case, the latter being packed with grease which is just too thick to ooze in any quantity from the tappet guides, which are the vulnerable point on the better engines (inferior engines leak at every joint). I doubt the wisdom of this solution; the average duffer will omit to renew the grease. But some solution is loudly demanded; and it will help matters if the embossed advertisements now standard on crank cases are abandoned. One or two firms are wise in embossing their name in such position that they are out of range of oil-flinging. But firms who do not sell "loose" engines can surely dispense with these advertisements altogether.

The Hour and Hundred Miles Records.

I do not know which to admire most—the ingenuity of the engineer who, in response to a broken record, manages to coax another two or three miles an hour out of an engine that had previously been strained to the uttermost, or the stamina of the jockeys who crouch double on a narrow rigid frame and circle round a rough track for sixty or ninety minutes at such frightful speeds. The value of these track records to us road men lies in the proof they afford that the modern engine does not get tired. It was only a year or so ago that the modern $3\frac{1}{2}$ h.p. used to curl up completely on a 1 in 10 grade if its reckless owner kept the throttle two-thirds open for five miles on the flat; to-day a first-class $3\frac{1}{2}$ h.p. can be driven all out for a couple of hours without stopping and without injury to the exhaust valve.



In a pretty Warwickshire lane near Stratford-on-Avon.

Up Edge Hill on a 3½ h.p. Single-gearred Sidecar.

LAST week we witnessed what we believe to be the first authoritatively observed ascent of Edge Hill, near Kineton, on a 3½ h.p. single-gearred motor bicycle and sidecar. There has been a feeling current in the Coventry district for some time that the tests of two-speed machines on Edge Hill were not at all exceptional for low-gearred machines,

that all Triumphs are alike, but though our experience of this make of machine is an extended one, we must give Mr. Brandish credit for having kept his machine in the finest possible riding tune. It is the first 3½ h.p. sidecar machine on which we have reached forty to forty-five miles an hour on the road by speedometer, and the only alteration in it from the standard was the fitting of a No. 38 jet. The timing of the engine and magneto is exactly as that sent out by the makers.

The Millford sidecar was not a light wicker affair, but from a rough calculation must have weighed 120 lbs. There was, naturally, great jubilation in the party present, which included Mrs. and the Misses Schulte, Mr. and Mrs. Hulbert, Messrs. Fulford, Howes, Armstrong, Newsome, Lloyd, and Cheshire.

The New Two-speed Triumph.

On the occasion of this outing we had the first road experience of the new two-speed Triumph and sidecar, the outcome of several years' experiments with change speed gears of all patterns. At present the machine is geared 5 and 8¼ to 1, the drive on top gear being direct, without any idle gears revolving. Using a standard engine (with experimental adjustable tappets), the machine made two clean ascents of Edge Hill with the low gear engaged for the major portion of the climb, but the performance was overshadowed by Mr. Brandish's achievement on the single-gearred machine. The Triumph gear is carried in a shell fitted in place of the usual pedal bracket, and is controlled by a rocking pedal similar to that used on the clutch machine. One movement of the lever engages the low gear, the other the high gear, the midway position giving a free engine. Except for mentioning that the big pulleys render the gear particularly kind to belts, we will refrain from further comment until the design is standardised.

Miss Lena Schulte, who is only fifteen years of age and had followed the performances with keen interest, could no longer suppress her sporting instincts, and begged permission to ride Newsome's free engine Triumph up Edge Hill. The machine made such light work of the gradient that her younger sister Muriel's demand for a ride on the back carrier was acceded to, and again Miss Lena dexterously drove the machine to the summit, no mean performance for a young lady.



Passing the danger board at the top of the 1 in 7 gradient.

and, further, that the numerous failures of motor bicycles to climb the hill must be due either to bad manipulation of the levers or to maladjustment of the machine. Hill-climbing, as every novice knows, is a question of gear ratio pure and simple, but, nevertheless, there are very few 3½ h.p. machines whose pulleys permit of a ratio low enough to render possible an ascent of 1 in 7 gradients with a passenger.

A happy little band assembled at Edge Hill to witness Mr. W. Brandish, of Great Heath, Coventry, make his ascent. He stopped to cool his 1911 Triumph at the foot of the hill, meanwhile reducing the gear ratio (which we afterwards measured) to 6½ to 1, and at the first essay he opened the eyes of the onlookers by topping the rise with Mr. W. H. Fulford as his passenger. Later in the afternoon he repeated the performance with one of our representatives in the sidecar, this being the third ascent, his second attempt having failed only forty yards from the top of the hill. After this most creditable performance, we had the sidecar and passengers weighed, and the total avoirdupois proved to be 656 lbs. Triumph riders who read of this performance may think there is nothing exceptional in Mr. Brandish's achievement, seeing



The party who assembled specially to witness W. Brandish's ascent of Edge Hill.

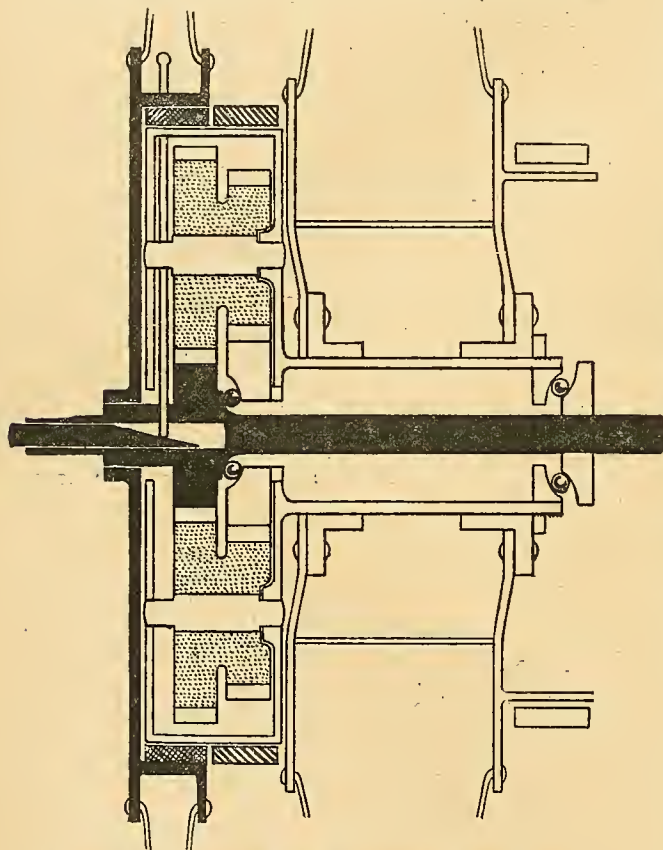
Variable Gears and Motor Cycles.

III.—EPICYCLIC GEARS.

IT will be remembered that in my last notes on this subject I divided variable gears into two main divisions, viz.: 1, clutches and friction devices; 2, variable gears properly so called. These are made in the following forms:

1. Epicyclic (three forms).
2. Sliding tooth.
3. Teeth in mesh, sliding clutch.
4. Selective clutch.
5. Expanding pulley.

I have placed epicyclic gears in the first place not because I think them the most suitable, but



Section of the two-speed hub gear, made under Roc patents with live axle.

because that type of gear was the first to be fitted to motor bicycles.

1. The epicyclic gear is made in three forms. In each form we find sun and planet wheels, but in the first form the third member is an internally-toothed wheel encircling the planet wheels. These epicyclic gears have proved very successful on ordinary pedal bicycles, and they can be made to give a large variety of gearing with only one train of wheels—more, in fact, than is required. If the sun wheel is the driver and the planets the driven members, there is a reduction of gear. With the sun wheel stationary and the planet wheels driven there is a less reduction. If the planets are the drivers an increase of gear is obtained—moderate with the sun wheel stationary, great when the sun wheel is driven. If the planet

wheels are kept stationary the movement will be reversed, and if the sun wheel is the driver there will be a reduction of gear, but with the sun wheel driven there will be an increase. In addition to these four forward and two reverse gears, the whole can be locked together to drive solid.

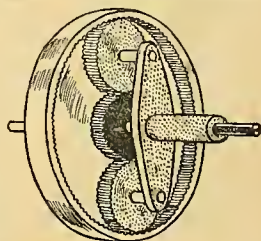
Large Number of Variations.

Thus seven gears can be got from a system of three wheels. Of course, a reverse is useless on a motor bicycle, though it might be desirable on a tricar or light runabout. There is no gear at present manufactured which gives all the five forward gears. It would be too complicated, and the variations would be too large. I mention all these just to show the capabilities of the system, which, put shortly, are as follow:

1. Planets driven—reduction.
2. Planets drivers—increase.
3. Planets stationary—reverse.

The difficulty in the manufacture of this gear lies in the hardening of the internally-toothed wheel, which is apt to warp in the process, and then requires to be ground true.

Examples of this gear are found in the Armstrong Three-speed and in the Ariel Lightweight. The latter gear follows very closely a patent taken out by the writer in 1903, and allowed to lapse owing to want of facilities for placing it on the market.



Principle of the epicyclic gear with spur wheels.

In the second form of epicyclic gear the planet wheels are made in pairs, rigidly fixed together, and the third member is an ordinary toothed wheel, placed beside the sun wheel and concentric with it, but not firmly fixed to the same axle. A single train of wheels will give two gears; the high gear is obtained by causing the whole to revolve as one solid piece, and the low by holding the gear box containing the planet wheels stationary by means of a friction band. The direct drive can, if desired, be made the low gear, but this is not the usual practice. This gear is more common than the first, as it is easier to manufacture, but it does not give so many variations; on the other hand, any desired variation can be made, and in this it has an advantage over the first form, in which the variations are limited.

The Fit-all crankshaft gears and the Millennium and Roc hub gears are made on this principle.

The third form of epicyclic gear is designed to make the planet wheels the driven members when the low gear is in operation, and the third member, concentric with the sun wheel (as at No. 2), is held stationary. This necessitates the use of two pairs of planet wheels in mesh with each other, the second wheel of the first pair engaging with the driver, and that of the second pair with the stationary wheel round which it rolls, carrying the gear box with it.

This method is used in the Rex and V.S. hub gears, and is quite satisfactory.

AURIGA.

(To be continued.)

Letters To the Editor

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

An Endless Belt Dilemma.

[5972.]-"Ixion" has disappointed me. I asked for help, and he offers me — what? a tube of seccotine. However, a camel will clutch at straws if he is drowning on his back (have I got that quite right, it seems not quite familiar), so I suppose I must accept and use the hacksaw rather than submit to the alternative.

By the way, I am still "pausing for a reply," but I shall not compare "Ixion" to Brutus any more; he rather reminds me of General Bangs, "but that is another story."

FAUST.

Standardisation of Tyre Rims.

[5973.]-With reference to your correspondent's ("L E 219") letter concerning the round base rim, we cannot understand why English manufacturers will not adopt this rim. It is used almost exclusively by foreign manufacturers, including the Indian, and the colonials are insisting on having their machines so fitted. These facts themselves speak very highly. We herewith give you some of the advantages of this rim:

No projecting beads to become dented.

In building plenty of stagger may be employed which means a stronger and truer wheel.

Heavier metal may be, and is used, in the manufacture.

A very neat section which is easily cleaned and offers a good braking surface.

There is plenty of room for a large strong bead.

The beads are nicely rounded and do not cut the cover. Lower price.

What more can motor cycle manufacturers ask for? We think this is a matter for the Manufacturers' Union.

H. JAMES AND CO., LTD.

A. JAMES.

Twin Engines and Sooted Plugs.

[5974.]-It has been my object for some time to try to get to the bottom of the prejudice against the twin-cylinder machine. After making many enquiries and getting the opinion of every rider or owner of a "twin" I met, the chief argument against "twins" appears to be that the cylinders do not get an equal amount of oil, and the difficulty of giving sufficient and yet not too much lubricating oil.

If one gives the least bit too much oil the back cylinder is sure to soot up its plug in no time. Yet if one reduces the amount of oil by even a trifle then a seizure of front cylinder is imminent. Personally, I had to discard a quite new machine of 7 h.p. for this reason only. I verily believe that on a hilly road I took the back plug out about every third or fourth mile and cleaned it, and noticed when it was out an excess of oil in the combustion chamber and on valve seat. I reduced the amount of oil, with the result that my front cylinder partly seized when near the top of a not too stiff short hill.

I went back to the single and have never taken plug out since I have had it, and had not the slightest trouble in any shape. When I can get a "twin" that the makers will absolutely guarantee to be free from the defect I speak of I shall try again.

WOULD-BE TWIN.

[The trouble complained of can be and is overcome to a great extent by altering the position of the sparking plugs. On top and in centre of the combustion head is usually found to be the best position. If the plugs are so situated that they catch the oil flung from the corner of the piston they will quickly soot up.—ED.]

Saddle or Seat?

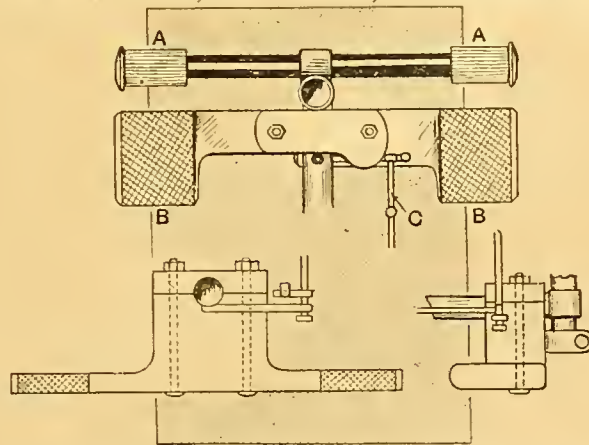
[5975.]-How is it that motor cycle manufacturers cling so tenaciously to the old push bicycle type of saddle? Were these saddles not originally designed to give free movement to the legs for pedalling, and as pedals are now practically obsolete, or ought to be, on any powerful machine, why on earth do they not give us something comfortable to sit upon?

Nearly every 1912 touring machine will have a free engine, so there seems no valid reason why we cannot be supplied with a miniature bucket seat with back rest in one piece, well sprung, and no economy to be exercised in the padding. It seems to me that a big number of the trade are devoting all their time and attention to getting a mile or two more per hour out of their engines, and neglecting the comfort of the rider altogether.

COMFORT.

A Suggested Form of Footrests.

[5976.]-I enclose sketches of a supplementary footrest which I have designed and had fitted to my two-speed Douglas. A is the original footrest; B the extra rests, which are made of wood, rubber covered; C is the rod which



actuates the two-speed gear. I find these footrests make very comfortable rests for the heels, and also give a change of position which is often welcome. It is in the hope that some of your readers may be benefited that I send the drawings, which show the rests in plan and elevation, also a side view.

(REV.) W. A. DOUGLAS-HAMILTON.

Sidecars and Change-speed Gears.

[5977.]-I should like to give some experiences of a Triumph with Millennium hub gear and Chater-Lea sidecar.

I live in probably the most hilly part of England (West Riding), and most of my touring is done in these parts and in the Lake District. Hills, very long and steep hills, abound, the first rise on the way to the Lakes being about threequarters of a mile with stretches of 1 in 6, or worse. For some time I used it with fixed gear and no free engine. This required a very active passenger (and I had one) and considerable l.p.a. (falsely so-called). This form of travelling was vastly amusing, but hard work. On a long steep hill, like Dunmail, this sort of thing happened—Vigorous l.p.a., then the passenger hopped off, later I slid off and ran till the pace became too terrific, on again, and off, and so on.

If there was a head wind it was still more exciting. Our method of starting seemed to amuse people in Ambleside. We both pushed till things got going, and then took flying leaps into our appointed places, enquiring, on arrival, "Are you there?" So I got a two-speed gear fitted. This was a great improvement. Starting was more sedate, and I could and did get practically anywhere, but it is necessary to keep the engine well in tune.

A point which seems to have been overlooked occurs to me. Is it fair on the machine to overwork it so? The frame is not built for such strains, and the engine is being run with a very liberal throttle opening. For ordinary country it does very well, but for this sort I feel that more power is desirable for real pleasure. Personally, I am going in for a Chater-Lea No. 7, and may give my experiences with it later.

I note that in letter No. 5937 Mr. Lake sighs for the Gradua gear. I believe the Zenith Co. make special fittings for Triumphs. WEST RIDING.

[5978.]-I quite agree with everything "Perplexed" says in his letter [5911] on above subject. A "3½" with two-speed gear may do all right with sidecar in England, where the roads are mostly level and in many districts having a fine tarred surface, but for the North of Scotland it is utterly out of the question.

I grant you that it could be humoured up ordinary hills and would pull all right on the level if the engine is cleaned out every 500 miles or so and kept otherwise in perfect tune. But who is to be bothered with an engine that has to be coaxed up stiffish hills, many of which are met immediately after rounding a sharp turn, which must be negotiated slowly on account of the narrow roads, etc.

My ideal machine would be of 5-6 h.p. with variable gear and chain-drive (enclosed). The 6 h.p. Zenith is undoubtedly the machine had it chain drive, but this is out of the question with the Gradua gear. I have no doubt an inch Whittle would give every satisfaction in dry weather, but I am afraid an unprotected belt has yet to be invented which will stand a day of rain and filthy roads on a 6 h.p. passenger machine without slipping, and once the slipping commences you might have sixty horse-power instead of six and be no better off.

I think most motor cyclists who are not biased in favour of any particular machine and who have had an acquaintance with the high roads and bye-roads in the North of Scotland will agree that the power I mention is necessary, assuming the passengers weigh, say, from twenty-two to twenty-seven stones, and assuming also that all the necessary luggage for both parties is carried throughout a holiday tour. C.F.

[5979.]-Having been a satisfied user of the N.S.U. gear for over four years, I can quite endorse the opinion of Mr. Jas. T. G. Philips as to the good points of the gear. Some of Mr. Philips's remarks, however, I cannot quite understand. Why does he have to take his gear to pieces to oil it? In both of the gears I have had, and all the others I have known, there has been a screw provided for the purpose of injecting oil. With an oil gun quite thick oil can be put in, and the whole job can be done inside five minutes.

The first N.S.U. gear I had I fitted to three different machines (not N.S.U.'s), so that it was necessary to oil the gear from the outside. My present machine is a 6 h.p. twin N.S.U., and owing to the drilled crankshaft no oiling of the gear is required; it automatically oils itself. At least my machine has so far run just over 3,000 miles and I've had no occasion to oil it from outside yet.

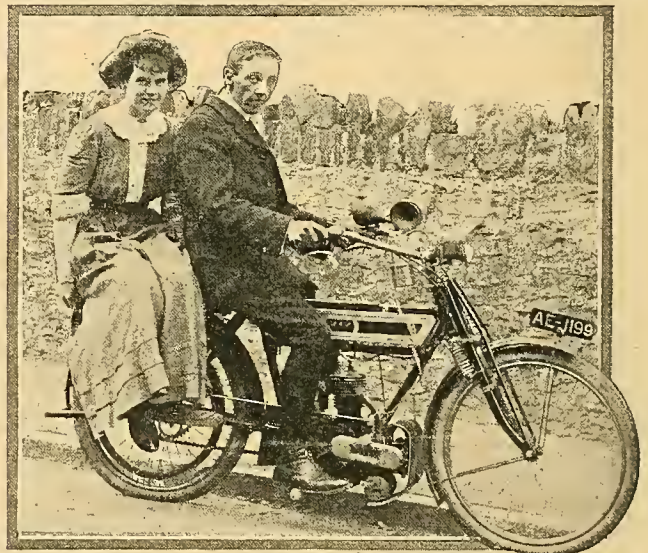
With regard to Mr. Philips's list of faults, I agree with No. 1, but the obvious remedy is not to over-oil. If Mr. Philips takes his gear to pieces every time to oil up, no doubt he is inclined to overdo it. Oiling by the small screw provided, No. 1 trouble is got over. No. 2 is perfectly natural, but is not every clutch so affected? Again the remedy is obvious. I used to suffer from trouble No. 3, but have now got the knack of holding the gear handle in low gear position with my knee. No. 4 is simple to remedy—fit a stronger clutch spring (cost 9d.). I only renewed my clutch spring once in three years on my old gear, and could never make it slip on top. Trouble No. 5 I have not so far experienced, but believe Mr. Philips to be correct.

I am in no way connected with the N.S.U. company, but can recommend their gear. H. J. M. HUGHES.

Passenger Carrying on a Lightweight.

[5980.]-In reply to the letters re experience with sidecar machines and hill-climbing capabilities generally, I have found the same trouble as "Perplexed." After having two triars I invested in a 3½ h.p. Brown, on which I covered over 4,000 miles of very enjoyable riding with a fixed gear of 5½ to 1. Longing for a go-anywhere machine, my next mount was a 4 h.p. —, which I imagined with its two-speed gear would do anything, but I was quickly disappointed, as it developed very little power, and of this most was absorbed by the low gear on any hill; this I verified later by an actual brake test.

This season I have been doing very little sidecar work but a great deal of solo, and often pillion carrying with a 2½ h.p. A.J.S. The accompanying photograph will show that the passenger faces the oncoming traffic, the carrier strengthened with two extra stays, a padded spring cushion, rubber-covered footboard, and a well-pumped back tyre makes this very enjoyable. I slip the saddle three inches forward, so as to distribute the weight better, before starting for a long ride. So far I have done nearly two



Basil Adams, the writer of letter No. 5980., and his 2½ h.p. A.J.S. with pillion seat.

thousand miles. My longest rides are: Through the Wye Valley, 110 miles; Ilfracombe via Barnstaple, 116 miles. Each was done between 3 and 10 p.m. on Saturdays.

With Ilfracombe as a centre, I have been to Lynton, Hunters' Inn, Braunton, Lee, and various other rides, also many places on Dartmoor. Each district abounds with hills, but the machine will tackle anything up to 1 in 8 even with a passenger. I have not yet found a hill that will stop it, whereas around Bristol one can go anywhere within a fifty-mile radius.

The chain drive fulfils my idea of the ideal transmission; I have renewed my front chain, but my original back chain is still in place, and that after nearly 10,000 miles.

I do not know yet what the inside of my clutch or gear box is like, as I have never had a squeak from either, and cannot detect any more noise on low gear than on high.

A reliable two-speed gear is the most necessary thing on a sidecar combination, also the clutch controlled from the handle-bar, as then one is able to help the machine when starting on a hill. From my experience of the 3½ h.p. P. and M., it is the machine for sidecar work if one will not try a twin, and if the passenger will walk up patches of loose 1 in 6 gradient or steeper, then one can go practically over any road with it. BASIL ADAMS.

Single-cylinder Records.

[5981.]-We are somewhat surprised at Mr. Arthur M. C. Scott's query in last week's issue of *The Motor Cycle* in regard to Indian motor cycles, what they are going to do, what they have done, etc., in view of the fact that Mr. Arthur M. C. Scott was quite recently in our employ and

should have been fairly well posted on the doings of Indians in general.

As you have not essayed to answer Mr. Scott's queries we would like to suggest to him that he can get all the information he desires at any time by calling at our depot in Great Portland Street.

THE HENDEE MANUFACTURING COMPANY.

Ladies and the Motor Cycle.

[5982.]-I am sending two photographs which I think will prove interesting to your readers, as showing the progress motor cycling is making among the ladies in the Midlands. The group shows Miss Lottie Berend (centre)—this lady is well known to you—on the left is Miss Walmsley, of Derby, and on the right is myself. All the machines are $3\frac{1}{2}$ h.p. Brough ladies' models. Miss Berend's and my own are the standard free engine type. Miss Walmsley has a two-speed gear, as she habitually uses a sidecar.

I have toured this season close on 3,000 miles, and have not once been hung up for any cause otherwise than the inevitable puncture. Hills with my $3\frac{1}{2}$ Brough are of no moment. In my last tour to Bettws-y-Coed, with my husband, who rides a $3\frac{1}{2}$ h.p. Singer, I was enabled to take all the hills at well over the legal speed limit. This is where some reserve power comes in handy. The sensation of touching a lever and rushing up steep gradients is delightful.

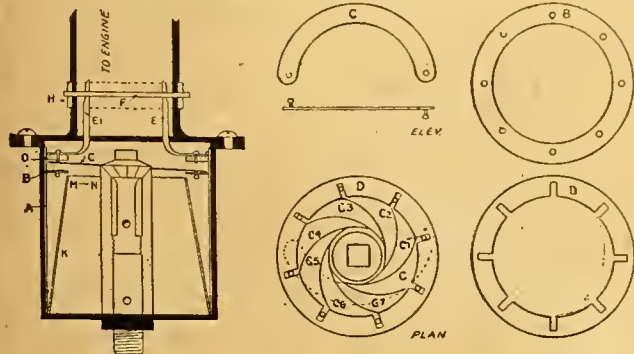
I am really at a loss to understand why more ladies do not take up this invigorating and health-giving pastime. Is it because they are afraid they will not look smart enough on a motor cycle, or on account of its apparent complications? If the latter, I can assure the waverers they need have no fear, and after having had a few lessons they will be astonished how easily a motor cycle is managed. I myself have ridden one three seasons, and hope to do so many more.

In conclusion, I should really like to say a word of praise for my $3\frac{1}{2}$ Brough, but must add the usual, that I am not in any way interested in the makers of this machine, only as a satisfied customer. It is a splendid machine and nicely designed for a lady's purpose. On my next one, however, I shall have a two-speed as well as the free engine.

(Mrs.) S. DAVIS.

Modifying an Old Carburetter.

[5983.]-*Apropos* of the question of slow running, straight-through carburetters, and adjustable choke tubes, so much in evidence at the present moment in your columns, I thought, perhaps, that a modification of a Longuemare carburetter, which I am using on a $4\frac{1}{2}$ h.p. water-cooled Stevens-engined tricar, might be of interest to your readers, as it combines the three desiderata mentioned above.



Illustrating the alterations to a Longuemare carburetter, as described in letter No. 5983.

In spite of an extra air port in the inlet pipe, in addition to the usual two extra air slots in the annular ring above the jet, I could not give the engine enough air unless I fitted a smaller jet than a ten-slot. If I fitted a larger choke tube it was difficult to start the engine. Neither could I keep the mixture constant, and this I attributed to the fact that I had three streams of pure air coming into the mixture on its way to the engine, thus making the charge "streaky."

To do away with this, I fitted an adjustable choke tube and closed up the three extra air ports above the jet. I



Ladies are slowly accepting the motor cycle as an ideal form of transport. This above picture was taken in the Midlands recently. (See letter No. 5982.)

removed the standard choke tube and fitted a liner A of tin to the barrel of the carburetter. In this was soldered an annular ring of tin B, having eight holes arranged equidistant round its centre. I next cut eight crescents of ferrotype plate, C, C₁, C₂, etc., on the reverse sides and ends of which were soldered small pins about $\frac{1}{16}$ in. long. These were arranged on the ring B with the pins through the holes, which formed the pivots on which the crescents swing. A thick washer D was then cut with eight slots, into which the top pins on the plates were fitted. On the ring D two arms E-E, projected up into the inlet pipe, and these were slotted to receive a wire F passing through the ring H, the previous extra air holes in which were stopped up. A cone-shaped liner K was then soldered in to guide the air past the jet.

On rotating the ring D, each crescent-shaped segment was swung across towards the jet, thus closing up the space between M and N. I thus get a straight-through multiple jet carburetter, all the air coming past the jet and getting thoroughly saturated with the petrol. I can now throttle the engine down to a small quantity of rich mixture for slow running, and also have a large choke for full throttle.

I have been using this adapter for five or six months, and I find the engine is easier to start, more powerful, and does not race when started on the handle.

From an economical point of view I cannot give any particulars, as I have not kept any record of the mileage per gallon, the cost of petrol, in my opinion, being one of the smallest items in the cost of upkeep.

The back tyre is the *bête noire* of a tricar owner, and if any reader can put me on a 28in. x 2½in. tyre which will give more than 1,000 miles on the back wheel I should be glad.

The drawings are not to scale, being done from memory.

ALEX. F. PAYNE.

[A NUMBER OF INTERESTING LETTERS ARE UN-AVOIDABLY HELD OVER.—Ed.]

The Last Quarterly Trial of 1911.

Only Twelve accomplish Non-stops in the A.C.U. Midland Centre Contest.



W. B. Gibb (2nd Imp. Douglas) and A. H. Lowe (A.C. sociable) at the second and worst bend on Farlow Bank.

THE fourth and last of the 1911 series of Quarterly Trials organised by the Auto Cycle Union was held on Saturday in the Midlands. Competitors were started from the outskirts of Birmingham soon after 8.30 a.m. over a course measuring 167 miles. The destination of the Aggregate Cup for the best performance in the four trials was decided by this contest, and more than ordinary interest was occasioned thereby. Only two of the fifty-one entrants failed to put in an appearance at the start from the King's Head Hotel, Hagley Road, Birmingham, these being C. E. Shepherd (3½ A.S.L.) and H. J. Beal (3 N.S.U.). Mr. C. A. Smith officiated as starter, and meanwhile the other officials and timekeepers scurried ahead to take up their positions at Farlow Bank, the first of the two test hills.

A thick mist prevailed at the start. All got away well, except V. Busby (Humber), who had to stop and flood his carburettor a second time. The route lay through Halesowen and Hagley to Kidderminster. Here the local police pointed the way, which consisted of a series of right angled turns in narrow streets. On to Bewdley and Bagginswood nothing of note occurred, but here Silver broke a belt fastener.

There was nothing to indicate that competitors were approaching Farlow Bank—except the excellent route cards, thanks to the organisation of Mr. H. C. Pickering—but following the direction of the arrows, competitors were sent off the main roads over gulleys and lumpy surfaces, wending their way along a narrow and tortuous lane to the foot of the Bank.

The Failures on Farlow Bank.

Riding with the competitors the first notification we had that Farlow was near at hand was the sight of a big group of cars and motor cycles which had conveyed spectators to the hill from far and near, then W. Cooper looking disconsolate as he descended the hill for a second try. There are three awkward bends on Farlow Bank, one to the right, then a very steep pitch, an easier stretch, succeeded by a left hand hairpin which would place in the background the bad bend on Snaefell, even were the surface not soft loose gravel, for all the world like a garden after it has been dug up. One is confronted with a gradient of 1 in 5 on the bend and for fifty yards after rounding the bend, when the gradient eases a trifle, and there is a final twist to the right.

Several hundred spectators had assembled at the hairpin in the anticipation of seeing some fun, and they were not disappointed, for in contra-distinction to the usual order of motor cycle hill tests there were a good many more failures than successes, and the crowd was a thoroughly merry one which did not hesitate to pass remarks. Sometimes a competitor in his hurried movements to prevent the machine running backwards on the steep gradient would execute some weird antics which seemed to amuse the crowd, but not so the crestfallen competitor, who, when he could sufficiently recover himself, would turn with very black looks in the direction whence the laughter came. Nearly all the failures occurred at the corner. The successful competitors—and there were only sixteen to make clean ascents of Farlow Bank—were readily applauded, and the crowd cheered



Farlow Bank. - J. W. Woodgate (two-speed Singer) at the point where most competitors failed. Observe the fallen machines by the roadside.

lustily as Miss Nellie Hough, on the two-speed Douglas, picking her way coolly on the outer curve of the bend, made the cleanest and neatest ascent of the whole lot. Farlow Bank is a trick hill, and many consider that the A.C.U. went too far in selecting such a test, which is on a by-lane. W. B. Gibb, a competition rider of considerable experience, told us that he knew only one bend like it, and that was on the Scottish terror, Cairn-o'-Mount. Others likened it to Porlock in Devonshire. However, those who did accomplish the climb are deserving of every credit.

The two little A.J.S. machines surprised everybody and sailed up without a murmur, although J. Stevens, we are told, had never seen the hill before. The trio of Rudge riders—Burney, Hill and Gray—ascended the hill in a

cluster, and must have hindered each other. Gray stopped at the very top of the steep section, whilst his *confrères* were successful, though Hill's back wheel slithered into the ditch and nearly brought he and Burney over. The P. and M.'s—Merrall and Brancaster up—seemed in their element, and Newman, using a new Brampton gear on his Ivy-Precision, made no mistake. Busby (Humber) and South (Scott) used their feet in rounding the bend, but otherwise made very good ascents. The passenger machines found it a tough task, Frank Smith's exhibition on the Clyno being the neatest. Ware travelled well on his Chater-Lea, and would have done better had the back wheel gripped on the loose surface. During the ascents a taxicab came up the hill and stuck after rounding the bend. A sore of willing hands helped it to move to a place of safety. A number of competitors ascribed their failures to being baulked. Woodgate on the new counter-shaft gear Singer experienced very hard luck, for he had surmounted the steepest stretch when his back wheel skidded into the ditch, bringing him over. Dr. Basil Fawcett had climbed the Bank several times on his 8 h.p. Chater-Lea and Lowen sidecar, but he chose to take Mrs. Fawcett and their little boy round the Quaterly Trials, and the extra weight just accounted for his failure on Farlow and Birdlip. The Morgan runabout was probably the fastest passenger machine. The names of those who came to a standstill are given in our tabulated list of results.

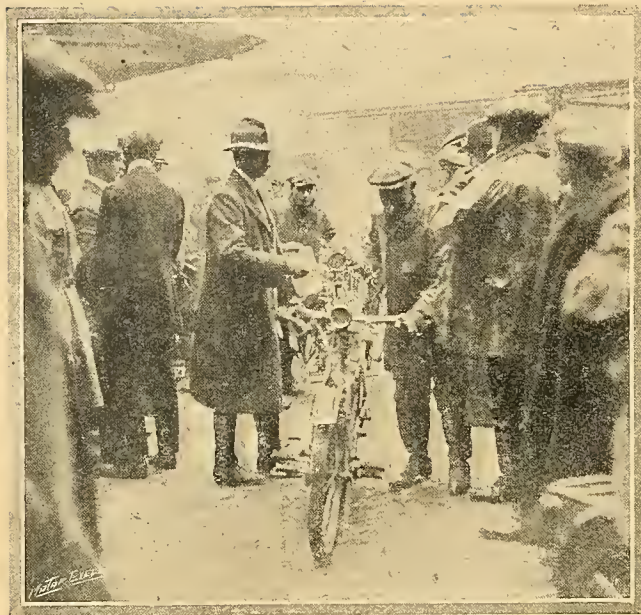
Incidents of the Trial.

Leaving Farlow, with its long black list, the route lay through Ludlow, Ludford, Burford, Tenbury, to Kyre, Colington, and Bromyard. The road surface improved considerably. The twisty route through Bromyard was well marked, and here, as in most other towns passed through, small crowds assembled at street corners to watch the riders file through. After Bromyard, we encountered R. H. Viggers (Enfield) with a burst front tyre. This rider charged the bank on Farlow owing to his back wheel spinning round, and must have dented the rim, for the cover blew off, the machine finally finishing in the hedge by the roadside. P. Brewster, who made three futile attempts to climb Farlow on a single gear, ran out of petrol and retired.

Ankerdine Hill, not being mentioned on the route card, proved a big surprise, and though only two failed—G. Lee Temple (single-gear Arno) and H. C. Glover (2½ h.p. Forward), whose machine was not running in tip-top form—several competitors had anxious faces before they reached the top.



The leaders on the road from Knightsford Bridge.



Alec Ross restarting T. Silver (Quadrant) from the Star Hotel, Worcester. B. A. Hill (Rudge) may be recognised in the background.

Worcester was reached *via* Martley. An excellent lunch was served at the Star Hotel, and in an hour competitors were on their way again.

The roads after lunch were very good, albeit dusty. There was nothing of note to chronicle on the section Tewkesbury-Norton-Gloucester, where competitors prepared for Birdlip, the second test hill.

Observations at Birdlip.

This well-known Gloucestershire hill, which lies on the direct road from Gloucester to Cirencester, provided a most excellent test for the trials competitors. We found a goodly number of keen spectators, motor cyclists, and car owners on arrival at the hill. The surface was in excellent condition owing to the rain which had fallen on the previous day. Taking up our position just below the last steep bit of 1 in 6, we obtained an excellent view of the riders as they passed "The Knap" far below. This house is situated close to the severest gradient on the hill—1 in 5½. The first motor cyclist to ascend was Mrs. Gibb, of Gloucester. She was not competing in the trial, but rode up excellently on her two-speed Douglas. Soon after she had passed several

non-competitors formed a sort of advance guard, and we noticed among others a James, a Rover, a P. and M., and six single-gear Triumphs, all of which passed us going well. It should, however, be noted that these riders were at liberty to cool their engines at the hill foot.

V. Busby (2½ Humber), whose machine was entered by H. Garner, Ltd., led the vanguard, and using the low gear of his Armstrong made an excellent climb on the last portion of the hill. When observing on a long hill like Birdlip it is extremely difficult to point to any individual performances as more noteworthy than others, because one rider may be travelling well at the foot and badly at the top, and *vice versa*; everyone, however, agreed that W. D. South (3½ Scott), H. D. Jones (3½ Zenith-Gradua), and Miss N. Hough (2½ Douglas), among others, made excellent climbs. Owing to trouble with the official car carrying the timekeepers, no times could be taken. E. B. Ware (Chater Lea) and Frank Smith (5-6 Clyno) did well as usual among the passenger machines, and the performance of the Morgan runabout was very much admired. The three A.C. Sociables all made good ascents, F. E. Walker (5-6 A.C. Sociable) gaining rapidly on Fred Hill, who drove a similar machine. J. Tassell's Matchless and sidecar proved as good on Birdlip as it did on the Yorkshire hills in the 1,000 miles trials, and it was a matter of considerable satisfaction to all concerned to see passenger combinations performing in such an excellent manner on this severe gradient.

Dropping down Leckhampton, a circuitous route was followed in order to avoid Cheltenham. Cleeve Hill was ascended without difficulty by all. In Winchcombe a dog made a dash for E. W. Merrill, who kicked out with his



Nearing Tewkesbury. W. Cooper (3½ Bradbury), accompanied by F. A. McNab (3½ Trump-Jap), who was a non-competitor.

foot, and the little terror unfortunately retreated under Miss Hough's machine, and brought that clever rider over. She was only shaken, however, and continued, her experience counting as a traffic stop. Later, we passed Southam (Zenith) fitting a new inner tube, and Duke (Zenith) refitting a valve and repairing a puncture.

After passing through Evesham, Dunnington, and Astwood Bank, a halt was called at Headless Cross for the purpose of lighting lamps. The fog came on rather thickly towards the finishing point, which was reached *via* Bromsgrove, Romsley, and Halesowen.

All those with three previous non-stops in the running for the aggregate cup duly completed Saturday's fourth and last event except Ware, who is to be heartily sympathised with. A front wheel puncture, the sole trouble in four consecutive trials, speaks as well for the regular running of the Chater-Lea as it does for the skill of the driver. The Stevens brothers (A.J.S.) again non-stopped, likewise Burney and Hill (Rudge) and F. Smith (Clyno). The New Hudson riders were notable omissions from the non-stop list. They have to thank the A.C.U. for the selection of Farlow Bank for spoiling their run of successes. H. F. S. Morgan again shone conspicuously.



H. J. Cox (an official), J. W. Woodhouse (Dene-Precision), and W. D. South (Scott), at the compulsory stop at Headless Cross, for the purpose of lighting lamps. The photograph was taken in the dusk.

The RUDGE

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Motor Cycle in the
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Trials during 1911,
winning the SILVER
CUP for the best aggregate performance.

The machine accomplishing this remarkable performance was
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A new edition of the Motor Bicycle Catalogue, free by post, fully describes the many exclusive features of the Rudge, and should be read by every actual or prospective motor cyclist.

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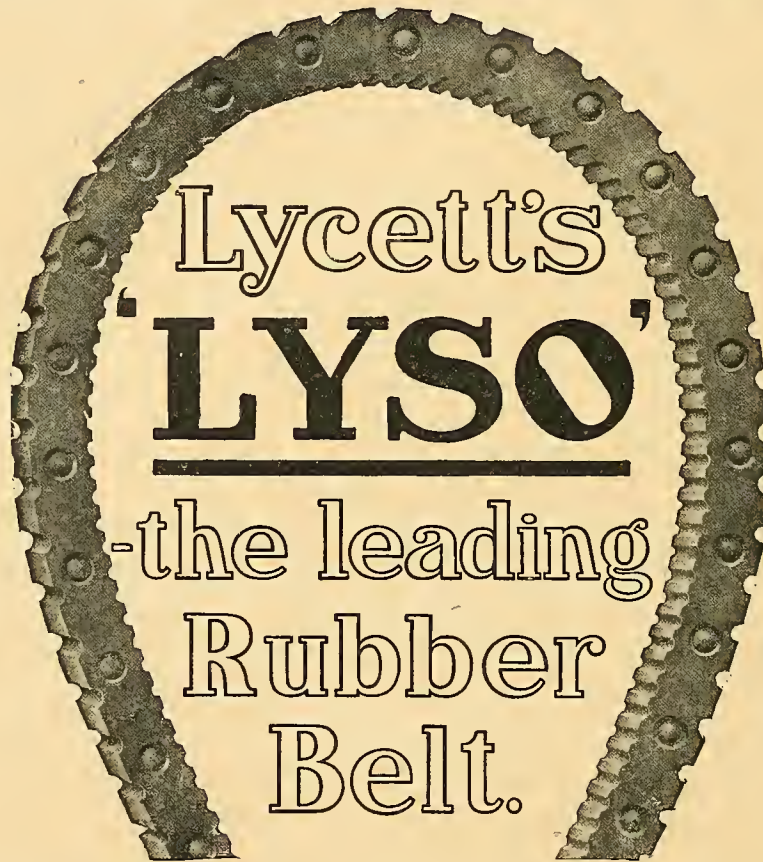
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The latest "**LYSO**" achievement.

The **Silver Cup** for the best aggregate performance in the **Four A.C.U. Quarterly Trials** held during 1911 has been awarded to B. Alan Hill, riding a $3\frac{1}{2}$ h.p. Rudge Motor Bicycle

FITTED WITH THE FAMOUS



Here again we have conclusive proof of the supremacy of the "**Lyso**" Belt. The courses chosen for the Trials were most difficult, and in each case included two very severe ascents. The knowledge that the "**Lyso**" Belt withstands all tests—whether on track or road—must convince you of its undoubted superiority, and you should insist on having a "**Lyso**" on your machine.

LYCETT'S, "The Saddlery," Birmingham.

Makers of the world-famous range of "**LA-GRANDE**" Cycle and Motor Cycle Saddles, Tool-Bags, Tool Rolls, Travelling and Frame Bags, Carriers, Stands, etc.

In answering this advertisement it is desirable to mention "The Motor Cycle."

OFFICIAL RESULTS AT A GLANCE.

Competitor, H.P., and Machine.	Cyls.	Gear.	Transmission.	Remarks.
*Miss N. Hough (2½ Douglas)	2	2-speed Douglas	Belt and chain	Non-stop. First-class certificate
J. Stevens (2½ A.J.S.)	1	2-speed A.J.S.	Chain	Non-stop. First-class certificate
A. J. Stevens (2½ A.J.S.)	1	2-speed A.J.S.	Chain	Non-stop. First-class certificate
C. S. Burney (3½ Rudge)	1	Rudge variable	Belt	Non-stop. First-class certificate
B. Alan Hill (3½ Rudge)	1	2-speed N.S.U.	Belt	Non-stop. First-class certificate
V. Busby (2½ Humber)	2	3-speed Armstrong ..	Belt	Non-stop. First-class certificate
*E. W. Merrill (3½ P. & M.)	1	2-speed P. & M.	Chain	Non-stop. First-class certificate
H. C. Newman (3½ Ivy-Precision)	1	Brampton variable ..	Belt	Non-stop. First-class certificate
W. D. South (3½ Scott)	2	2-speed Scott	Chain	Non-stop. First-class certificate
*A. H. Lowe (5-6 A.C. Sociable)	1	2-speed A.C.	Chain	Non-stop. First-class certificate
Frank Smith (5-6 Clyno)	2	4-speed Clyno	Chain	Non-stop. First-class certificate
H. F. S. Morgan (8 Morgan runabout) ..	2	3-speed Morgan	Chain	Non-stop. First-class certificate
*H. Branchester (3½ P. & M.)	1	2-speed P. & M.	Chain	Ran off route
*W. Cooper (3½ Bradbury)	1	2-speed N.S.U.	Belt	Failed on Farlow
F. S. Whitworth (2½ Douglas)	2	2-speed Douglas	Belt and chain	Failed on Farlow
G. T. Gray (3½ Rudge)	1	Rudge variable	Belt	Failed on Farlow
W. B. Gibb (2½ Douglas)	2	2-speed Douglas	Belt and chain	Failed on Farlow
*N. G. Blackwell (6 Zenith)	2	Gradua variable	Belt	Failed on Farlow
Geo. Bell (4 New Hudson)	1	3-speed Armstrong ..	Belt	Failed on Farlow
H. Graham Dixon (4 New Hudson)	1	3-speed Armstrong ..	Belt	Failed on Farlow
B. Bourke (4 New Hudson)	1	3-speed Armstrong ..	Belt	Failed on Farlow and Birdlip
*E. H. Paul (3½ Elliston and Fell)	2	2-speed N.S.U.	Belt	Failed on Farlow and Birdlip, ran off route
E. H. Allday (3½ Alldays)	1	2-speed Roc	Belt	Failed on Farlow and Birdlip, punctured, and ran off route
T. Silver (3½ Quadrant)	1	3-speed Armstrong ..	Belt	Failed on Farlow, broken belt fastener
A. Webster (2½ Hobart)	1	3-speed Armstrong ..	Belt	Failed on Farlow
*R. C. Owen Wells (3½ Bradbury)	1	2-speed N.S.U.	Belt	Failed on Farlow
J. W. Woodgate (3½ Singer)	1	2-speed Singer	Belt and gear	Failed on Farlow
R. W. Duke (3½ Zenith)	1	Gradua variable	Belt	Failed on Farlow, punc., and broken valve
*F. Southam (6 Zenith)	1	Gradua variable	Belt	Puncture
N. Allday (3½ Alldays)	1	2-speed Roc	Belt	Four stops, various
*Rev. E. P. Greenhill (2½ Douglas)	2	2-speed Douglas	Belt and chain	Failed Farlow and Birdlip
P. J. Evans (3½ Humber)	1	2-speed Humber	Belt	Failed Farlow and skid
G. Lee Temple (3½ Arno)	1	Single	Belt	Failed on Farlow and Ankerline, and ran out of petrol
J. W. Woodhouse (3½ Dene-Precision) ..	1	3-speed Armstrong ..	Belt	Broken belt fastener
J. N. Percox (3½ Alldays)	1	2-speed Roc	Belt	Assisted on Farlow
R. H. Viggers (2½ Enfield)	2	2-speed Enfield	Chain	Failed on Farlow, and tyre
J. Oliphant (3½ Premier)	1	3-speed Armstrong ..	Belt	Failed on Farlow
E. Smith (4½ Regal-Precision)	1	2-speed Roc	Belt	Failed on Farlow, and puncture
*H. D. Jones (3½ Zenith)	1	Gradua variable	Belt	Failed on Farlow, and puncture
*F. E. Walker (5-6 A.C. Sociable)	1	2-speed A.C.	Chain	Shed passenger on Farlow
*J. E. Tassell (8 Matchless and sidecar) ..	2	2-speed Nala	Belt	Failed on Farlow
*Dr. Basil Fawcett (8 Chater-Lea and sidecar)	2	3-speed Chater-Lea ..	Chain	Failed on Farlow and Birdlip, tightened steering twice
*E. B. Ware (8 Chater-Lea and sidecar) ..	2	3-speed Chater-Lea ..	Chain	Puncture
Fred Hill (5-6 A.C.)	1	2-speed A.C.	Chain	Shed passengers on Farlow

* Private owners.

RETIREMENTS.—P. Brewster (3½ Norton), A. M. Lomax (3½ B.S.A.), W. R. Jones (4½ Ixion-Precision), *H. C. Glover (2½ Forward), and *S. Kempson Jones (3½ L.M.C. and sidecar).

Only twelve out of forty-nine competitors climbed the two test hills and made non-stop runs, a percentage of 24.5.

Ruling out the failures on Farlow Bank, the non-stop list would have been increased to twenty-seven = 55.10%.

Did the A.C.U. go too far in selecting a freak hill on a by-road as a test gradient? A great many spectators thought so on Saturday.

No single-gear machine climbed Farlow last Saturday, although it has been climbed many times previously. Brewster (Norton) and Temple (Arno) were several times successful in practice.

It is a strange fact that several riders who claim to have climbed Farlow at the first attempt failed ignominiously.

We heard of several competitors who had climbed Farlow at nearly every attempt in practice and returned home satisfied, only to fail in Saturday's event.

There had been a great deal of practising during last week. R. H. Viggers climbed the hill twenty-seven times out of thirty attempts on his Enfield. T. Silver never had any trouble in reaching the summit on his three-speed Quadrant.

G. T. Gray made nine clean ascents on his Rudge, F. S. Whitworth considered it an ordinary performance for his Douglas, Manning-Lomax had hitherto encountered nothing which could stop his B.S.A. with the new pattern B.S.A. hub two-speed gear, and Dixon and Bell had given their 1912 New Hudsons an exhaustive test, yet on the all-important trial all the above stopped. Was it due to the excitable crowd or to the hot engines?

Farlow Bank was the *pièce de résistance*. Birdlip sank into oblivion compared with the first test hill, and a number of non-competitors on standard single-gear machines climbed the one time Gloucestershire terror with ease.

On Saturday evening Mr. A. Melano, of the Hutchinson Tyre Co., presented the A.C.U. with a silver cup to be awarded for the best performance in this year's trials on a lightweight. One of the Stevens, on the A.J.S., is bound to receive it, as these two brothers have made non-stop runs and gained first-class certificates in each of the four events—a most creditable performance.

Troubles were exceedingly few on Saturday; in fact, never do we recollect such an absence of roadside repairs. If we eliminate tyre troubles and hill failures, the number of stoppages could be counted on one's fingers.

THE AUTO CYCLE UNION'S OCTOBER QUARTERLY TRIALS.

JUDGES' REPORT.

B. Alan Hill (Rudge) declared Winner of the "Aggregate" Cup.

THE fourth Quarterly Trial of motor cycles was held on the 14th inst. The distance covered was 167 miles, and included two severe hill tests in Farlow Bank, Worcestershire, and Birdlip Hill, Gloucestershire.

The weather was dull and misty, with no rain; the roads were in good condition, with the exception of Farlow Bank, on which the surface was loose.

Forty-two single and nine passenger machines entered. Of the single machines, three had engines not exceeding 300 c.c. capacity, seven had engines of capacity between 300 and 343 c.c., while the single-cylinder engine of the greatest capacity was the Norton, with 636 c.c. There were only two non-starters.

Only two single-gear machines ventured to enter. Three new speed gears made their first appearance in the Trials, the Bowden, the B.S.A., and the Singer, in which the crank case and gear box are combined in one casting; while the Brampton gear appeared in a new form. Of the passenger machines five were sidecars and four sociables. The Chater-Lea sidecar entered by E. B. Ware had a neat gear case and covers fitted over the valve tappets. The Clyno sidecar had the axle of the sidecar wheel supported by an outside member of the frame, while the attachment of the sidecar to the front of

the machine was by a pair of braced members instead of by the usual single tube. The Morgan runabout had further improvements in a bonnet over the engine and a metal shield for the magneto.

It will be seen, by reference to the tabulated results, that twelve machines made non-stop runs; of these three were passenger machines. The passenger machines on the whole, therefore, made a better show (five non-stops out of nine starters) than the singles (nine non-stops out of forty starters). The two hills account for most of the failures. Birdlip has long been known (by repute if not by actual acquaintance) to motor cyclists; it may be described as long, straight and steep. Compared with Birdlip, Farlow Bank is shorter, steeper, and has two sharp bends on the steep gradient. The twelve non-stop runs are divided between eleven different types of speed gears, the A.J.S. being the only gear to secure two non-stops. Miss Hough, on a 2½ h.p. two-speed Douglas, is to be specially congratulated on having succeeded where so many older and more experienced riders have failed.

The general failure of the bicycles to climb Farlow is, probably, due to the gears not being set low enough. A three-speed mechanism, with the high gear as

the normal and giving two reductions of speed, would seem to be better for such a trial as Farlow Bank than one with the middle gear as normal, giving only one reduction.

The official car with the judges and timekeepers had much tyre trouble, so that it arrived a trifle late at Farlow Bank and did not reach Birdlip Hill at all. There was, therefore, no timing on the hills.

The Aggregate Cup.

As a result of the four trials there are left three competitors who have each obtained four first-class certificates. These are: J. Stevens (2½ h.p. A.J.S.), B. Alan Hill (3½ h.p. Rudge), and Frank Smith (5-6 h.p. Clyno and sidecar).

As will be seen from the judges' report, there was no timing on the hills in the October trial; the award has, therefore, to be made on the results of the three previous trials. The deviations from standard time on the six hills are respectively:

B. Alan Hill	...	85½s.
F. Smith	...	109½s.
J. Stevens	...	136½s.

B. Alan Hill is, therefore, awarded the special silver cup.

Judges { DOUGLAS K. HALL.
ARCHIBALD SHARP.

HERTS. COUNTY A.C. MEMBERS' HILL-CLIMB.

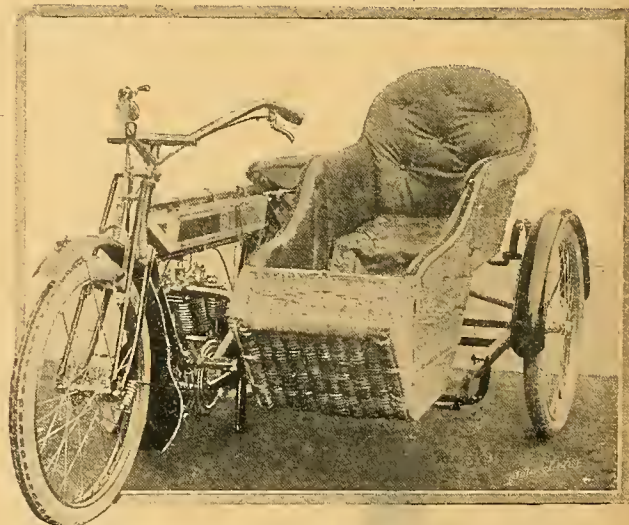
A very successful members' hill-climb was held on Saturday last at Aston Clinton Hill. J. T. Bashall on his big Bat-Jap made fastest time of the day. In Class VI. also he came up the first bad pitch at such a speed that he took the grass at the first corner. However, he made an excellent recovery. The results are tabulated hereunder:

Time.	Formula.
Barnes (2½ Zenith)	Barnes (2½ Zenith)
	Tessier (2½ Bat)
	Bennett (2½ Grandex)
CLASS II.	
Colver (2½ Enfield)	W. H. Bashall (2½ Humber) ... .83
	Colver (2½ Enfield) ... .84
CLASS III.	
E. A. Colliver (3½ Zenith)	Barnes (2½ Zenith) ... .53
	Tessier (2½ Bat) ... .63
	A. J. Dixon (3½ Rudge) ... .77
CLASS IV.	
C. C. Cooke (3½ Triumph)	Barnes (2½ Zenith) ... .54
H. Lister Cooper (3½ Triumph)	Colver (2½ Enfield) ... .812
	Lister Cooper (Triumph)
	E. A. Colliver (Zenith) ... .83
CLASS V.	
J. T. Bashall (7-8 Bat-Jap)	Down (2½ Enfield) ... .91
	Barnes (6 Zenith) ... .1.01
	J. T. Bashall (7-8 Bat-Jap) ... .1.29
CLASS VI.	
J. T. Bashall (7-8 Bat-Jap)	Colver (2½ Enfield) ... .7684
	Down (2½ Enfield) ... .7692
	W. H. Bashall (2½ Humber) ... .82
CLASS VII. Fastest time.	
J. T. Bashall (7-8 Bat-Jap).	

Barnes (6 Zenith)	CLASS VIII. Passenger.
	Barnes (6 Zenith)
	J. T. Bashall (7-8 Pat)
	Rice Pyle (7-8 Bat)

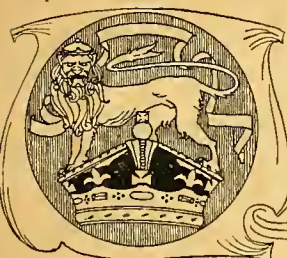
R. Fisher.	CLASS IX. Skilful driving
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Barnes (6 Zenith).	CLASS X. Stop and start.
E. A. Colliver (3½ Zenith).	



A 1912 MODEL.

The Premier Sidecar Combination. This model has a twin-cylinder engine and two-speed gear.



CURRENT CHAT



TIME TO LIGHT LAMPS.

Oct. 19th	..	..	5.58	p.m.
„ 21st	..	..	5.53	„
„ 23rd	..	..	5.49	„
„ 25th	..	..	5.46	„

An Assumed Name in the Quarterly Trial.

H. Brancaster, who unfortunately lost his first class certificate in the Quarterly Trial owing to accidentally running off the route, is none other than Mr. Vincent Clive, who took the hero's part as the Earl of Brancaster in the great Drury Lane drama last year, "The Whip."

Stockport Hill-climb.

The Stockport M.C.C. held a hill-climb last week-end, fastest time being made by H. Marsden (5 h.p. Matchless-Jap), J. Whyte (3½ h.p. Triumph) being the fastest single-cylinder rider. The passenger class was won by J. Emmerson (5 h.p. M.S.L.).

The 3,000 Miles Engine Test.

Last week we referred to D. R. O'Donovan's achievement of riding 3,000 miles on a 3½ h.p. clutch model Singer with the valve caps, engine and hubs sealed. Mr. Donovan's method of checking was by obtaining signatures at the different towns through which he passed. He left with us his checking book for the purpose of examining the signatures, and we find that they number no less than 138. At the conclusion of the trial the cylinder was removed to prove to our satisfaction that the engine was of standard construction, and the interior was found to be in splendid condition. Mr. O'Donovan covered 1,000 miles in one week of the trial, and further climbed Birdlip with a 4½ to 1 gear. The clutch was one of the parts sealed, and it gave no trouble at all.

Dangerous Gates in Leamington Spa.

Readers will remember the serious accident which occurred to F. C. Wood recently. In reply to a letter to the Town Clerk of Leamington Spa suggesting that the dark iron palings with which Mr. Wood collided should be painted white so as to show up in the dark, Mr. G. Smith, hon. secretary of the Coventry and Warwickshire M.C., has received the following courteous letter: "Your letter of the 29th ult., with reference to the recent regrettable accident at the entrance to Victoria Park from Avenue Road, came before the Watch Committee at their last meeting, when, after inspection, it has been decided to paint the gates, posts, palisades, and notice boards at both the Archery Road and Avenue Road entrances in white paint, which it is hoped will prevent any similar accident occurring in future.—(Signed) LEO RAWLINSON, Town Clerk, Leamington Spa."

The Future of the T.T.

Will the Tourist Trophy Race be held in the Isle of Man next year or on Brooklands is a question which is engaging the serious attention of manufacturers at the present time. We refer readers to the leaderette in this issue.

The B.S.A. and the C.A.P.

We learned from an authoritative source on Saturday that the B.S.A. Co. had taken over the manufacture and control of the C.A.P. carburetter which has made such headway in its comparatively short existence.

A Trial of the 1912 Premier.

Last week-end we accompanied the competitors in the Quarterly Trial, covering in all nearly 250 miles, on a 1912 model three-speed Premier. The machine is fast, comfortable to ride, and did not require the tool bag opening. It climbed all hills with ease excepting Farlow Bank, but we do not doubt the machine's ability to account for that tricky ascent. After scraping round the hairpin bend as best we could we were not prepared for a gradient like the roof of a house, and consequently followed the example of a great many of the competitors.

SPECIAL FEATURES.

QUARTERLY TRIALS.

Official awards and Judges' report.

NEXT YEAR'S COMPETITIONS.

1912 MODELS.

Analysis of the Quarterly Trial Machines.

Of the twelve machines credited with non-stops in Saturday's trial seven had chain drive, one employed both belt and chain, the others had belt drive. Seven had two-speed gears, two three speeds, one four speeds, and two infinitely variable gears.

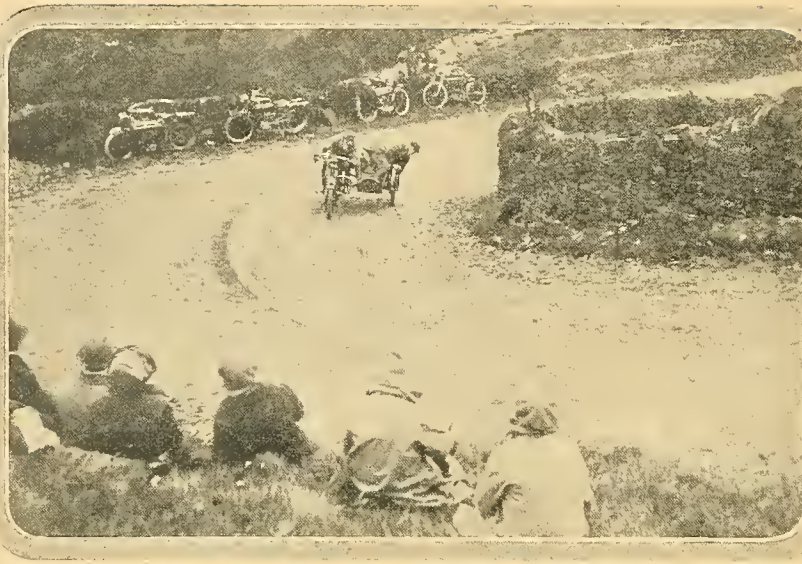
Italian Hill-climb.

The results of the Perugia hill-climb are to hand. The hill is five miles in length. The competition was divided into three classes for motor cycles not exceeding 250 c.c., 333 c.c., and 500 c.c. The winner of Class 1 rode a S.I.A.M.T., the second a Motosacoche, the third a S.I.A.M.T. Class 2 results were, 1st, 2nd, and 3rd, all on S.I.A.M.T.'s, and Class 3, 1st twin-cylinder S.I.A.M.T., 2nd Triumph, 3rd single-cylinder Borgo. Fastest time in Class 3 was 6m. 2s., which equals a speed of 49.7 m.p.h.



THE AUTUMN QUARTERLY TRIAL.

H. F. S. Morgan (new design runabout), who climbed both test hills with comparative ease, at the last bend on Farlow.



STOCKPORT AND DISTRICT M.C.C. HILL CLIMB.

Clever corner work on the part of J. Emmerson (5 h.p. M.S.L.), winner of the passenger class.

Acquitted.

James Merton who was committed for trial on the charge of obtaining a motor cycle value £25 by false pretences from G. N. Higgs has been acquitted. The jury stopped the case, returning a verdict of "Not Guilty."

[The case was first referred to in our issue of September 28th last, page 1017.]

Liverpool A.C.C. Two Days' Trial.

The official results of the above reliability trial in North Wales are as follows: Maximum number of marks obtainable, 1,000. First prize, silver cup and gold medal, W. Heaton (2½ h.p. two-speed A.J.S.), 980 marks; second prize and club gold medal, for the best performance on a fixed geared machine, T. Carroll (3½ h.p. Bradbury), 895 marks; third, club silver medal, George Wray (3½ h.p. Bradbury), fixed gear, 876 marks; fourth, bronze medal, N. Brown (3½ h.p. Rudge), 875 marks; Rex cigarette case, E. F. Baxter (7 h.p. Rex), 814 marks; club sidecar prize, A. Kirby (6 h.p. Zenith-Gradua and sidecar), 782 marks.

M.P. Frustrates Highway Robbery.

The Derbyshire police are investigating an attempt at highway robbery which, it is reported, was only frustrated by the timely arrival of Sir Herbert H. Raphael, M.P. It appears

FUTURE EVENTS

Oct. 21.—Herts County A.C. Autumn Open Speed Trials in Luton Hoo Park.

Nov. 20-25.—Motor Cycle and Cycle Exhibition at Olympia.

Dec. 27—Dublin and District M.C.C. Open Reliability Trial to Waterford and back.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.

that Mr. E. Innes, of Derby, while returning home from Burton-on-Trent on a motor cycle at night, was set upon by two men, who knocked him into the hedge and attempted to rifle his pockets.

He called out for help to a motor car, in which Sir Herbert Raphael was passing, and the men ran away as Sir Herbert went to Mr. Innes's rescue. Mr. Innes's knee had been badly cut and his clothing torn in the struggle.

Saturday's Speed Trials.

A wire from Mr. C. C. Cooke, hon. secretary of the Herts County A.C. (Motor Cycle Section) announces that there are over 100 entries for that club's speed trials in Luton Hoo Park.

A.C.U. Council Meeting.

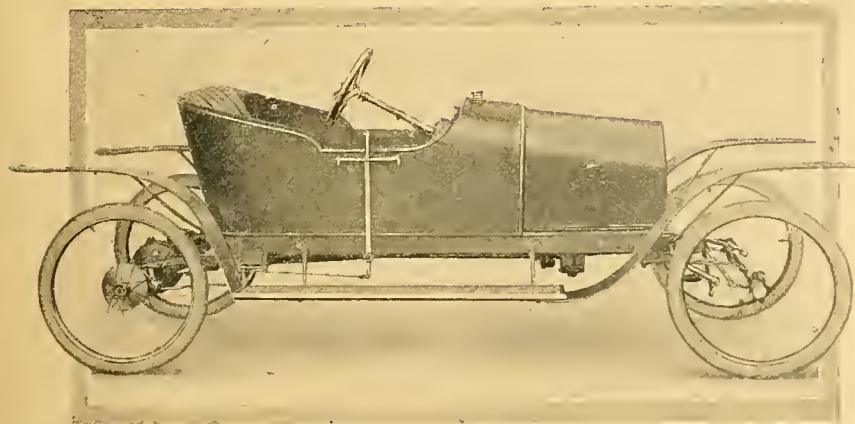
The principal item on the agenda of the A.C.U. Council Meeting, which was held at the Imperial Hotel, Birmingham, on Friday evening last, was a motion which stood in the name of Mr. Vernon C. Brook (Birmingham M.C.C.). The following clubs were represented: North-west London, Coventry and Warwickshire, Birmingham, Stockport, Oxford, R.A.C., A.C.U. (private members), Sutton Coldfield, Gloucester City, Bradford, and Chesterfield. Mr. Victor Hart occupied the chair, and among those present were Messrs. C. A. Smith (hon. treasurer), H. E. Nisbet, D. K. Hall, Vernon Brook, R. W. Duke, H. C. Pickering, E. W. Winckle, A. Sharp, F. Straight (secretary). After the report had been duly passed Mr. Vernon Brook moved that a detailed statement of the Tourist Trophy accounts be published. The Honorary Treasurer pointed out that it was most impolitic to publish any details, and his attitude was supported by Mr. Nisbet, who explained that if the members of the council could not rely upon the committee they had appointed to deal with the finance they were casting a reflection upon those who were responsible for the balance sheet. He also pointed out that any particular item would be explained to any member of the council privately, but the committee could not see its way clear to issue details of expenses. After considerable discussion on the point, in which Messrs. A. Sharp, Norman, Vernon Brook, E. W. Winckle, and Otto Thomas took part, the meeting decided to accept an amendment from the original proposer, that the question be postponed until such time as the hon. sec. and treasurer of the Birmingham club could go through the accounts with the A.C.U. secretary. Mr. C. A. Smith pointed out during the discussion that the loss on runs and trials for the year was £48 10s. 6d. The meeting was followed by a smoking concert.



Miss Lena Schulte, who is 15 years of age, ascending Edge Hill, near Kineton, with her sister Muriel seated on the carrier. (See page 1089.)

1912 MODELS.

Advance Details of New Pattern Motor Cycles.



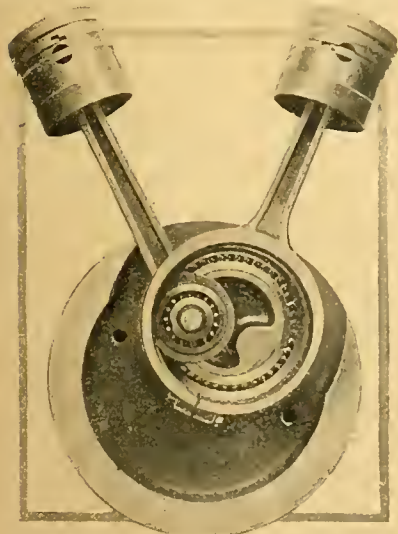
Humber quadcar for 1912. It was intended that this machine should be exhibited at the Motor Cycle Show at Olympia, but permission has, we understand, been refused.

Premier.

We have recently had the opportunity of examining the first of the 1912 Premier models. The frame has been considerably lowered, while the new pear-shaped cylinder casting adds greatly to the appearance of the $3\frac{1}{2}$ power unit. The cylinder head has been redesigned to give a smoother flow to the incoming and

and brake rim. In both types the carrier—which is made to take a large tool-bag at the rear below the luggage platform—supports the mudguard, which can be detached at the rear stays and swung down with the carrier so as to provide easy access to the back tyre. The handlebars have been slightly altered to give a more comfortable riding position, and incidentally the appearance has been improved by the alteration. The sidecar model is fitted with the twin 66×80 mm. engine which, with the exception of ball bearing big ends, has undergone no great alterations for the coming year. The Millennium two-speed gear is fitted to the rear hub, and the control is particularly neatly carried out.

A ladies' model with $3\frac{1}{2}$ h.p. engine and Armstrong three-speed gear will shortly issue from the Premier Cycle Co.'s Works, and a twin two-speed sidecar combination is another introduction for 1912.



The tall-bearing connecting rods of the 1912 twin-cylinder Premier. In the shops they are known as banjo big ends

outgoing gases, and the piston has been somewhat lightened. In other respects the engine will remain much the same. All the tank fittings are very large and substantial, and a pipe is led from the petrol tank to the compression cock for the purpose of priming the engine. Great attention has been paid to the mudguarding for the 1912 models. The front mudguard has been fitted with side wings, and the rear guard with an extension over the belt rim, while in the case of the two-speed model a $7\frac{1}{2}$ in. wide curved mudguard covers the belt rim, rear wheel,

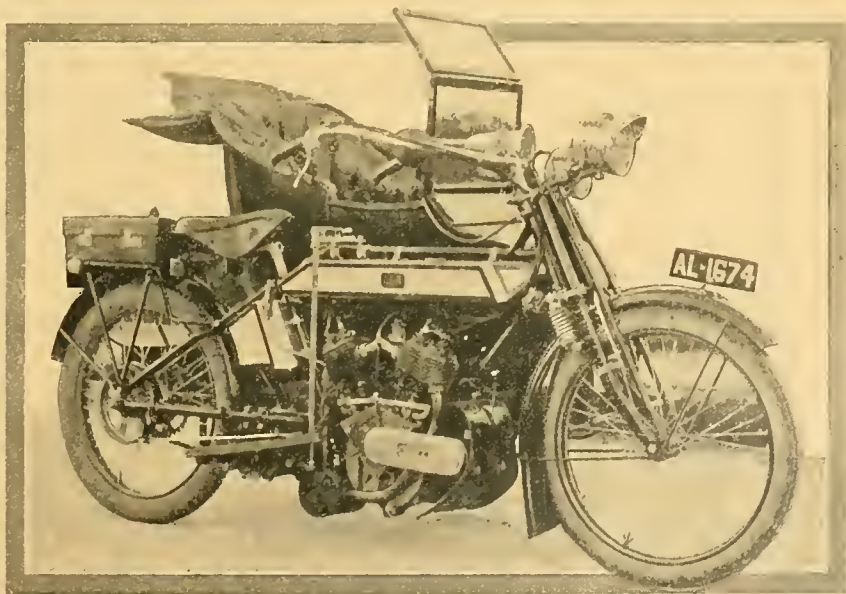
The Puch Motor Bicycle.

It was in 1905 that the writer first met Herr Puch, who had then entered a machine for the International Cup Race at Dourdan. Even in those early days of the industry the sidecar was becoming popular, especially in Austria, and Herr Puch and his assistants found the sidecar machine which they brought over from Gratz, where are the Puch Works, to be exceedingly useful preparatory to the race. The machine is one which has established a high reputation for itself on the Continent, and readers will be interested to hear that it is now to be handled in this country. The following will be placed on the market: Two single-cylinder patterns, $3\frac{1}{2}$ h.p., 76 by 100 mm., one of these having two-speed gear, free engine and chain drive, and a 6-7 h.p. twin with two-speed gear, chain drive, fan cooling, and sidecar. This model is fitted with 700 by 80 mm. Voiturette tyres, and it looks an exceedingly sensible sidecar machine. Probably all these models will be on view at the coming Olympia Show.

The single-cylinder engines are provided with mechanically-operated valves, but in the case of the twin the inlet valves are automatic, a practice which is nearly obsolete in this country.

The New 6 h.p. C.C.R.=J.A.P.

The 6 h.p. sidecar illustrated is the outcome of tests which have been made by Messrs. Smith Bros., a Nottingham firm. The engine is of the ordinary 6 h.p. J.A.P. twin type, fitted with Simms magneto, and B. and B. carburetter. It has a Chater-Lea three-speed gear box, with Chater-Lea disc clutch on the engine-shaft. Chain transmission and drip-feed lubrication are other points of interest. The sidecar is attached to the motor cycle at five points, and is sold complete with hood, wind screen, etc.



The new 6 h.p. C.C.R.-J.A.P. sidecar combination.

1912 Models.—

Another Counter-shaft Gear.

The Bowden counter-shaft gear is a new introduction designed to fit existing models. The gear case is provided with a bolt and nut and two slotted plates, which enable the box to be attached to the bridge of a standard frame as illustrated by the sketch of the complete gear fitted to a $3\frac{1}{2}$ h.p. Chater Lea

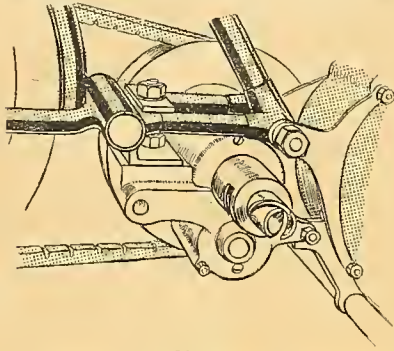


Fig. 1.

The complete Bowden countershaft gear fitted to a $3\frac{1}{2}$ h.p. Chater Lea-Minerva, which was previously provided with a bottom bracket axle, cranks, and pedals. For the sake of clearness, the starting and clutch operating mechanism are not shown.

Minerva. Reference to the sectional drawing of the gear fig. 3 shows the chain wheel A and sleeve A¹. These receive the power from the engine-shaft by means of a roller chain and transmit it to the clutch centre B. On the central shaft or clutch centre are mounted two gear wheels D and G, and on a separate spindle and formed solid with it are another pair of gear wheels E and F. H is the belt pulley which conveys the power to the road wheel. It will be noted that this is exceptionally large in diameter, centre to centre of belt being 7in. Belt slip should therefore be almost impossible. The operation of the gear is extremely simple. In the centre of the clutch is a wedge bar J J, which is longitudinally operated by means of a cam clutch shown in fig. 2. When the bar J is moved to the right and the spring

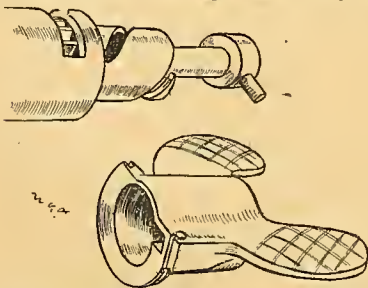


Fig. 2.

The clutch pedal mechanism showing the cam for operating wedge bar.

K expanded, the clutches C C are forced upwards, locking the gear wheel G and belt pulley H to the counter-shaft. In this position the shaft carrying the gear wheels E and F revolves idly. This is the normal or high gear position. When the pedal clutch O is moved to the low gear position, the spring K contracts and the bar J is forced to the left, the other pair of clutches C move outwards, and the gear wheel D is locked to the counter-

shaft, and driving the pair of wheels E and F, the power is transmitted to H through G, and the belt pulley revolves at a slower speed than the counter-shaft. This is the low gear position. The reduction in gear ratio is brought about by the difference in the diameters of the four wheels D E F G, the gear train being arranged in a similar manner to the back gear of a lathe.

With a 7in. diameter belt pulley on the counter-shaft and a 19in. belt rim and the standard chain sprocket on the engine-shaft and counter-shaft the top gear is about 5 to 1. The engine sprockets can be supplied with 15, 16, 17, and 18 teeth, the counter-shaft sprocket having 28 teeth. The starting device consists of a segment of a gear wheel P, meshing with a small toothed wheel on the counter-shaft. The segmental wheel carries a crank and pedal, and by kicking downwards and backwards the engine is revolved two and a half times to one-half revolution of the pedal starter.

The Bowden Wire Co. inform us that on test they can start a single cylinder $3\frac{1}{2}$ h.p. Minerva or an 8 h.p. Bat-Jap with certainty by one thrust down of the crank. Although designed for a standard 500 c.c. engine, the gear has been thoroughly tested on an 8 h.p. J.A.P. to find any faults there may be in the construction. This policy of trying the gear on a machine with a higher powered engine than the standard $3\frac{1}{2}$ h.p. is to be commended; if it will stand an 8 h.p. engine it should be perfect with a lower power.

The whole of the bushes are made of phosphor bronze, the gear case is of aluminium, and the teeth, which are 8 pitch,

are of hardened steel, also the shafts. The gear box is lubricated with Price's hub grease, the filling tap being at the top, and a drain off screw at the bottom.

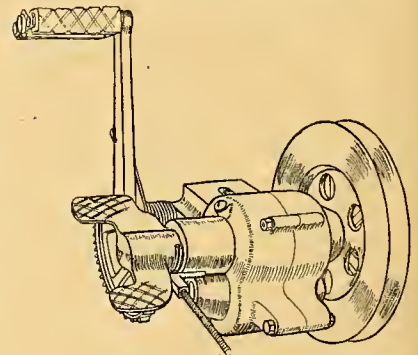
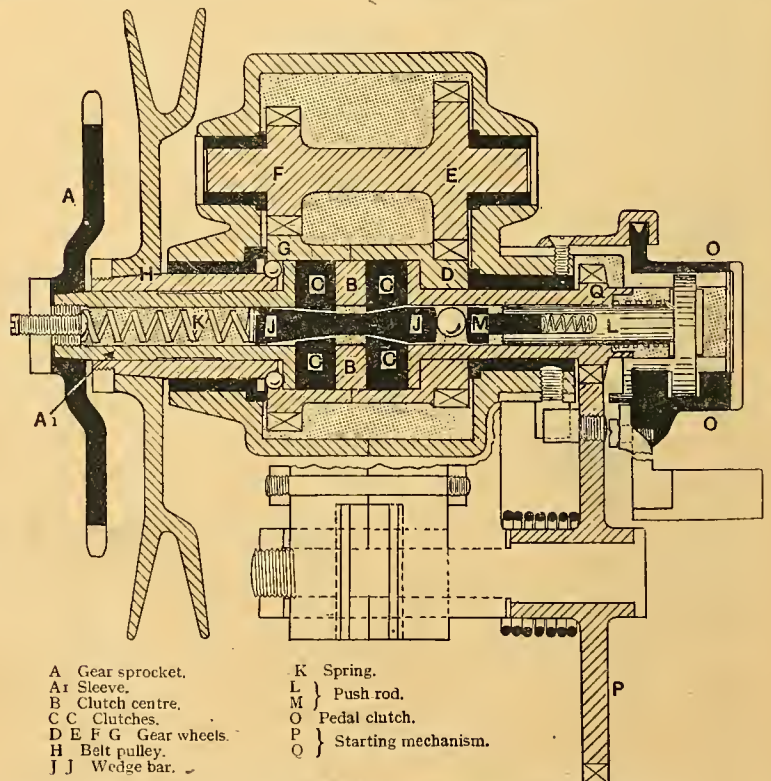


Fig. 4.

Exterior view of the complete gear with starting and clutch pedals.

The gear was weighed in our presence, the total weight being 15 lbs. In addition to the pedal control already described, the gear can be controlled by a Bowden wire and lever with ratchet fitted on the top tube. One of these gears was fitted to the $4\frac{1}{2}$ h.p. Ixion-Precision ridden by W. R. Jones in the Quarterly Trial last Saturday.

The counter-shaft type of gear is certainly growing in popularity, and the enterprise of the Bowden Wire Co., in marketing a gear which can be fitted to almost any standard model, will doubtless receive its just reward in the form of an extensive demand.

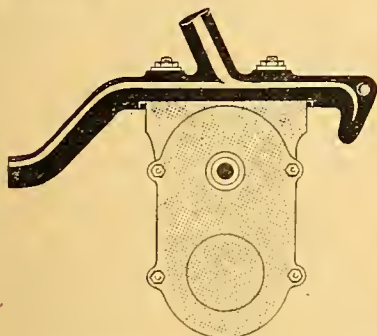


- | | |
|------------------------|-------------------------|
| A Gear sprocket. | K Spring. |
| A ¹ Sleeve. | L } Push rod. |
| B Clutch centre. | M } Push rod. |
| C C Clutches. | O Pedal clutch. |
| D E F G Gear wheels. | P } Starting mechanism. |
| H Belt pulley. | Q } Starting mechanism. |
| J J Wedge bar. | |

Fig. 3.

Sectional drawing of the Bowden countershaft gear. Note the large diameter belt pulley

1912 Models.—

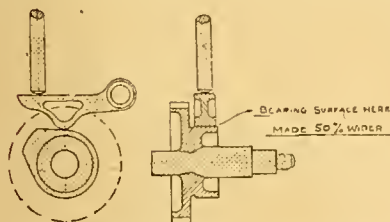


The new method of attaching the A.J.S. counter-shaft gear box to the frame.

A.J.S.

The method of attaching the counter-shaft gear to the frame has been improved for next year.

As will be seen, the box has a flat top, with slight extensions at the side which fit closely on a special lug, thus preventing any tendency to twist. It is held in position by two studs which pass through slotted holes (to allow for chain adjustment) in the lug. The box itself has been rendered considerably more accessible by a slight alteration in the main casting. It is no longer constructed in two halves, but is cast in one piece, with a separate

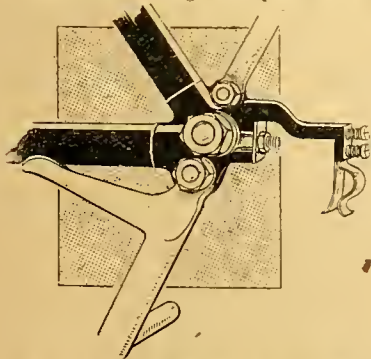


Timing gear of the new Rover. Section of cam, rocker and tappet, showing a 1912 improvement.

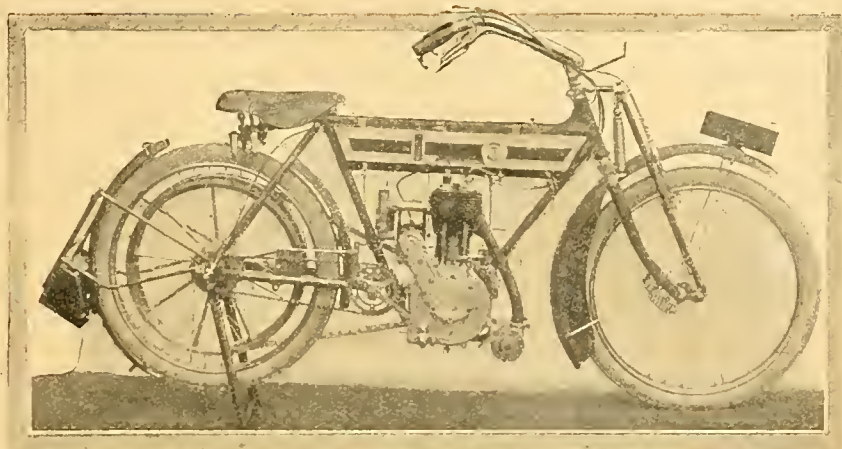
end plate. By unscrewing the thrust washer and removing this plate, the gears and shafts can be dismantled and re-erected by the merest novice.

Tormo.

The Tormo Manufacturing Company (67-68, Bunhill Row, London, E.C.), agents in Great Britain for the Sarolea motor cycle engines and F.S. ball bearings, will be marketing the same models as those sold during this year, and in



Method of fixing the stand on the new Quadrant motor bicycle. The projection on the stand is clipped by the spring on the chain stays.



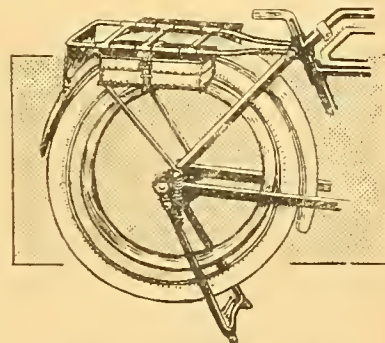
1912 model 2 1/2 h.p. Premier, showing the new swinging mudguard to render the rear tyre more accessible.

addition will introduce a new 2 1/2 h.p. single-cylinder engine, 66 by 86 mm. This is identical, with the exception of the stroke, with the 8 h.p. 1911 model, which was 66 by 72 mm.

New Rudge Variable Gear Model

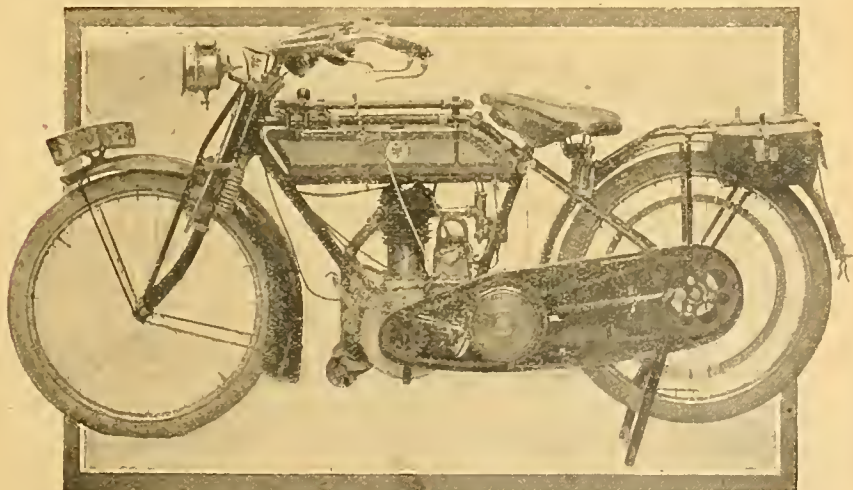
We were recently privileged to inspect the new model Rudge machines which are nearing completion and have formed the opinion that these machines which have made such leaps and bounds in their comparatively short active life will be even more to the front in 1912, not that there are any striking departures in design to chronicle, but there are many minor improvements which cannot fail to commend themselves to the practical rider. First and foremost the machines have been carefully redesigned with a view to reducing the weight in every possible part consistent with strength. For instance, the spring forks are neater and lighter, the lugs of the frame are lighter, the stand and carrier fittings have been redesigned, likewise the variable gear. This last mentioned model possesses the most notable departure, and the gear now

possesses the undoubted advantage of a free engine, no matter what ratio of gear is employed. It will be remembered that formerly the gear had to be at its lowest point before the free engine came into operation, but by a clever adaptation of



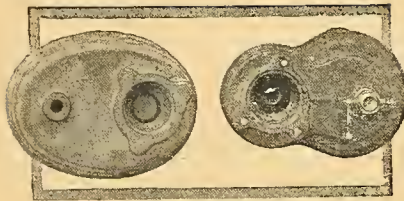
New design stand and carrier on the Rudge.

the Rudge plate clutch in conjunction with the gear mechanism on the engine-shaft a free engine is possible with all speeds. Though carried in a compact



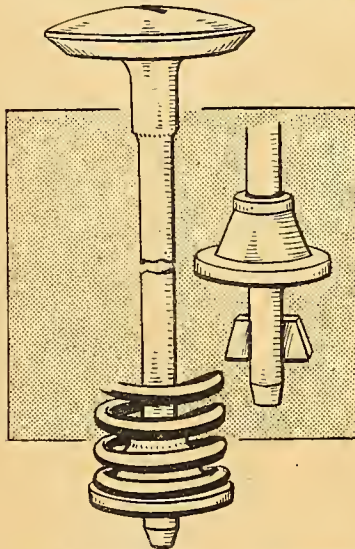
The new model two-speed counter-shaft gear James. The outer chain case has been removed for the purpose of the photograph. We illustrated the gear three weeks ago.

1912 Models.—



The two types of Rudge cylinders for 1912, known as the "oval" and figure 8.

casing the free engine and variable gear mechanism are entirely separate. The width from the centre of the engine pulley groove is 5in. An inherent advantage of the Rudge gear is the fact that the belt always runs in line. The inner flange of the engine pulley is the movable one, and any variation results in a corresponding movement of the outer flange of the rear belt pulley. We tried this gear on the road in the rough, and it

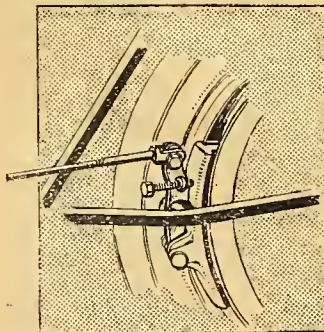


The new cone-shaped cup and cotter permitting a longer spring.

worked admirably. The quadrant will enable twenty different gear ratios, which should appeal to the sidecar user.

Detail Improvements.

Two other models which will be marketed are the $3\frac{1}{2}$ h.p. clutch machine and the T.T. model. We detail a number

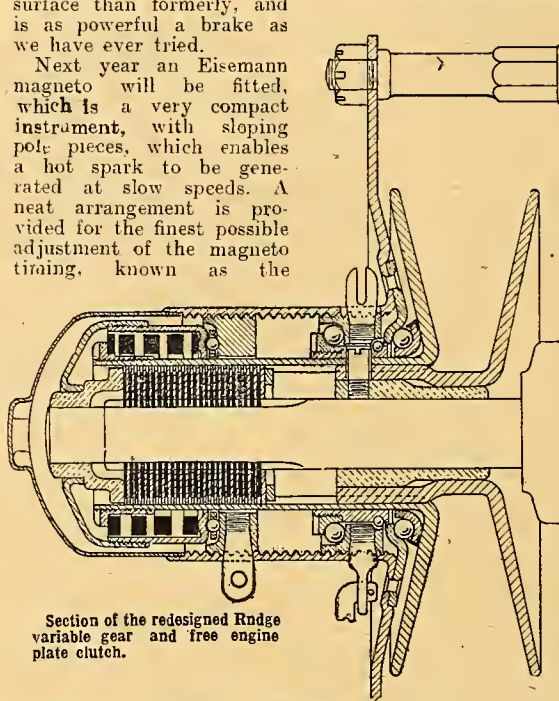


New design rear brake on the 1912 Rudge,

of minor improvements which are common to all R.W. motor cycles.

A new rear brake has been adopted which gives a much greater gripping surface than formerly, and is as powerful a brake as we have ever tried.

Next year an Eisemann magneto will be fitted, which is a very compact instrument, with sloping pole pieces, which enables a hot spark to be generated at slow speeds. A neat arrangement is provided for the finest possible adjustment of the magneto timing, known as the



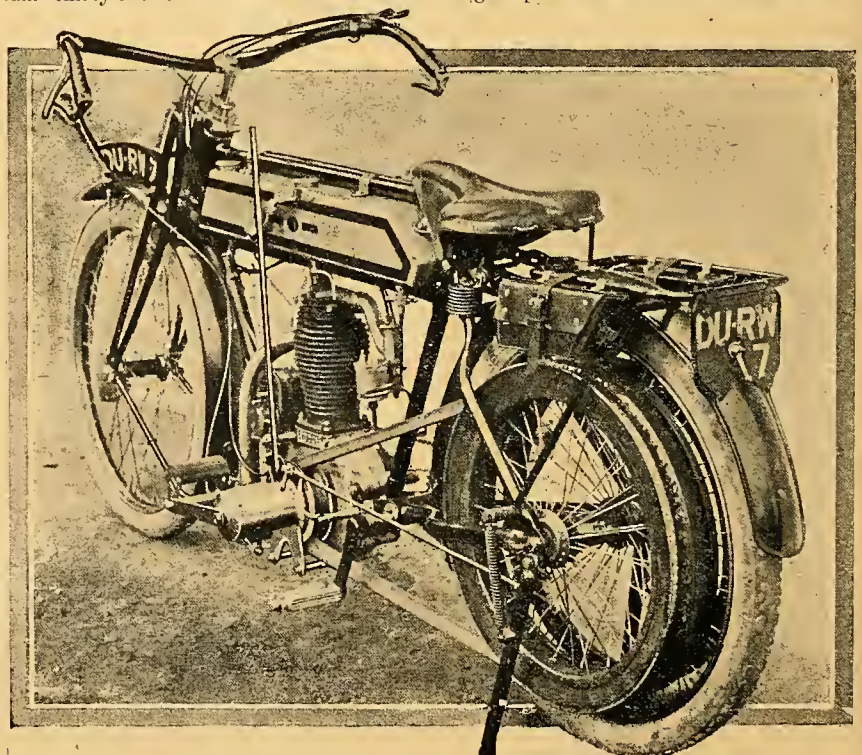
Section of the redesigned Rudge variable gear and free engine plate clutch.

Vernier micrometer adjustment, which amounts to $\frac{1}{32}$ th of a revolution. A cam with fourteen teeth is fitted on to the armature-shaft. On the periphery of this cam thirty-one teeth are cut which fit

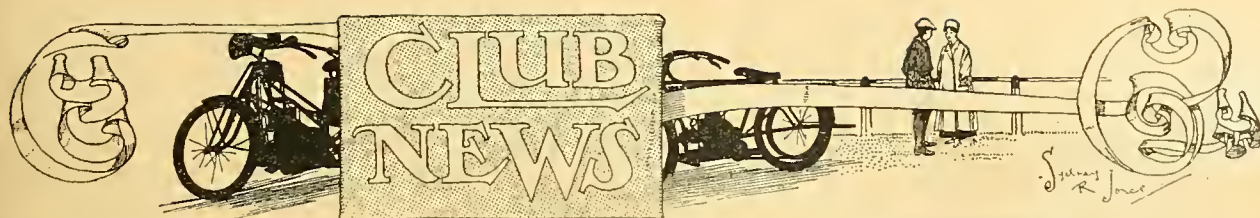
into corresponding serrations in the exhaust cam wheel. It will thus be seen that the adjustment is less than one degree. The exhaust valve lifter

is a great improvement, and, being carried to the left-hand side of the machine, leaves the timing side very clean and easily get-at-able. The valve lifter has a very easy motion due to the long leverage. The new Rudge lifter is a reversal of the usual order of things, for the action of raising the inverted handle-bar lever pushes down the lifter, so causing the other end to act upon the bottom of the tappet. The lifter lever is fulcrumed in a boss cast on the crank case.

The engine has undergone minor alterations only, nor will this cause any consternation when its wonderful achievements on the track are considered. The exhaust valve guides are now cast solid with the cylinder, which means that they can be bored absolutely true with the seatings. A new cotter and cup arrangement is shown in the sketch. It was found with the old cotters that there was a tendency for them to break, but by the new arrangement of a cone-shaped cup, a cotter is practically unbreakable. The special design of the cup enables a spring of the longest possible dimensions to be used.



The new model Rudge with variable gear, giving twenty different ratios.



T. Pollard (3½ h.p. Triumph) climbing Cilcain in the Liverpool A.C.C. trial.

Leicester and District M.C.C.

The new headquarters have now been permanently fixed at the Hind Hotel, London Road, Leicester (nearly opposite Midland Railway Station). Members will find every accommodation here for storage of their motor cycles, whilst the approach, from a traffic point of view, is far in advance of the original headquarters. A special club room will be open at all times for the convenience of members, also use of billiard room, etc., at especially reduced rates. Members of other motor cycle clubs are cordially invited to attend when visiting or passing through Leicester.

Surrey M.C.C.

The annual hill-climb took place on Saturday, the 7th inst., on a hill near Newlands Corner. The venue originally fixed had to be changed because the surface of the hill had been rendered unsafe by rain. The hill actually used was an easy one, but owing to the unfavourable conditions there were a considerable number of failures due to slipping belts, ignition faults, etc. F. W. Barnes won every class, in addition to scoring the fastest time of the day; he also secured the special gold medal presented by Zenith Motors, Ltd., and offered for the best performance on formula in any class. Classes III. (twin-cylinder machines) and V. (passenger machines) were abandoned owing to insufficiency of entries. Results:

CLASS I.

Rider and machine.	Time.	Fig. of merit.
1. F. W. Barnes (2½ Zenith-Gradua) ...	X+17.2	237
2. H. Green (2½ Douglas) ...	X+42.8	114

CLASS II.

1. F. W. Barnes (2½ Zenith-Gradua) ...	X+15.4	257
2. J. Kennedy (3½ Bradbury) ...	X+15	144 0
3. P. Mitchell (4-cyl. F.N.) ...	X+21.8	144.7

CLASS IV.

1. F. W. Barnes (2½ Zenith-Gradua) ...	X+13	239
2. F. A. McNab (3½ Trump-Jap) ...	X+22.6	155
3. E. Cox (3½ Zenith-Gradua) ...	X+18.6	153

CLASS VI.

1. F. W. Barnes (6 Zenith-Gradua) ...	X+ 2.8	Decided on fastest time.
2. A. J. Luce (5 T.T. Bat) ...	X+ 9.8	
3. J. Kennedy (3½ Bradbury) ...	X+14.2	
4. F. A. McNab (3½ Trump-Jap) ...	X+23.6	

Walthamstow M.C.

The above club held a team competition on the 8th inst. over a twenty-five miles circular course, which had to be covered twice, non-stop. No watches or speedometers were allowed, and the team of three riders who finished the course and were nearest to a schedule of 20 m.p.h. at a secret check were to be awarded Mr. G. West's prize. The following was the winning team:

Rider and machine.	Time error.
H. T. Browett (8 h.p. Minerva and sidecar) ...	7m. 41s. fast
G. Henbury (7 h.p. V.S. and sidecar) ...	1m. 28s. fast
A. E. Uffleman (3½ h.p. Humber) ...	2m. 58s. fast
Total ...	12m. 7s. fast

A prize presented by the Rex Motor Manufacturing Co. for the best individual performance was won by A. G. Peppercorn (3½ h.p. Bradbury), 1m. 8s. fast.

Scarborough and District M.C.

On Wednesday last week the last monthly climb for this year was held on Staxton Hill. The weather was fine and the road dry, though somewhat washed out by recent rains.

With only one entry the class for twins was abandoned, and the contest was confined to the single-cylinders of 4 or less. Timing was done mechanically, stop watches being started as each machine broke a thread.

Fig. of Merit.

*1. W. F. Tranmer (3½ Norton) ...	79.121
2. W. Brown (3½ Zenith-Gradua) ...	82.079
3. T. S. Webster (3½ Norton) ...	83.565
4. — Marson (3½ Zenith) ...	105.95
5. W. Jackson (3½ Premier, three-speed) ...	110.406
6. — Lawson (3½ Zenith) ...	130.653

*Fastest time.



Scarborough and District M.C.C. hill-climb at Staxton C. Marson (3½ h.p. Zenith-Gradua) approaching the first corner rather wide. He was placed fourth.



Brecon motor cyclists who are about to form a club. (See paragraph on this page.)

Brecon Motor Cyclists to Congregate.

It is the intention to form a motor cycle club for the Brecon district. Will all those who are interested communicate with Mr. G. T. Jones, Arfon House, Brecon, so that a meeting may be called at an early date?

Bristol B. and M.C.

The next trial for members who have not won a first prize in a motor cycle competition will be held next Saturday. It will be in the nature of a speed-judging and reliability non-stop run, over a selected circuit at twenty miles per hour. Watches allowed, but no speed-recording instruments. Start and finish White Lion, Westbury.

Purley and District M.C.C.

Owing to the large number of competitors who failed to find the trail in the club's speed-judging contest, the prize for which is a pair of Kempshall tyres, this event was re-run on Saturday, the 7th inst. Probably, owing to the heavy rain which prevailed all the afternoon, the entry amounted to only seven, five of the original competitors failing to put in an appearance at the start. The course ran out to eighteen miles in length, and the first place was taken by C. W. Meredith (3½ Zenith), whose error was only 0.75 m.p.h. W. G. Fowler (7 Indian and sidecar) ran him a close second, error 1.57 m.p.h., and third place was scored by A. C. Huskinson (5 Indian), error 2.4 m.p.h.

Putney and District M.C.C.

A reliability trial will be held on October 22nd to Brighton and back. The first prize is a tyre presented by G. W. Drew. There will be other prizes according to entry.

North Middlesex M.C.C.

The annual London-Stratford-on-Avon and back reliability trial for the Premier trophy, presented by the Premier Cycle Co., took place on October 8th, when twenty odd started from headquarters, Gatehouse, Highgate. The following awards have been made: 1, Mills (3½ h.p. Premier), Premier Cup and Kempshall tyre; 2, Tustin (2½ h.p. Enfield), X.L. All saddle; 3, Bennett (3½ h.p. Norton), service belt; 4, Dangerfield (3½ h.p. Zenith), N.L.G. exhaust whistle; 5, Williams (3½ h.p. Premier), Bond belt and tube case; 6, Deacock (3½ N.L.G.), club medal; 7, Heany (3½ h.p. N.L.G.), club medal; 8, Wingham (3½ h.p. Triumph), club medal; 9, Hilger (3½ h.p. Humber), club medal; 10, Cheers (5 h.p. Indian), club medal; 11, Miss Hammett (2½ h.p. Douglas), club medal; 12, Fletcher (2½ h.p. Douglas), club medal; 13, Carrodus (3½ h.p. P. and M. and sc.), special surprise prize, given by Vice-President Petch. Only one mechanical breakdown was experienced throughout the trial, and thanks are due to Messrs. Boocock, Hill, Petch, Rowden, and Scott for officiating in this most successful event. The meet on October 22nd will be at the Gatehouse, Highgate, at 10 a.m.

THE INTEREST IN MOTOR CYCLE HILL-CLIMBS.



The crowd watching competitors climb Cûcain in the Liverpool A.C.C. reliability trial in North Wales, described in our last issue.

MORE MILITARY MOTOR CYCLING.

BY A RETIRED REGULAR OFFICER.

ON Sunday, September 17th, ten motor cyclists, enrolled through the Automobile Association and Motor Union, and about a dozen motor cyclists belonging to the Cambridge University O.T.C., were sent to Aldershot to assist the Royal Engineers in carrying out some experiments in connection with wireless telegraphy and air lines. For

Godalming, whilst the Cavalry Division Headquarters were at Netheravon. Altogether this was a fairly extensive area, and meant a good many miles for motor cyclists to cover in order to deliver their despatches.

The special idea was that the Director of Signals had arranged to take over two lines from Guildford, the advanced base, to Dover from the local Govern-



(1) Headquarters of the General Staff at Aldershot (Stanhope Lines). Motor cyclist despatch riders waiting for despatches.



(2) Royal Engineer Officer's Mess. (It was in connection with the Royal Engineers that A.A. and M.U. motor cyclists were obtained.)



(3) Headquarters of General Staff at Aldershot, showing orderly tent in the rear.



(4) Headquarters moved to Odiham. The orderly tent with orderlies and despatch riders waiting outside.

this purpose, A and C Signal Companies R.E., consisting of eight cable and three air line detachments, were employed.

The general idea was that a Blue Force organised in one army of two divisions, one army of three divisions, one detached infantry division, and one cavalry division, with line of communications, has landed in England (a friendly country which has been invaded by Wales), at Dover and Brighton, and had moved by rail, and march, to the area Godalming, Guildford, Reading, and Alton. The cavalry division was in advance, reconnoitring for an enemy in the direction of Salisbury Plain.

The position on the morning of September 18th was: The General Headquarters at Aldershot, the First Army Headquarters at Hartford Bridge Flats, 1st Division Headquarters at Eversley, 2nd Division Headquarters at Hartley Row, the Second Army Headquarters at Farnham, the 3rd Division Headquarters at Odiham, the 4th Division Headquarters at Alton, the 5th Division Headquarters at Farnham, and the 6th Division, comprising General Reserve, at

ment, and one line from Guildford to Brighton.

The Director of Signals had also arranged for the line of communication to erect an air line from Guildford to Aldershot, and one local line between the same places had been handed over.

The Director of Signals received instructions late on September 17th to establish communication with the Cavalry Division and First and Second Armies and 6th Division (i.e., the Reserve), and also between headquarters of armies and their respective divisions. It was in carrying out this establishment of communication that the motor cyclists were mostly employed.

On September 19th the General Headquarters were moved to Odiham, and on the 20th to near Basing House (Basingstoke).

The experiments carried out seem to have been entirely successful,

and the weather, fortunately, was fine, although on the 19th and 20th some very sharp showers were experienced.

All the motor cyclists seem to have escaped any trouble, other than a puncture or two, with the exception of one man, who lost a spring in the

More Military Motor Cycling.—

contact-breaker of the magneto, and who had to travel from Basingstoke to London by train in order to replace it.

The Desiderata of Military Motor Cyclists.

The result of the experiment as regards motor cyclists is that it is found that there should be ten men to each signal company of the R.E.; *they should always be the same ten men*, so that they know their officers and their officers know them and their capabilities; they should, of course, be subject to military discipline as Territorials or some such arrangement, it not being at all necessary that they should be regular soldiers. Each man should also be thorough master of his machine, with a good all-round knowledge of other makes of motor cycle besides the particular make he rides. Each despatch should be taken by two men, in case one breaks down, owing to puncture or any other cause, so that, whereas ten men per company are sufficient, yet really twenty men are required if the arrangement of two men per despatch is to be carried out.

In addition to this, all motor despatch riders should be encouraged in map reading, map making, use of the compass both by day and by night, besides such things as signalling, a knowledge of the various bugle calls, etc., all of which would greatly tend to make the men useful generally. It is quite surprising how few there are amongst motor cyclists who really know how to "set a map."

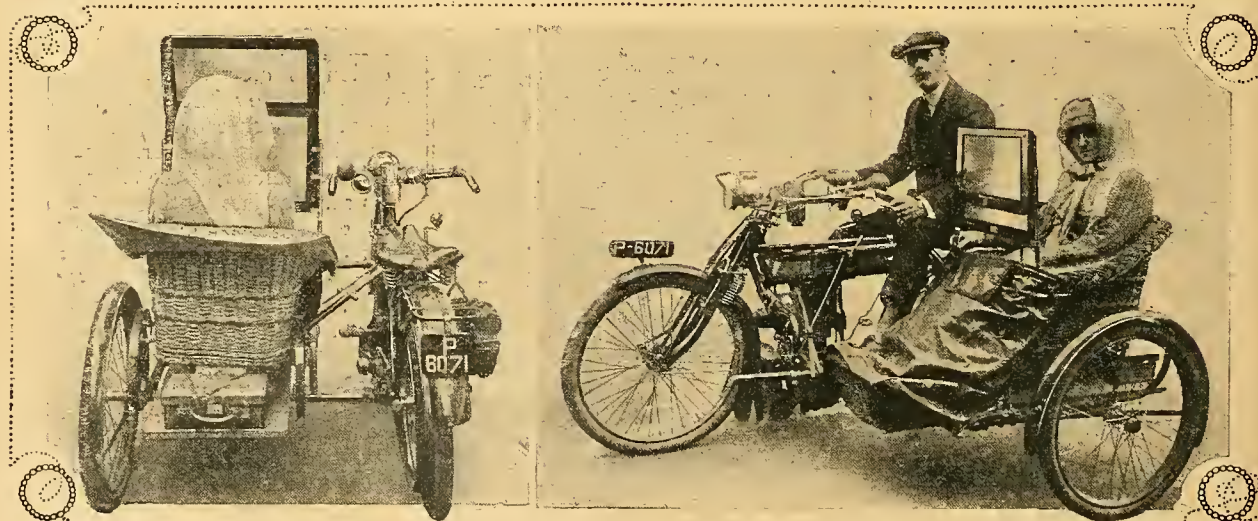
A Serious Occupation.

The ideal military motor-cyclist despatch rider is in reality far more than a mere messenger, as in actual warfare, when telegraph wires are cut, he would have to get a message through on his motor cycle, and on the prompt delivery of his despatch might depend the fate not only of the army, but of the country. This would require him to use all his knowledge, and keep all his wits about him, and his eyes open, and stopping for lunch, etc., whilst on the road with a message (as has happened on this and other occasions), would, of course, be out of the question; so that military motor cycling must be treated seriously by those who undertake it.

INTERESTING SIDECAR FITMENTS.

THE photographs reproduced depict Mr. and Mrs. Edward Cox, of Guildford, and their $3\frac{1}{2}$ h.p. Zenith-Gradua and sidecar. Mr. Cox is the chairman of the Surrey Motor Cycle Club and a regular attendant at club runs and competitions. In a letter to us he mentions that he has had a very good season's running, his mileage including a 600 miles tour without any trouble. He draws special notice to the luggage carrier and spring shackles on the sidecar, which greatly add to the passenger's comfort.

The dust screen at the rear of the chair, and also the sidecar wind screen will be observed. Another detail which might pass unnoticed is the strap from the tube under the tank to the sidecar stay. This is fitted as a precaution should the front fixing of sidecar to bicycle move. There have been serious accidents recently due to this fixing giving way, and that is why Mr. Cox considers this or some other precautionary fixing which might help in some way to minimise the risk advisable.



Mr. and Mrs. Edward Cox and their $3\frac{1}{2}$ h.p. Zenith-Gradua and sidecar. Several interesting fitments will be observed on the sidecar attachment.

Earle L. Ovington, the American motor cyclist who came over to this country a year or two ago, is now an airman. Following England's lead, Postmaster-General Hitchcock, of U.S.A., has issued an order authorising Ovington to act as an air mail carrier, and further directing the postmaster at New York to des-

patch letters *via* the aeroplane route, the official number of which is to be "Route 607,001."

Ovington was recently appointed to carry the mails over a short route between Nassau and Brooklyn, and is now completing preparations to transport official mails from New York to Los Angeles.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Rex Sidette.

(1.) I contemplate purchasing (when I can sell my two-seater motor) a Rex sidette 5-6 h.p., two-cylinder, listed at about £70-£75. I want it for short trips and tours, not racing. Do you consider it suitable? (2.) The steering of sidecar wheel by connecting rod from front hub seems to me to reduce strain on back axle, and will probably avoid accidents due to breakages of sidecar axles.—E.W.H.

(1.) We think the machine in question would suit you admirably. (2.) We certainly like this arrangement.

Occasional Sidecar Use.

I would be obliged for information on the following points. I am a pedal cyclist of long standing, and am thinking of taking up motor cycling. I do not know anything practical of the subject, but have made a careful study of "Motor Cycles and How to Manage Them."

(1.) What is the best make of machine to get which is likely to give least trouble to novice? I thought of a Triumph. (2.) I would require a machine which could be used occasionally for sidecar work; in this case would a Triumph be the most suitable (3½ h.p.)? (3.) What is the simplest and most easily detachable sidecar to get for Triumph machine? It would only be used two or three times a month, and would want to be readily taken off and put on. It would carry lady passenger about ten stones weight. I am myself about 11½ stones. (4.) Is steering of machine with sidecar more difficult than with singly? (5.) Are there likely to be any special improvements in machines for 1912 making it easier for novices? I live in fairly level district in which there are a few gradual hills (200 to 300 yards long). Am seven miles from a town in which there is an agent for Triumph and Humber machines.—KILDARE.

(1.) You could not do better than invest in the make of machine referred to in your letter. (2.) If you only use a sidecar occasionally this machine will do admirably. (3.) Any one of the best known makes, all up-to-date sidecars are readily detachable. (4.) Yes, at first the steering of a sidecar is a little difficult, but you will soon get used to it. (5.) Yes there will be several improvements for 1912 which will simplify design.

Large or Small Tyres.

(1.) I have a 2 h.p. lightweight motor cycle of a good make fitted with 1½ in. tyres. Would it be of any advantage to exchange these for 2 in. tyres during the winter?

(2.) Can you tell me of any firm which is prepared to fit up a push-cycle with a motor, etc?—M.R.E.

(1.) Your tyres would wear longer and the machine be more comfortable if they were of a larger size, though the larger the tyre the greater the tendency to side-slip, but in these small sizes we do not think you will find the tendency much increased. (2.) No, we do not know of any firm that would fit up a pedal cycle as a motor bicycle, though, of course, you might find some local cycle agent who would undertake this. It is a conversion which we do not recommend.

Collision with Stray Horse.

While riding to work early in the morning when it was dark and foggy I was knocked off my motor cycle by a horse which had strayed from common land.

I was hurt and the machine badly damaged. The owner of the horse said at first that he would pay cost, which amounted to £8 10s., but afterwards he refused to do so. What do you advise?—W.E.W.

Our legal adviser writes as follows: The fact that the horse strayed from common land certainly makes "W.E.W.'s" claim distinctly weaker, as by the Highways Act the penalty for leaving a horse to stray on to the highway does not arise when horses stray from a common. This really affects the question from the point of view as to whether the owner of the horse could be summoned in a police



Mrs. Cheverton, of Newport, mounted on her Singer Moto Velo. The child carrier at the rear is interesting, for Master Ronald looks quite at home, although the machine was travelling well up to the legal limit at the time the photograph was taken.

court or not. As regards a civil action, the owner is not ordinarily liable for damage, which is caused by a horse straying on the highway. The morning being foggy and dark "W.E.W." should have gone along very slowly, and if he did not he was guilty of negligence, especially as the road adjoined the common land. He has no claim against the owner of the horse unless he can show that such owner knew the animal was dangerous or likely to do mischief. Under the circumstances, I do not think the fact that the owner promised to pay and then altered his mind affects the position.

Abnormal Petrol Consumption.



I have just taken to motor cycling, and am riding a 3 h.p. Quadrant. It is not a fast machine, and I have no trouble on the level, but on ascending a steep bridge or hill it loses power. I open the throttle and advance the spark with no success—the engine races on but the machine stops. I took a piece out of the belt, but it is no better. Should I take a piece more out, or can you tell me of any reason? I might mention one gallon of petrol will only run me thirty-six miles.—A.F.S.

Possibly your pulley is worn and requires truing up. The flanges should be quite flat and the angles between them 28°. The belt should be moderately tight, it is apparently slipping at present. Your petrol consumption is abnormal, there must be a leak somewhere. You ought to get at least 90 m.p.g..

Dual Ignition.



I have a Sunnys magneto S.M.I. working a 7-9 h.p. two-cylinder V engine. Will you please inform me (1) if it is feasible to attach just an accumulator only to supply a current when the magneto fails; or (2) is it essential to have a full instalment of dual ignition?—A.V.W.

(1.) No; we regret to say that it is impossible to work an accumulator in conjunction with this magneto. (2.) A separate system of ignition must be fitted.

Dry Batteries and Accumulators.



(1.) I have bought a Hellsen dry battery, and think of using it in turn with my accumulators as a test. Shall I be right in coupling up the dry battery and an accumulator with a two-way switch in the same way as I should if using two dry batteries? (2.) The lift on the exhaust valve of my 3½ h.p. Peugeot is only ⅜ in. I think the tappet is worn. Could I improve this by getting a longer tappet, or by lengthening the valve stem and shortening the tappet guide? I have fitted new inlet and exhaust valves, but the exhaust valve is slightly in pocket. Would this cause overheating? (3.) I am thinking of having a new mount next season. I am informed that Alldays and Onions, of Birmingham, are making a 3½ h.p. with two speed and free engine much cheaper than other local firms. Can you give me any information about this machine?—G.J.T.

(1.) Yes; certainly you can connect up the dry battery and the accumulator with a two way switch. (2.) The lift should be

about ¼ in.; only a new cam will remedy matters if the cam is worn. Probably the trouble is due to a worn tappet or too much clearance between tappet and valve stem. (3.) We have had no personal riding experience with the machine about which you enquire up to the present.

Advertised Weights.



I bought a 1911 machine, the weight of which was stated in the catalogue and in advertisements to be 160 lbs., whereas the correct weight is some 205 lbs. Have I any redress?—G.D.E.

Not unless you purchased the machine on the express understanding that the weight was 160 lbs. Advertised weights are only approximate.

READER'S REPLY.

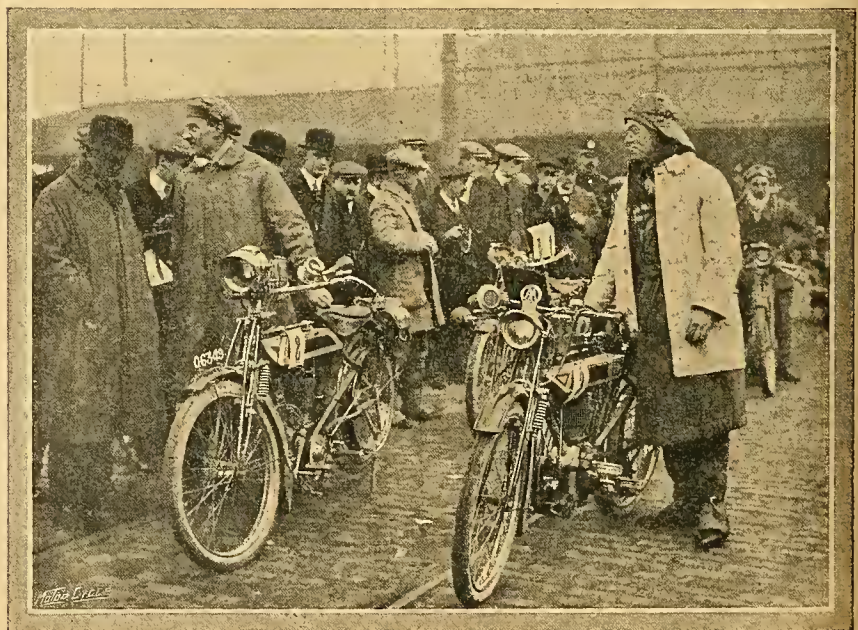
With reference to an item under the heading of "Queries and Replies" in your issue of October 5th, we must take exception to the reply to the detail headed "Two Sparks or One." The answer given to the first part of the query is quite correct, but with regard to the last sentence, which reads "no damage will accrue to the magneto" in this, we beg to differ. As you are aware, we have recently made a very extensive series of experiments in connection with multi-spark ignition, and further, have had considerable experience in cases where magnetos designed for single-spark have been used for two-spark work, and these experiences have proved that it is most inadvisable to use magnetos in this way. The experience which we have gained has led to the design and construction of special magnetos for giving two sparks without risk of injury to the winding or insulation of the magneto. These machines, however, have not yet been designed for all types of engines, but we shall be pleased to forward particulars to any of your readers who may be

interested, as to how far we are able to supply the apparatus for two-spark ignition.—THE BOSCH MAGNETO CO., LTD. [It is not quite clear from the foregoing whether it is bad for a magneto to use a double-pole plug or whether a second plug of the ordinary kind which gives no spark will damage it. The latter is what we had in mind.—Ed.]

EXPERIENCES WANTED.

Readers desirous of obtaining the experiences of others with various motor cycles or accessories must enclose a stamped addressed envelope in which the replies may be forwarded. Answers to the queries below should be addressed c/o The Editor.

"G.H.S." (Brigg). Corah motor bicycle, particularly in regard to reliability.
 "A.C." (Aston Manor). 4½ h.p. Precision engine; also Mabon gear.
 "R.P.B." (London). 2½ h.p. New Hudson; also 2 h.p. Humber lightweight.
 "G.S." (Ilford). Kempshall heavy non-skid tyres, especially on the back wheel of a 3½ h.p. machine with sidecar.
 "G.B." (Doncaster). 2½ h.p. A.J.S., two-speed, chain-driven model.
 "V.D.N." Wilkinson T.A.C.
 "J.F." (Glam.). Four-cylinder F.N., especially with sidecar.
 "No. 54" (Wakefield). The Mabon clutch (Export Model) or Kerry Abingdon free-engine clutch fitted to K.A. machine.
 "I.M.D." (London). 2½ h.p. two-speed Enfield.
 "A.B." (Southport). A.C. or other form of sociable.
 "W.A.M." (Mitcham). Four-cylinder F.N. with two-speed gear and clutch in conjunction with sidecar.
 "F.W.E." (Ottery-St.-Mary). Hub gear and clutch or any gear with free engine which can be adapted to the rear wheel of a Douglas.
 "E.A.C.L." (Sedbergh). Wear on tyres of Scott machine, also reliability of T.A.C. and sidecar.



RELIABILITY TRIAL IN NORTH WALES.
 Start from Birkenhead of the second stage of the Liverpool A.C.C. 200 miles trial.

BOOTH'S FOR VALUE

N.S.U., 4 h.p., brand new, single-cylinder, ideal sidecar machine; listed £48	£36 0
REX DE LUXE, 5 h.p., twin, two speeds, handle starting, M.O.V., 1911 model	£42 10
REX DE LUXE, 5 h.p., twin, two speeds, 1910	£42 10
BRADBURY, new 1911 model	£42 10
REX, 3 1/2 h.p., spring forks, magneto, h.b. control, 1909 model	£22 10
N.S.U., 6 h.p., twin, two speeds, free engine, magneto, h.b. control	£25 10
HUMBER, 3 1/2 h.p., 1909, two speeds, handle starting, h.b. control	£26 10
REX, 3 1/2 h.p., 1908, spring forks, magneto, h.b. control, beautiful condition	£16 10
N.S.U., 3 1/2 h.p., two speeds, magneto	£19 10
N.S.U., 3 1/2 h.p., magneto, good order	£16 10
QUADRANT, 3 1/2 h.p., magneto, spring forks	£16 10
REX, 5 h.p., twin, with forecar	£11 10
N.S.U., 3 1/2 h.p., M.O.V., magneto	£15 10
N.S.U., 3 h.p., M.O.V., nice order	£10 0
REX DE LUXE, two speeds, magneto, handle starting, h.b. control	£26 10
ENFIELD, 2 1/2 h.p., M.O.V., acc. ignition	£9 10
AXEL, 2 h.p., Minerva engine, M.O.V.	£5 10
HOBACK, 3 h.p., vertical engine, low	£8 10
ROYAL STAR, 2 1/2 h.p., vertical engine	£5 10
KERRY, 2 1/2 h.p., 26in. wheels, vertical engine	£8 10
WERNER, 2 1/2 h.p., vertical engine, 26in. wheels, low built, finished French grey	£6 10
PUSH CYCLES TAKEN IN EXCHANGE.	

TRICARS.

TWIN REX, air-cooled, belt drive, fit-all two-speed gear	£14 10
STEVENS, 1 h.p., single-cylinder, air-cooled, Roc two-speed gear, handle starting	£14 10
TWIN REX, 5 h.p., air-cooled	£11 10

CARS.

DE DION, 6 h.p., genuine throughout, two-seater, two speeds and reverse, nice order	£27 10
EAGLE, 14 h.p., four-cylinder, five-seater, two speeds and reverse	£27 10
BEDELIA, 1911, 5-7 h.p., air-cooled twin engine, magneto; cost £93	£55 0
HUMBER, 5 1/2 h.p., two-seater, bucket seats, two speeds and reverse	£18 10

We have a few Accumulator Models which we have taken in exchange for new machines. They are in running order, and complete with belt, coil, and accumulator. We wish to clear, and offer them at ridiculous prices.

2 1/2 h.p. MINERVA	£4 15
2 1/2 h.p. DE DION, vertical engine	£4 10
2 1/2 h.p. WERNER, very low	£4 10
2 h.p. ARIEL, M.O.V.	£5 10
2 1/2 h.p. STANDARD, vertical engine	£4 15

We will allow full price paid for these in part payment for better machines within six months from date of purchase.

MISCELLANEOUS.

Carburettors—Longbarrow and F.N.	4/6
New Amac Carburettor, H.B. control	15/-
Long Handle-bars, drop ends	5/6 and 6/6
Coronet Silencers, up to 5 h.p.	3/3 and 4/6
XL'ALL Spring Forks	9/6
Gripskin Belting: 3in. 10d., 3in. 11d., 1in. Wide Mudguard, 3in., 2/3; 4in. 2/11 pair.	1/-
Handle-bar Watches, with holders	4/3
Magneto Handle-bar Switches	2/1
Trembler Coils, 6/6. Plain	2/11
Powell and Hammer 1/2 Lamp	11/6
16 Guinea Lowen Sidecar	£5 0
Nearly New Coronet Sidecar	£3 10
Farrar's Halifax Sidecar	£3 10
Mabon free engine clutch	22/6
New 3in. treadle lathe	£3 or exchange

£2000 IN GOLD.

We have the above amount at our disposal and wish to purchase good magneto machines at a reasonable price. Rexes, Triumphs, N.S.U.'s, Bradburys, and other makes. Send full particulars of machine you wish to sell along with lowest price. We are buyers. If preferred we will sell your machine on commission. We will store and advertise free, and charge 5% when sale is effected.

Booth's Motories,

Keighley Mills, Bedford Street North, Halifax.

Tel. 1062.

MOTOR BICYCLES FOR SALE.

HUMBER Lightweight, 2h.p., 1911, used for demonstration only; price £32.—Harrison, 73, Bold St., Liverpool.

ENFIELD Lightweight, 2h.p., 1911, slightly used only, Dunlops; price £35.—Harrison, 73, Bold St., Liverpool.

1909 3 1/2 h.p. N.S.U., condition as new, perfect; part exchange push-bike, or sell, £15.—Lebbon, Denmark St., Harrogate.

F.N., 4-cyl. 1911, 5-6 h.p., central induction, automatic carburettor, splendid condition; £38.—136, Infirmary Rd., Sheffield.

RUDGE, 3 1/2 h.p., free engine, very fast, fine condition, three months; £45; full spares.—C. Collins, 5, Promenade, Bridlington.

ZENITH Gradna, 1911, 3 1/2 h.p., perfect, little used. King of Road, tube, valve, and all accessories; £48.—R. Fox, Elvington, York.

TRIUMPH, 1909 model, new condition, Kempshall non-skids, uncut; bargain, £29/10.—Whitehurst, 239, Stockport Rd., Manchester.

1911 5 h.p. Indian, F.E., absolutely as new, not done 600 miles; best cash offer, or exchange single.—7, River View, Ashton, Preston.

3 1/2 h.p. B.S.A., 1911, perfect condition, with accessories; bargain, best cash offer.—H. Camplin, Olive House, Ackworth, Pontefract.

B.S.A., 1911, fitted with 2 speeds and free engine, not done 1000 miles, like new; any trial; £49, bargain.—Clayton, Harehills Rd., Leeds.

TRIUMPH Motor Cycle, 3 1/2 h.p., clutch model, new 14 days ago, ridden 30 miles; £49.—Apply, X.Y.Z., 8, 699, The Motor Cycle Office, Coventry.

TRIUMPH, free engine, almost new, perfect, Cowey speedometer, all spares; £39/10, genuine bargain.—134, London Rd., Hazel Grove, near Stockport.

SCOTT, April, 1911, just overhauled by makers, splendid condition, no accidents; buying new machine; £50.—C/o Hodgson, Motor Agent, Kirbymoorside.

4 h.p. Jap-Quadrant Magneto Machine, new tubes and Palmer cord tyres, in perfect running order; £18, or near offer.—Bryant, 8, Fitzwilliam St., Sheffield.

2 h.p. Minerva, perfect condition and working order, new tyres, coil, accumulator, Brooks compound saddle; £8/8.—Hampshire, Bridge House, Wakefield.

1910 Enfield 2 1/2 h.p., splendid condition, 1911 improvements, all accessories; cash wanted; best offer secure; after 6.—"Arandae," Cavendish Grove, Eccles.

TRIUMPH, 3 1/2 h.p., 1909, free engine, splendid condition throughout, Lucas lamp, horn, etc.; £33.—T. S. Cattle, c/o Mr. Humphrey, Middle St., Driffield, E. Yorks.

4 h.p. Roc, magneto, 1911, B. and B., handle starting, J.A.P. puller, splendid condition, with new side car; £26/10, offers, separate.—13, Pleasant Grove, Blackpool.

7 h.p. Speke, excellent condition, very fast, new tyres sidecar; £30; would consider exchange; Triumph, Bradbury, Rudge.—Eaton and Frain, Standard Buildings, Leeds.

3 1/2 h.p. James, new August, 1911, perfect, with lamp, 3 horn, exceptionally fast, over 1000 miles; what offers?—Green, newsagent, Blackburn Rd., Darwen, Lancashire.

1910 Special 5 h.p. Indian, Pelton-Moore 2-speed, mudshields, footboards, splendid machine, little used; cost £75, accept £45; exchange considered.—65, Hilden St., Bolton.

ENFIELD, 1911, twin 2-speed, run 150 miles; list £52/10, accept £43; absolutely as new; bought another mount owing delay in delivery.—White, 22, Victoria Chambers, Leeds.

1911 5 h.p. Rex de Luxe, 2-speed and free engine, just like new, done 500 only; five 50 mile trial, any hill; £45; also sidecar.—Anderson, 846, Chester Rd., Stretford, Manchester.

3 1/2 h.p. Vindee Special, magneto, Truffault forks, B. and B. carburettor, forks, condition excellent, or would exchange for 2 1/2 h.p. Honglas, 1910 or 1911.—Standing, printer, Barnoldswick.

1911 3 1/2 h.p. James, new June, perfect condition, tyres and belt as new, winner 2 firsts, 1 second in the only 3 competitions entered; getting 1912; £38.—W. A. Lockwood, 37, New St., Huddersfield.

1911 3 1/2 h.p. Premier, shop-soiled only, offers; 1911 2 1/2 h.p. 2-speed F.N., used trial runs only; £34; 1911 Bradbury, shop-soiled, what offers; 1910 2 h.p. Moto-Reve, £18.—Motor Agency, Bailiffe Bridge.

CLEARANCE Bargains.—Free engine Rudge-Whitworth, £48; 2-speed Royal Enfield, £47/10, shop-soiled only; 1906 Triumph £20, 1908 Triumph £24, both in good condition.—Wardman's, Princess St., Harrogate.

QUADRANT, 3 1/2 h.p., h.b.e., dry ignition, equal to new, spring forks, climb anything, £17, or offer; 1906 Triumph, 2 1/2 h.p., J.A.P., low, long handle-bars, just been overhauled, in good order; £8.—Baron, Blackburn Rd., Accrington.

MANCHESTER Motor Exchange, 32, Downing St., Ardwick.—Selling off remainder of 1911 stock; no reasonable offer refused; Bradbury, 3 h.p., £16; twin Rex, £25; Roc, £37; tri-car, £16; Minerva, 1 1/2 h.p., £4; others and sidecars.

CORONET SIDE CARS

ONE MINUTE REQUIRED.
CORONET SIDECARS are all fitted with our improved QUICK DETACHABLE JOINTS, and can be detached in one minute.

LESS POWER REQUIRED.
In consequence of the unique design of frame in the "CORONET," less power is required to drive, compared with other sidecars.



MODEL C.—£7 2s. 6d.



MODEL A.—£5 5s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest car pattern mudguards. Wicker, cane, or coach-built bodies. Child's reversible seat. Excellent upholstery.

NOTE front arm which grips main tube of sidecar, which is the only correct mechanical method—nothing lopsided about this attachment.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURY'S, etc. Discounts to Agents.



TEE BEE SEAT-PILLAR,
5/- each.

TYRES. TYRES. TYRES.

New Dunlops, 28 x 2 and 2 1/2, wired edges	10/6
Dunlops, 28 x 2, beaded, heavy tread	14/9
24 x 2 and 2 1/2 Beaded Clipper Covers, new	8/6
Best Quality Butt-ended Tubes	7/9
Best Make Inner Tubes, with valves	6/11
Rubber-studded Covers, best make	25/-

ENGINES:

4 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
9 h.p. GREGOIRE Twin, water-cooled	£14 10
3 1/2 h.p. N.S.U., M.O.V., with gear-driven magneto, brand new from makers	£11 10
5 h.p. Twin SAROLEA, good order	£6 15
9 h.p. DARRACO, water-cooled	£12 0
3 1/2 h.p. BROWN, M.O.V., with magneto	£7 0
4 h.p. CORONET, M.O.V., air-cooled	£4 5
3 1/2 h.p. AUTOMOTO £2 0	2 CYCLONE, M.O.V. £1 15
1 1/2 h.p. MINERVA £1 8	3 1/2 h.p. BROWN £5 15
3 h.p. QUADRANT £3 0	2 1/2 h.p. MINERVA £3 5

Exchanges entertained.

MAGNETS. MAGNETS. MAGNETS.

We have a large stock of the best makes from 59/6. Your old coil and acc. taken in exchange.

NEW CARBURETTORS FOR OLD.

22/- and your carb. secures a new 1911 B. and B. with h.b. control.
20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control.
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All machines marked thus * at Halifax Depot.

LONDON STOCK.

QUADRANT, 1911 model, as new	£39
SCOTT, two speeds, magneto	£30
REX, 1911, 5 h.p., M.O.V., gold medal winner	£35
REX, 1910, 5 h.p., two speeds, magneto	£42
REX, 1911, 7 h.p., two speeds, excellent order	£51
RUDGE, 1911, 3½ h.p., clutch model	£47
F.N., 1910, 2½ h.p., two-speed model	£23
REX, 5 h.p., magneto, very fast	£24
TRIUMPH, 1909, 3½ h.p., standard model	£32
ARIEL, 1910, 3½ h.p., footboards fitted	£30
N.S.U., 1908, 5½ h.p., two speeds, perfect	£30
REX, 1911, 5 h.p., de luxe, brand new. In stock.	
REX, 1911, 5 h.p., cone clutch, new. In stock.	
REX, 1911, 3½ h.p., tourist, new. In stock.	
REX, 1911, 3½ h.p., cone clutch, new. In stock.	
TRIUMPH, 1908, 3½ h.p., XL All saddle	£34
REX, 1907, 5 h.p., free engine, spring forks	£18
F.N., four-cylinder model	£16
TRUMP-JAP, 1911, 4 h.p., as new	£35
MATCHLESS 6 h.p. latest 1911 two-speed models.	

Immediate delivery.

SCOTT, 1911 models. Delivery from stock	£60
ALLDAYS, 3 h.p., magneto, low built	£15
MOTOSACOCHE, 1911, ladies' model, as new	£26
ARIEL, 2½ h.p., lightweight model	£10
ROVER, 3½ h.p., 1911 clutch model	£45
CRIPPER, 2½ h.p., a beauty, touch 25	£7
MATCHLESS-J.A.P. 8 h.p., side valves	£37
ANGLIAN, 2½ h.p., good running order	£8
KERRY ABINGDON, 1910, 3½ h.p., clutch	£32
REX, 1911, 7 h.p., tourist model	£37
REX DE LUXE, 1908, 5 h.p., two-speed	£28
KERRY, 3½ h.p., handle-bar control	£11
F.N., 4½ h.p., 1909 model, four-cylinder	£25

HALIFAX STOCK.

*N.S.U., 2½ h.p., 1909, lightweight	£22
*F.N., 4½ h.p., 1909, four-cyl.	£23
*REX, 5½ h.p., clutch model, magneto	£24
*FAFNIR, 3 h.p., two speeds	£15
*ARIEL, 2½ h.p., thoroughly overhauled	£11
*REX, 1909, 5 h.p., Tourist, good order	£29
*TRIUMPH, 1909, 3½ h.p., good order	£32
*BRADBURY, 1911, 3½ h.p., magneto	£39
*REX, 1910, 3½ h.p., Tourist model	£28
*N.S.U., 3 h.p., Tourist model	£22
*REX, 5 h.p., 1909½, Speed King	£30
*HUMBER, 1909, 3½ h.p., two-speed	£30
*TRIUMPH, 1907, 3 h.p., magneto	£19
*ANTOINE, 5 h.p., twin, footboards	£15
*P. & M., 1910, 3½ h.p., excellent order	£45
*REX, 1909, 5 h.p., two speeds, fast	£35
*MINERVA, 1911, 8 h.p., two speeds, P. & M.	£48
*REX, 5 h.p., twin, coil ignition	£16
*MINERVA, 4½ h.p., spring forks	£20

50/- deposit secures—

*LLOYDS, 2 h.p. ..	£10	*BARTER, 2½ h.p. ..	£8
*MINERVA, 2 h.p. ..	£6	*BROWN, 2 h.p. ..	£7

Balance \$/- weekly.

CARS AND TRICARS.

*BEDELIA Car, single-cylinder, very racy	£40
REX Lictette, 1911 models, new	£50
REX Lictette, 5 h.p., magneto, two speeds	£30
*REXETTE, 5½ h.p., two speeds, open frame	£22
BROWN, 3½ h.p., two speeds, air-cooled	£16
FORD Car, 10 h.p., twin, two speeds	£18
STAR Car, 9 h.p., three speeds	£25
REXETTE, 6 h.p., latest model	£22

SIDECARS, &c.

MONTGOMERY Sidecar, child's seat	£7
MILLFORD Castor Wheel, like new	£6
FORECAR, with tyres, aluminium finish	£2

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136 GREAT PORTLAND STREET.

LONDON, W.

Telephone 552, Mayfair.

Telegrams 'Ab-dicate' London

20 POWELL STREET HALIFAX

Telephone 433, National

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(LISTS POST FREE)

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1910, free engine, guaranteed not run more than 2,000 miles, splendid condition, complete with all accessories, speedometer, Palmer cord tyres; best offer secures; any tests.—Reed, jun., Brookfield, Crumpsall Lane, Manchester.

BAT, 8½ p., 1911, standard model, J.A.P. carburettor, adjustable pulley, drip and pump lubrication, exhaust whistle, spares, enamelled grey perfect throughout; buying another Bat; cost £67, accept £48.—Arthur Gregson, Hesketh Rd., Southport.

1911 Rex (5½ p. Speed King), spring forks, Whittle belt, finished grey, under 1,000 miles, £38; also sidecar (Millford), cost £10, accept £7; and Roc 2-speed gear, £10; all as new; good reasons for selling; nearest offers accepted.—Dimmock, Prince's Sq., Harrogate.

FOR Sale, 1911 3½ p. Zenith Gradua (July), not done 300 miles, with P.M.C. £9/9 sidecar (Quickfit coupling), not done £100 miles, will climb anything; reason for selling, buying 1912 model same make; fully equipped and unscratched; cost nearly £70, offers separately or combined.—Grindel, 128, Colman St., Hull.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

PHOLON and Moore, new models in stock, solo or sidecar gears; £56/10.—Moss, Wem.

1911 3½ p. Rex, Tourist model, as new; £35; numerous spares.—10, St. Helen's St., Derby.

ANTOINE, 4½ p., low, good condition, new tyres, very comfortable; £18.—Blair, dentist, Runcorn.

2 h.p. Clement-Garrard, spray, splendid condition; £12; best offer secures.—Field, Mary Rd., West Bromwich.

1 h.p. Clement, lightweight, h.b.c., low frame, perfect condition; £8.—Postlethwaite, Overend St., West Bromwich.

ALLEN S. JONES, Beddgelert, invites enquiries for 1912 machines, as he is going to the show; exchanges entertained.

ZENITH-GRADUAS, 3 h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

BRADBURY'S.—All models in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

B.S.A., not done 500, absolutely as new, take sidecar anywhere; £45 cash, or old machine in part.—1, Congleton Rd., Macclesfield.

1 h.p. Motosacoché, electric lamp, free engine, guaranteed perfect; buying higher power; price £19.—Harris, Grosvenor House, Aberystwyth.

3 h.p. Magneto Motor Cycle, spring forks, B. and B. carburettor; £11, bargain; no approval; bought car.—H., Stanton Cellery, Burton-on-Trent.

3 h.p. J.A.P., 1910, fast, magneto, ball bearing engine, Druis, £16; 3 h.p. T.T. roadster Triumph, new July, faultless. £42.—Shaw, Wallington, Sale.

3 h.p. Humber, 2-speed, new M.O.V. carburettor, new Palmer bar, many accessories; any trial; £36.—Particulars, Cantab, Elmhurst, Moore, Newcastle, Staffs.

MUST be sold immediately in perfect running order; worth double; 3 h.p. Rex, vertical, all accessories guaranteed perfect; £5 to clear.—Mills, Saltergate, Chesterfield.

4 h.p. Twin Minerva, fast and powerful, in excellent condition. Simms magneto, B. and B. and Mabon, are all 1911 fittings.—Write for full details of this machine, Ricketts, Conway.

1911 3 h.p. Rudge, free engine, Jones speedometer, spare valve, perfect condition, only done 2,300 miles, very fast; cost £60, will take £40; owner going to India.—Malcolm Nicholson, Highfield Hall, Leek.

2 h.p. Ligatwain, low, fast, Whittle belt, B. and B. carburettor, h.b.c., spring forks, new Dunlop back tyre, good throughout; £7/10; exchange for good gramophone and records; photo.—Gordon Whitehead, Winsford.

RUDGE, T.T., new August 18th, 400 miles, unscratched, exceptionally fast, Cowey lamp, etc. £45; Rudge, F.E., sidecar, Jones, lamp, Whittle, studded tyre, new June, perfect condition, £50.—S. H. Clarke, Etwell, Derby.

SECTION IV.

Nottingham, Lincoln, Leicesters, Rutland, Northamptonshire, and Warwickshire.

NEW 2 h.p. Moto-Velo, £35; to clear will accept £28.—Arthur Dyas, Grimsby Rd., Grimsby.

2 h.p. Humber, chain drive, accumulator ignition, h.b.c.; £8.—70, London Rd., Grantham.

ENFIELD, 1911, 2½ p., chain, Dunlops, Brooks; perfect; £32.—Arch, 1, Witham bank, Boston.

TRIUMPH, late 1909, in splendid condition, lamp, horn, tools, etc.; £35.—61, Wellgate, Grimsby.

JUST Delivered, free engine Triumph and A.J.S. motor cycles.—Sole agents, West's, Garage, Lincoln.

1911 Free Engine Triumph, Dunlop tyres, Cowey; £48 nett.—Ellerslie, St. Patrick's Rd., Coventry.



REMEMBER

The value of your present machine is depreciating week by week.

Why not exchange now or at the end of the season for a 1912 model?

We can allow far better prices than those which rule in April, and, if you wish, advance you a big part of the allowance in cash.

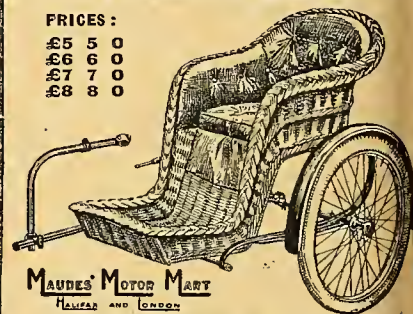
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EARLIEST DELIVERIES.
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THE PORTLAND SIDECAR.

PRICES:

£5 5 0
£6 6 0
£7 7 0
£8 8 0



MAUDES' MOTOR MART
HALIFAX AND LONDON

Guaranteed twelve months.

Luxuriously sprung.

Just the fittest for winter riding.

REMEMBER, World's Sidecar Record, 40 miles 4,660 yards in the hour.

26 x 2½ Michelin tyres. Double Cee springs. Wide mudguard. Three-point suspension. Dropped bearer bar if desired. Double stove enamelled.

Guaranteed twelve months.

Standard Wicker-RIP Model	£5 5 0
Improved Wicker PORTLAND Model	£6 6 0
First quality Cane Portland Model	£7 7 0
Closest type Wicker Portland Model	£8 8 0

ALL fitted with heaviest spindles.

TO AGENTS AND SHIPPERS.

We are now fixing up Agencies for the Portland Motor Cycles and Sidecars. Write us for best terms.

REXES! REXES! REXES!!!

We have a few brand new 1911 Models. If you would save money, write us.

3½ h.p., cone clutch	Write
5 h.p., ditto	for
5 h.p., DE LUXE	Prices.

FULLY GUARANTEED. CALL AND INSPECT.

SPECIAL PRICES.

SPECIAL BARGAINS.

Sarolea Engines, 2 h.p., brand new, complete with Bosch magneto	£8
Sarolea Engines, as above, for accumulator ignition	£5
Fuller Accumulators, new, 20 amp.	7/6
Studded Covers, 26 x 2in. and 2½in.	17/6
Wide Mudguards, 3in. and 4in.	12/6
Separate Generator Lamps, complete	3/6
Silent Silencers up to 6 h.p.	11/6
Matchless Spring Forks, shop-soiled	pair
Triumph Pattern Horns. Our price	3/9
Leather Magneto Cover	2/6
Pannier Bag, good condition	6/8
Ditto, rather larger	8/6
Kumli Handle Grips, rin. bars	pair 1/3

Look out for the 1912 GRADO-GEAR.

MAUDES MOTOR MART.

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Telephone 552, Mayfair.

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We are nothing if not original—in our advertising; in our system of business; in our purchases. We imitate no man. No other firm will treat you so well. No other firm will send you the goods and if they don't suit you send your MONEY BACK IN FULL. NO other firm will let you have a machine to try on your own hills; to be examined by your own pet mechanic; for you to take off the cylinder and look inside. The privilege of doing all these things puts £5 on the value of any of our machines.

By-the-by, when reading our lists, don't expect us to indulge in the luxury of allowing £25 for a machine that you will be pleased to take £10 for. We cannot do this unless you allow us to put £15 on the value of the machine that you purchase from us. Therefore, if our quotations, on the face of them, do not seem as big as those of other firms, remember that the machines we are selling are worth more, and that you have the privilege of seeing and examining the goods before deal is closed. There are no fancy prices allowed for yours, and no fancy figures put on ours. On the top of all this, we consider that the people who deal with us are not fools, and we give them credit for having more sense than to believe that Hitchen's, of Morecambe—or anyone else—can allow £25 for an accumulator machine without putting a fictitious price on the machine that you are buying.

Note that when you buy an accessory of any kind from other people, if it is not exactly what you want, you can MAKE THE BEST OF IT; with US you CAN RETURN IT, and have the money back in full. It comes per return of post, without any rebate or reduction. We do not enquire why you are asking for the money back, but you get it, knowing that you at once become a walking testimonial of our straightforward system of business.

We are always prepared to receive offers for anything that we have to sell. By this we mean offers that are sensible. We do not advertise our goods at such a price that we can accept £10 for any £20 advertised machine, and please note the season is not over with us; our system of business makes a busy all the year round.

Regarding our tyres, we cannot indulge in allowing 5/- for an old cover that is worth 2/- off Morecambe Studded covers at 11/11 and 12/11. We are warning your trade, and duty the world to do better for you—if you are satisfied with good, substantial stuff. Cheap, low-priced rubbish we don't stock. If you have not given us an order, you have only to try us once, and you will find that WE DO return the money; WE DO send you a cheque; and WE DO all things that we say we do. But we DON'T give anything away free, and we don't sell rubbish.

By-the-by, we answer every letter if people will only put their names and addresses on same. If you don't get an answer, it is because your address has been omitted. Now, boys, so long until next week. The Canary is fine.

GREAT 1911 REDUCTIONS.

RUDGE, 1911, free engine	£50 0
LAURENCE, Model 11	£25 0
DOUGLAS, two speed, Model E	£43 0
HUMBER, 1 1/2 h.p., single-cyl., three-speed	£39 0
TRIUMPH, standard, 2 in stock	£45 15
ZENITH-CRAIG, 5 b.p.	£45 0
TRIUMPH, free engine, 2 in stock	£55 0
BAT-L.A.P., 8 h.p.	£55 0
HUMBER, two-speed	£45 0
BRADBURY, two-speed	£50 0
SCOTT, 1911, two-speed, 2 in stock	£60 0
BRADBURY	£45 0
BAT-L.A.P., 5 h.p., cash price	£52 10
ZENITH-GRADUA, 3 1/2 h.p.	£50 0
P. and M., 1911, two-speed, 2 in stock	£60 0

S.H. LIGHTWEIGHTS.

Lady's HOBART, as new, three-speed	£39 10
ENFIELD, 1910, fine order	£28 10
MOTO-REVE, 1910, single-cyl., as new	£22 0
L.N., 1 1/2 h.p.	£15 0
DOUGLAS, 1910, fine order	£20 0
MOTOSACOCHE, free engine	£20 0
SIN MS, 1 1/2 h.p.	£10 10
MOTO-REVE, twin, 1910 1/2, new	£27 0
MOTO-REVE, 1910 1/2, twin, fine order	£23 0

MOTOR BICYCLES FOR SALE.

3 1/2 h.p. N.S.U., magneto, lamp, spares, new tyres and 3 1/2 belt, just overhauled, excellent condition; going abroad; £18/10.—Burdett, Bradford-on-Avon.

1909 Triumph, just overhauled, perfect condition. Cowey, tools, spares, h.b. magneto control; bargain, £30.—Burgess, Angel St., Worcester.

1910 3 1/2 h.p. N.S.U. Model de Luxe, 2 speeds and free engine, excellent condition, take sidecar anywhere; any trial or examination; £33.—Ward, Presteigne, Radnor.

ZENITH Gradua, 1910, 4 h.p. J.A.P. engine, just overhauled, new Palmer and Dunlop tyres, with Millford sidecar, castor wheel; £40, offers.—Parker, City Garage, Worcester.

1911 5 1/2 h.p. 2-speed F.N., finest machine for sidecar work, no belt troubles, guaranteed to perfect order, and hardly scratched; 45 guineas; trial run if 2 days' notice given.—Hodgkinson, Harington, Evesham.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

1911 Variable Gear Ariel and sidecar, lamp, horn, spares. £45—304, Woodstock Rd., Oxford.

TRIUMPH, late 1908, first-class condition, new Palmer cord back, new belt; £28.—Hinxman, Fareham.

N.S.U., 1910, 4 h.p., magneto, spring forks, tyres, belt, all in perfect condition.—Butler, 134, Oxford Rd., Reading.

TRIUMPH, free engine, September, 1909, Palmer, Kennishall, F.R.S. lamp; £35.—Malvera House, Stow-on-Wold.

2 1/2 h.p. Douglas, new Sept., 1910, perfect machine, all accessories; £30, or nearest offer.—61, London Rd., Salisbury.

1910 Douglas, B104 saddle, lamp, horn, spares, recently overhauled by makers; £25.—Wright, 52, Bramshott Rd., Southsea.

1911 Premier, 1911, only ridden 350 miles; owner 32 going abroad; must sell; best offer.—Langley Farham Common, Bucks.

TRIUMPH, late 1906, magneto, h.b.c., Michelin, plating and crumpling in good condition; £18.—V. Gauderton, Buckingham.

2 1/2 h.p. Shaft-driven Lightweight F.N., with 2-speed gear, in splendid running order; £28.—T. Baker and Sons, Friar St., Reading.

2 1/2 h.p. Douglas, twin-cyl., footboards, perfect order and condition; subject to any trial; £30.—T. Baker and Sons, Friar St., Reading.

2 1/2 h.p. Quadrant, magneto, Druid forks, 1910 L.B., h.b.c., splendid order; £20, or near offer.—C. Duck, 45, High St., Southampton.

EYLES and Eyles have several high-class motor cycles for sale.—Can be seen at their new garage, 113, St. Aldate's, Oxford, opposite Town Hall.

SCOTT, 1910, 2-speed and free, automatic lubrication, excellent condition, cane torpedo sidecar, very smart; £48, together; wanted, small car.—Elisha, Eastleigh, Hants.

PHELON and Moore, 3 1/2 h.p., 1910, Jones speedometer, lamp and generator, watch, mirror, horn, spare tyre, chain, and other spares; £46.—Cape, Redborough Common, Stroud.

TRIUMPH, 1911, free engine, Cowey, lamp, horn, tools, new belt, plating and enamel perfect, won several hill-climbs; £50.—Seen by appointment at 1, Bainton Rd., Oxford.

TRIUMPH, T.T.R. (October, 1908), carefully used, and in perfect running order, tyres and belt in new condition, headlight, mirror, spare valve, plug, etc.; £26.—Bennett, Portsmouth Waterworks.

TRIUMPH, 1910, Roe 2-speed, free engine, new Palmer cord over back, and Dunlop front, just been thoroughly overhauled, with F.M.C. sidecar, in excellent condition, spares, and accessories; £47.—Below.

DOUGLAS, 1911, 2 1/2 h.p., Model 11, excellent condition throughout, spares, accessories, had careful use; bargain, £32.—Below.

INDIAN, 1911, 7 h.p., 2-speed, blue finish, with special Millford sidecar to match, Jones speedometer, large F.R.S. lamps, P. and H. generator, spare tubes, 2 exhaust whistles, all other accessories, splendid condition throughout; great bargain, £65.—Below.

LADY'S Singer, 1911, 2 h.p., Armstrong 3-speed and free engine, almost new, had little use, perfect throughout, Dunlop rubber studded tyres, Bosch magneto, Druid spring forks, P. and H. lamp and generator; cost £52; private owner; accept £40.—Morris Motor Cycle Garage, Oxford.

BOURNMOUTH.—Harvey, 58, Poole Rd., sole district agent Humbers.—Tourist Trophy Twin delivered from stock, also 1911 second-hand lightweight, £27/10; 1911 3 h.p., £32/10; and brand new Moto-Reve, twin, to clear £30.

HIGH-CLASS SOLO MACHINES.

SINGER, 3 h.p., magneto	£12 10
N.S.U., 3 1/2 h.p., M.O.V.	£15 0
GRITZNER, 3 1/2 h.p., free engine	£17 10
HUMBER, 1911, two-speed	£37 10
BRADBURY, 10 0, fine order	£35 0
SIMMS, 3 h.p., magneto	£12 10
BROWN, 1909, twin, 5 h.p.	£29 0
N.S.U., 3 h.p.	£16 10
BROWN, 1909, 3 1/2 h.p., free engine	£25 0
SIMMS, 2 1/2 h.p., magneto ignition	£14 10
TRIUMPH, 1909	£32 10
SINGER, 3 1/2 h.p.	£18 10
KEN, 1910, 3 1/2 h.p., splendid order	£28 0
TRIUMPH, 1910, Mabon clutch	£35 0
KEN, 3 1/2 h.p., M.O.V.	£15 0

SIDECAR MACHINES.

P. and M., 1910, splendid order	£50 0
BAT-L.A.P., 5 h.p.	£32 10
REX, 5 h.p., fine order	£47 10
REX, twin, 5 h.p.	£25 0
P. and M., 1910, perfect order	£45 0
ZENITH, 6 h.p., late 1909, Gradua gear	£40 0
J.A.J.-CHAFER-LEA, 4 h.p., free engine	£26 0
J.A.P.-CHAFER-LEA, 10 h.p., racer	£40 0
F.N., 4-cyl., 1 1/2 h.p.	£22 10
N.S.U., two-speed, 5 h.p., twin, 1910 1/2	£39 0
N.S.U., 4 h.p., twin, two-speed	£29 0
BRADBURY, two-speed as new	£42 10
BRAT WAITE, 19 9, 3 1/2 h.p., two-speed	£29 0
REX, 1911, 5 h.p., four-speed	£35 0
J.A.P.-CHAFER-LEA, 1 h.p.	£22 10

ACCUMULATOR MACHINES.

£3 down and 5/- per week for any of these models.	
MINERVA, 1 1/2 h.p.	£6 10
HUMBER, 2 1/2 h.p.	£8 0
MINERVA, 1 1/2 h.p., h.b. con rol	£6 10
HUMBER, 3 1/2 h.p.	£9 0
N.S.U., Twin, 3 1/2 h.p.	£12 0

Also several more equally as cheap. Pnsb Cycles taken in part payment. 30/- to £3 allowed.

SEASONABLE LINES.

Special Separate Generator Lamp	12/6
Special Bracket ditto Lamp	22/6
1911 F.R.S. Latest	58/8
1911 as Latest	60/-
1911 in as Lightweight	35/-
State wants, as we have largest stock in the world, and make good allowance for old one off Lucas and F.V.S. lamps. Silver or electro finish.	
S.H. Leather Coats	12/6
New Leather Coats	13/6
Long Waterproof Umbrella Coats	5/11
Oil-skin Breaches	2/11
1000 Brand New Inner Tubes, all sizes	4/11
Waterproof Suits complete	12/11
Cowey 1911 Speedometer new	£3 10
Jones 1911 Speedometer, new	£2 15
Apax Heavy Tyre	35/-
MORECAMBE Studded new pattern	19/11 1/2
Heavy MORECAMBE Studded, new pat.	23/11 1/2
50 Odd Tyres from 13/6 to 17/6 to clear.	
Mabon 1911 Free Engine	£2 5
Large Side Bags	5/11
Swan Neck Seat-pillar	2/8
Special Strong Carrier	4/5
E.L.C. Plugs, 2/6 size	1/1
Magneto, S.H., all sizes	£3, £3 5s. and £4
Parker Self-contained Lamp	15/11
Special Bracket Separate Generator Lamp	23/6
F.I.E.N. Magneto	£3 4 11
Sidecar Aprons, ready to fit	8/11
Special Twist Horn	3/11
New F.R.S. Generators	7/-
Exhaust Cut-outs	2/11
Handle-bar Mirrors	2/9 and 4/6
Tube and Belt Cases	5/11
Rubber Belts 7/11, 8/11, 9/11	5/11
Special F.V.S. Watch Holders	10/11 and 1/11
New Self-contained Lamp, large size	13/11
Tubes, all sizes, trial new	8/11 and 8/11 1/2

New Specification List now ready, post free.

WANTED.

100 Single or Twin Accumulator Rexes or other good machines, not less than 3 1/2 h.p. Prices must be very low. Cash waiting. Don't send machine not in running order, as we have not time to repair. State your price in first letter.

HITCHEN'S MOTOR EXCHANGE CO., LTD.,

Euston Road, MORECAMBE.

Telephone 112. Wires: Motor. Morecambe.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

WILTON Cycle Co.

VICTORIA, S.W.—Book your 1912 machine now; guaranteed dates for deliveries.

WILTON.—Clyno in stock, 2-speed, chain drive, easy starting device, etc.; first cheque secures.

WILTON.—Bradburys in stock, any model.

WILTON.—Matchless: sole S.W. agency; immediate deliveries.

WILTON.—Clyno; sole S.W. agents; trial by appointment; immediate delivery.

WILTON.—Liberal exchanges; instalments arranged.

WILTON.—1911 new Kerry-Abingdon, standard, 31 h.p., slightly soiled; £5 reduction.

WILTON.—1911 new Moto-Reve, 21h.p., slightly soiled; £5 reduction.

WILTON.—New Enfield, 21h.p.; £10 reduction; post-card will secure lists.

WILTON.—Clyno, 1911 combination, as new, spring wheel sidecar, 2 lamps, Smith speedometer, spring seat, sundries, guaranteed; cost £90, £70.

WILTON.—1911 Kerry-Abingdon, 2-speed, and best sidecar, Lucas lamp, all requirements, and spares; £50, cost £70.

WILTON.—1910 V.S., 5h.p., new tyres, Whittle, fine order; £27/10.

WILTON.—1911 T.T. Bat, 8h.p., new condition; £35.

WILTON.—1910 standard 31h.p. Kerry-Abingdon, fine order; £25.

WILTON.—8h.p. Minerva, Whittle belt, Mabon clutch, Millford sidecar, lamp, horn, spares; £25.

WILTON.—1910 Expelsior, £25; 1910 Moto-Reve twin, £25; 4-cyl. F.N., £21.

WILTON.—1911 Bradbury 2-speed and sidecar, all accessories, cost £10, accept £50, as new.

WILTON Cycle Co., 110, Wilton Rd., Victoria Station, London, S.W. 'Phone 5115 Westminster.

TRIUMPH, 1911, good as new.—J. Ransom, 37, Richmond Rd., Kingston.

£3.—Motor cycle, less engine: cheap, must sell.—104, Stanley Rd., Croydon.

FOR Bargains in second-hand motor cycles, write, The Ketco Motorcycles, Snares, Kent.

TRIUMPH, 1911, standard, little used, £40; also a T.T.—Bunting, Wealdstone.

TRIUMPH, 1910, clutch model; this has been well looked after, and is like new; £42; exchanges invited.—Bunting, Wealdstone.

1910 Douglas, only run 500 miles, lamp, tool bag, etc.; £30.—84, Greenside Rd., Croydon.

WHITE and Poppe 31h.p., new tyres, good climber; £12.—84, Greenside Rd., Croydon.

1910 31h.p. Triumph, just been overhauled.—Apply, Brentwood Motor and Garage Co., Ltd.

TRIUMPH, late 1910, exceptional condition, £39; also sidecar.—328, Balmah High Rd., S.W.

TRIUMPH, 1910, free engine, accessories, like new; £40.—Percy Nightingale, Hazledene, Crawley.

3h.p. Fafnir, Chater-Lea, accumulator, lamp, horn, tools; £8.—Allen, 29, Sundridge Rd., Addiscombe.

MOTOSACOCHE, 11h.p., splendid order; can be ridden in away; £8/10.—White, Daledene, Laleham, Staines.

5-6h.p. Rex, Montgomery sidecar, splendid condition; going abroad; £16.—14, Cranfield Rd., Brockley, S.E.

WANDSWORTH.—F.N., latest 1911, 6h.p., 4 cyls., magneto, drip feed, like new; bargain, £36.—Below

TRIUMPH, 1907-8, 31h.p., 1911 sidecar; £27/10.—Particulars, 271, Lauderdale Mansions, Maida Vale.

WANDSWORTH.—F.N., late 1909, 5-6h.p., 4 cyls., magneto, spring forks, excellent order; £28.—Below

WANDSWORTH.—Moto-Reve, latest 1911, 2h.p., single-cyl., magneto, Druids, nice order; £19/19.—Below

WANDSWORTH.—Roc Military Model, 4h.p., m.o.v., magneto, 2 speeds, perfect; clearance price £23/10.—Below

WANDSWORTH.—Roc Military Model, 4h.p., m.o.v., magneto, free engine clutch, extra good; £19/19. Below

WANDSWORTH.—Griffon-Zedel, 5h.p., magneto, spring forks, runs well; great sacrifice to clear, £15/15.—Below

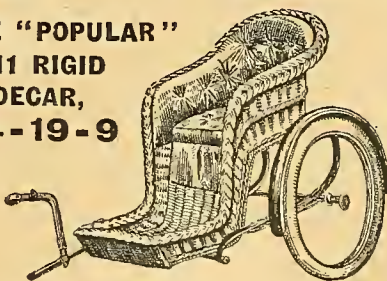
WANDSWORTH.—F.N., 31h.p., magneto, single-cyl., spring forks, nice running order; sacrifice £12/15.—Below

WANDSWORTH.—V.S., 5-6h.p. twin, magneto, Tru-fault; clearance £21; exchanges.—Wandsworth Motor Exchange, Ebner St., Wandsworth.

Collier's Motories,

WESTGATE, HALIFAX, ENGLAND.

THE "POPULAR" 1911 RIGID SIDECAR, £4-19-9



"Superbe" type, with best tyre, apron, etc. . . . £6 6 0
Ditto, with reversible child's seat £7 0 0
Ditto, with best coach-built body £7 12 6
Improved Quick-detachable Joints are fitted to all models.
Prompt Delivery to suit Rexes, Triumphs, N.S.U.'s, Indians, and any other make.
Discount to Trade. Exchanges entertained.

SECOND-HAND MACHINES. CASH, EXCHANGE, OR EASY PAYMENTS.

Brand new 31 h.p. Magneto REX, spring forks . . .	£31 0
1910 T.T. TRIUMPH, almost equal to new . . .	£39 10
Twin REX DE LUXE and Sidecar	£27 10
MOTO-REVE, magneto, Druids	£17 10
QUADRANT, 31 h.p., magneto, spring forks . . .	£24 10
F.N. Lightweight, magneto, spring forks . . .	£19 19
REX Twin, 51 h.p., spring forks, fast	£19 10
QUADRANT Trike, low, good	£6 5
MINERVA, 31 h.p., M.O.V., H.B.C.	£17 10
1911 31 h.p. Free-engine REX	£37 10
1911 Twin REX DE LUXE	£27 10
1910 Two-speed Twin REX DE LUXE	£42 10
1910 7 h.p. Twin REX, M.O.V.	£37 10
51 h.p. N.S.U., free engine and sidecar . . .	£23 10
Magneto TRIUMPH, spring forks, very smart . .	£25 10
Twin REX DE LUXE and Montgomery Sidecar .	£25 0
REX, 1910, 31 h.p., "hot stuff"	£29 10
1910 TWIN REX, M.O.V.	£29 10
41 h.p. 4-cyl., F.N., magneto	£19 19
34 h.p. REX, vertical engine, trembler . . .	£8 10
Magneto TRIUMPH, a bargain	£25 0

A CALL WILL REPAY YOU.

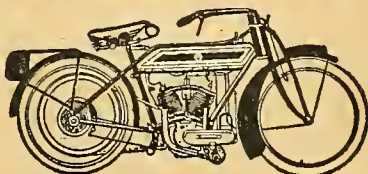
NEW

1911 21 h.p. 2-speed REX Junior 50 Gns.
1911 31 h.p. Free-engine REX 48 Gns.
1911 Twin REX DE LUXE 63 Gns.
Very Liberal Exchange Allowances.

BRAND NEW 5 h.p. TWO-SPEED TWIN REX DE LUXE,

Latest type cylinders and spring forks, mechanical overhead inlet valves, Bosch magneto ignition, cantilever seat, extra large capacity tanks and filler caps, special sidecar fittings, handle starting and other 1911 fittings, fully guaranteed, 26 x 2 1/2 in. non-skids. £53 10s.

3 1/2 h.p. Two-Speed de Luxe, £49 10s.



Liberal allowances on a few single-speed machines.
Cash offers considered, as a reduction of stock is URGENT.

MOTOR BICYCLES FOR SALE.

TOTTENHAM.—We have following 1911 machines in stock ready for immediate delivery.

BRADBURY, standard, £48; free engine, £54/10; 2-speed, £55.

HUMBER, 2-speed, £50; T.T. twin, single speed, 40 guineas; 3-speed, 50 guineas; early delivery.

RUDGE-WHITWORTH, free engine model; £55.

TRIUMPH, standard model; £48/15.

SEVERAL Shop-soiled machines at substantial reduction.

MILLFORD Cane Body Sidecar. £11; Millford Herald sidecars, 6 guineas.—128, High Rd., South Tottenham. 'Phone, 1982. (Foot of Stamford Hill.)

TOTTENHAM.—We have following first-class second-hand machines for immediate disposal at bargain prices:

HUMBER, 1910, 2-speed, just returned from works; £35.

FAFNIR-SIMPLEX, 41h.p., engine and magneto just fitted; £27/10.

5 h.p. Twin Kerry, free engine, and coach-built sidecar; £20.

5 h.p. Twin Kerry, magneto, just overhauled; £20.

N.S.U., 6h.p. twin, variable gear, Chater-Lea sidecar; £33.

N.S.U., 2-speed gear, 6h.p. twin, as new; £28.

ROC, 4h.p., 1910, 2-speed, military model, spring forks; £34.

3 1/2 h.p. M.M.C., magneto, new, h.b.c.; £20.

3 1/2 h.p. Lagonda, Palmers, perfect condition; £12/10.

1911 Humber, 2-speed, and sidecar, all as new, only used for demonstration; £47/10, or separate.

TRIUMPH, 3h.p., most reliable and perfect machine; £17.

MOTOSACOCHE, 1910, free engine, just home from makers, as new; £25.

F.N. Lightweight, 1910, 2-speed, very little used; £35.

TOTTENHAM.—128, High Rd. 'Phone 1982 (Foot of Stamford Hill)

41 h.p. Fafnir, magneto, Chater-Lea, Whittle belt, excellent condition; £18/10.—25, Upper Clapton Rd.

QUADRANT, 31h.p., low built, spring forks, splendid order; £10/10.—35, Wrotham Rd., Camden Rd.

WERNER, 21h.p., Clincher non-skid, powerful machine, rebored; £8.—14, Keetons Rd., Bermondsey.

ZENITH Gradua, early delivery of 1912 models; exchanges arranged.—Storey's, 337, Euston Rd., London, N.W.

TRIUMPH, 1909, excellent condition, tyres and belt nearly new; £30.—Elderton, 20, Tindor Rd., Upper Norwood.

DOUGLAS, 1910, standard model, tyres and everything perfect; £25, or offer.—191, Cricklewood Broadway.

EAGLES.—Zenith-Gradua, 1910 model, 8h.p. J.A.P. engine, Bosch magneto, coach-built sidecar; £47, or separately.

EAGLES.—Rex, 31h.p., dropped frame, magneto, spring forks, h.b.c., fine condition; £18/10.

EAGLES.—N.S.U., 31h.p., 1908, magneto, spring forks, h.b.c., Whittle belt; £17/10.

EAGLES.—N.S.U., 6h.p., twin, late 1909, Bosch magneto, m.o.v., spring forks, 14in. Shamrock belt, 2-speed gear and free engine, only run 1,000 miles; £37/10; as new.

EAGLES.—N.S.U., 31h.p., Model de Luxe (1910) gained gold medal in 1910 6 Days' Trials; £27.

EAGLES.—Douglas, 21h.p. twin, late 1910, had little use, nearly new; £26/10.

EAGLES.—We have a few brand new single-cyl. N.S.U.'s just delivered, magneto ignition, m.o.v., improved carburetter, h.b.c., Shamrock belts, 1911 spring forks and other improvements, complete tool case, full set of tools, stand, etc.; 3h.p. £27, 31h.p. £31, net cash; deferred payments arranged.

EAGLES and Co., High St., Acton, N.S.U. West London district agency.—Immediate delivery of 1911 models; liberal allowances for machines in part payment Tel.: 556 Chiswick.

TRIUMPH, 1910, perfect condition, spare cover and tube, horn; £33.—56, Pulborough Rd., Southfields, S.W.

DOUGLAS, 1910, perfect condition; any trial, any time; £24.—56, Pulborough Rd., Southfields, S.W.

21 h.p. Jap-Triumph Lightweight, 26in. wheels, good tyres; £7/10, lowest.—176, Hainault Rd., Leytonstone.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1911-12 Tourist Trophy Racer, special engine, latest improvements, new Dunlop belt and tank cover, perfect; £41.—114, Rothwell St., Glasgow

1911 Moto-Reve, 2 1/2hp., new, unused, what offers: 1911 Bradbury, 3 1/2hp., done 1,000, £37; 1910 Moto-Reve, 2 1/2hp., £25.—Mackrillane, engineers, Helensburgh.

TRIUMPH, 1909, free engine, in first-rate running order, recently overhauled, P. and H. lamp, new tyres; £36.—No. 8,728, The Motor Cycle Offices, Coventry.

TRIUMPH, 1911, free engine, not done 2,000 miles, in perfect condition, as new, complete with Lucas lamp, horn, Whittle belt, Jones speedometer, spares; dealer driven throughout; buying car; £48.—No. 712, The Motor Cycle Offices, Coventry.

COTLANDS, 2 1/2hp. about Cycling Firm. — Don't wait for months on your new mount. We can give immediate delivery of Indian, Premier, Douglas, Zenith, S.A. Rex, N.S.U. and Lincoln. Besides these, we stock P. and M., Roe, and Norton, and can supply any other make.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

DOUGLAS, latest type Model D, in stock, 38 guineas. 3 1/2hp. twin Albany, perfect order, spigot forks; 8: 2 1/2hp. light-eight Ariel, guaranteed good going over, £10; second-hand machines taken in part payment of new ones; sole agents for Douglas, New India, and Zenith; enquiries invited.—Dundee Motor and Cycle Co., Nethergate, Dundee

SECTION XI.
Ireland and Isle of Man.

h.p. Humber Motor Cycle for sale, almost new.—R. Stewart, The Mail, Sligo.

INCOLN 4hp., 3 1/2hp., new three months, Whittle £25, or offers.—Millar, Roscommon.

TRICARS FOR SALE.

1hp. Excelsior Tricar, good tyres; £8.—H.B., 277 1/2 Cricklewood Lane, N.W.

h.p. Triar, P. and M. gear, B. and B.; £10.—Apply Dewhurst, motor engineer, Keighley.

EX Tricar, 10-12hp. twin, w.c., open frame, coach built, like new; £29.—1, Ebner St., Wandsworth.

1hp. Minerva Tricar, B. and B. belt, Clair accumulator; £15, or exchange motor cycle, magneto.—Blick, Aldingbourne.

h.p. Quadrant Carrette, wheel steering, bucket seat, new back tyre, in excellent order; £20, or offer.—K. Nunney, Frouse.

LUMBER Tricar, 4hp., open frame, wheel steering, 2 speeds, lamps; bargain, £19/10.—20 Thorneaton Lane, Leeds.

OVER Tricar, 3 1/2hp., 1911 B. and B., recently overhauled, engine rebushed; £15, or offer.—Pulling 6a, London Rd., Croydon.

YNOCH, 3 1/2hp., B. and B., just rebushed; £13; going order; spare wheel and forks.—Wicks, 13 Broadway, West Norwood.

LEY Tricar, 6hp., 3 speeds nod reverse, car tyres in excellent condition; exchange good motor cycle or 70, High St., W. Bromwich.

OR Reliability and Pleasure, 3 1/2hp. Raleighette average 25, takes 2 anywhere; any trial; £25.—19 Ardman St., Eccles, Manchester.

RICAR, twin-cyl., Amac carburettor, Eclair silencer, splendid condition, lamp, etc.; £25, or first reason offer.—24, Gt. Sutton St., E.C.

EX Litette, 6hp. twin, water-cooled, Bosch, h.b.c., 2 speeds, splendid condition; £27/10, offers.—275 Pokery Rd., Handsworth, Birmingham.

h.p. Riley Tricar, in good running order, w.c., 3 speeds, free engine, coach-built wheel steering as new; £30.—Burnett, Fleet Rd., Fleet, Hants.

C. 1911, speed model sociable, fit at brakes, lug gear carrier, studded tyre, complete, perfect; £80. Write, Kenny, 32, Gunterstone Rd., West Kensington.

UMBER Tricar, 5hp., 1911 B. and B. carburettor, bucket seats, 2-speed free engine, wheel steering, excellent condition; £19; getting car.—Ede, 39, Duke's, Muswell Hill.

RICAR, 4hp. w.c., 2 speeds and central, clutch on engine, all in splendid condition, tyres as good as new; low figure for quick sale; room wanted.—T. Bush, Grafton St., Coventry.

ITETTE, 6hp., water-cooled, Roe 2-speed, magneto, Whittle, wind screen, lamps, horn, spares; any offer; guaranteed perfect, as new.—Taylor, 261, High Street, Birmingham.

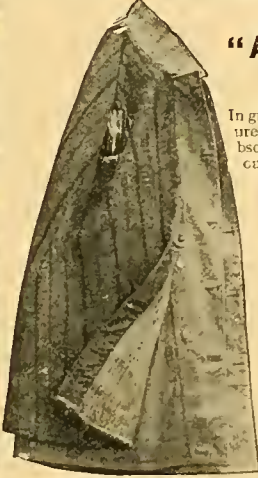
C. Sociable, 6hp. hood, screen, side flaps, speedometer, new last June, spares, equal to new; cost £10; run 1,000; photo; £85, or what offers?—William S. Rawstone Rd., Colchester.

XCELSIOR Tricar, 4hp. free engine, 2 speeds, water-cooled, wheel steering, good tyres, chain drive, splendid condition throughout; £18, or offer.—St. James St. King's Lynn.

C. Sociable, 1911, only driven week-ends, acetylene head lamp (car size), 2 electric (for oil), side and pendence tail, everything of the best, many spares; buying car; £80.—Jordan, 5, Cork St., London, W.

G. RAW'S & SONS' Warm Winter Clothing.

The latest and most satisfactory Waterproof Garments for Autumn and Winter riding.



Keeps out the rain and cold; absorbs the moisture, and is very warm and comfortable.

Price 25/-
Enables motorists to avoid catching cold.

ALBANY "SPECIAL" LEGGINGS.

In grey-green or fawn double texture cloth to match "All-Season" Jacket. Leather adjustable foot strap, V-shaped gussets, and patent dome fasteners to exclude rain, wind, and dust. Made in one piece to come well up over the stomach.

Without seat, 13/11
With seat, including vent for convenience, also special arrangement to allow access to side pockets . . . 15/11
These garments are indispensable to winter motorists.

These, along with an "All-Season" Jacket, form the best Winter combination.



ALBANY "STANDARD" SUIT.

In grey-green or fawn double texture cloth. Guaranteed absolutely waterproof. Jackets: Double-breasted, deep storm collar, and strap to exclude wind and rain. Inside and outside wind cuffs, etc. 18/-, less 10% = 16/3. Leggings: Leather adjustable foot straps, V-shaped gussets, and patent dome fasteners to keep out rain, wind, and dust. 8/-, less 10% = 7/4. Complete Suit, 25/-, less 10% = 22/6. Only about Six Dozen Suits left. Secure one while prices are reduced.

Notice to Purchasers.—We have made a speciality of our Winter Garments, and can guarantee complete satisfaction. If, however, you do not approve of goods, and same are returned in 3 days undamaged we will refund amount paid.

Terms.—Nett cash with order. Goods sent carriage paid. Send chest measurement and length desired for Jacket, and inside leg measurement only for Overalls. Catalogues and patterns sent on application.

G. PAWS & SONS,
MOTOR CLOTHING SPECIALISTS,
The Albany, Oldhall Street, LIVERPOOL.

TRICARS FOR SALE.

6hp. Two-cyl. Advance Tricar, adjustable pulley, coach-built body, coil and accumulator ignition, long footboards, 3 brakes, first class condition throughout; offers.—Box No. 1,4,552, The Motor Cycle Offices, 20, Tudor St., E.C.

4hp. M.M.C. Tricar, 1911 B. and B. carburettor, Whittle belt, latest Davidson's tank, recently overhauled and enamelled slate grey and brought up to date, fine order and condition, all accessories; £18.—Howie, 17, Lilly Av., Withington, Manchester.

1910 A.C. Mighty Atom, Speed M del Sociable, Cape hood, Lucas headlights, Dependance back, front wheel brakes, several real practical improvements, spare tyre and tubes, not a fault, perfect as new, all spares; £75, on 1910—113, High St., Lewisham.

TRICAR, Rex engine, 3 1/2hp., 2-speed, free engine, Cycle-optic gear, just been overhauled, with new cylinder head and piston rings, new tyre to back wheel, 3 new tubes, new saddle, handle-bar, and lamps, perfect running order; trial given; a real bargain, £20.—Miles, Hulse Rd., Salisbury.

SIDECARS AND FORECARS.

SIDECAR, nearly new, upholstered, new tyre; £5.—Write, Fischer, 9, Gt. Pulteney St., W.

1911 Milford Castor Wheel Sidecar, new tyre, nice order; £26/15.—1, Ebner St., Wandsworth.

SIDECARS, brand new, beautifully upholstered, fit any make; £31/1.—Rex, 5, Heath St., Hampstead.

RIGID Sidecar, 26in. wheel, tyre and tube complete, fit any machine; 70/-—Western, Uffculme, Devon.

GLORIA Sidecar, for Triumph motor, only run 500 miles, good condition; £8.—Young, Hamletta House, Looe-down, Bath.

5hp. Dot, Gradua gear, Druids, etc., almost as new, also sidecar, £35, complete; separate or exchange.—2, Victoria Buildings, Fishergate, Preston.

MIDDLETON'S—Wholesale, retail, sidecar manufacturers, repairs, exchanges, second-hands.—Watson St., Newington Green, London, N. Phone Dalston 2126.

MILLS-FULFORD 1911 Rigid Sidecar, Canoe-M del, only done 800 miles, new Dunlop and special spring, done in green leather; cost £11, £8.—Gonville, Walsner, Kent.

SIDECARS.—The famous quick detachable Montgomery, all models stocked.—To be seen at the sole London agents, Pielon and Moore, Ltd., 4, Percy St., Tottenham Court Rd., W.

SIDECARS, largest stock; best value in England; all built of Chater-Lea fittings; prices, £6/10, £5/10, £4/15, second-hand from £3/15. fitted free while you wait.—C. A. Edgar, 123, Holloway Rd., N.

THE Pythian Spring Wheel Sidecar (Morrison's patent) is undoubtedly the most comfortable on the market, send for particulars, prices from £3/15; Pythian motor cycles, £46/15.—Clarke Bros. (Leicester), Ltd., Lower Free Lane, Leicester.

TOTTENHAM—Sidecars, 1911, nicely upholstered, fit any machine, £3/10/6; quick detachable, £3/17/6. Milford Herald, £6/6.—Stamford Hill Motor Co., 128, High Rd., Tottenham. Phone 1982 Tottenham.

SIDECARS.—A postcard will bring you illustrated list of the best, cheapest, and most up-to-date sidecars on the market, delivery from stock, trade supplied.—Jack Cairns, sidecar and fittings manufacturer, Gillingham St Works, Preston.

MONTGOMERY Rigid Coach-built Sidecar, built to special design, tripped body, child's removable seat, specially sprung, very smart and comfortable; cost £16/10, accept £10/10 or nearest offer.—No. 8,591, The Motor Cycle Offices, 20 Tudor St., E.C.

PHENIX Sidecars.—The makers of the famous Phoenix motor bicycles are making Phoenix sidecars of high grade from 25/5 nett, complete with tyres; fitted free; sidecars on hire, exchanges made.—Phoenix Motors, Ltd., Motor Cycle Depot, 736, Holloway Rd., London, N. Phone: 449 Hornsey.

SIDECAR COMBINATIONS.

TWIN 5 1/2hp. 2-speed and Sidecar; what duocar.—21 Lime St., Southport.

1910 7 1/2hp. V.S., 2 speeds, Fulford sidecar; cheap.—Particulars, A. Batty, Little Hulton, Bolton.

7hp. V.S., 1910, and Chater-Lea sidecar; any trial; £38.—Maynard, 47, Maidstone Rd., Bounds Green, London.

5 1/2hp. Rex and new Sidecar, free, Stuaely, Amac, Bosch; £22, or separate.—Chandler, Kensington, Berenooks.

1911 4hp. 4-speed Osborne-Jap, with sidecar, excellent condition; £36.—A. 221 Streatham High Rd., S.W.

4 1/2hp. Twin Minerva, free engine, perfect, also new sidecar; see other advertisement.—59, Binfield Rd., Clapham.

3 1/2hp. Minerva, Chater-Lea, sidecar, perfect; bargain, £21; open to expert inspection.—40, Egremont Place, Brighton.

2 1/2hp. N.S.U., reliable, light, detachable sidecar, 4 spares; £14.—May, 14, Donald Rd., Upton Manor, West Ham.

SIDECAR COMBINATIONS.

32 h.p. N.S.U., Bosch magneto, B. and B., with sidecar, perfect condition, spares; £24.—Taylor, 104, Beech Rd., Stockport.

1911 (March) 2-speed Humber and rigid sidecar, under 1,000 miles, new condition; £40, lowest.—Spencer, Linden Cottage, Sevenoaks.

P. and M., 1911 Colonial model, and sidecar, 2-speed gear, hand and foot controlled; £60.—11, Arundel Gardens, Winchester Hill, N.

BRADBURY and Sidecar, 1911 Tourist model, guaranteed perfect condition, all accessories; sacrifice, £39.—Lunnon, 40, Chalk Farm Rd., N.W.

TRIUMPH, 1911, free engine, splendid condition, and new Mills-Fulford radial spring torpedo sidecar; accept £57.—621, Poleshill Rd., Coventry.

ROC, 6h.p., 2-speed, handle starting, 650x65 Dunlops, magneto, spring forks, Amac and Oakleigh sidecar; £25.—Jordan, 49a, Cambray Rd., Balham.

6h.p. Twin Sarcles, Druids, B. and B., h.b.c., adjustable pulley, low saddle position, and almost new sidecar; £18/15.—85, Church Rd., Willesden.

7h.p. 1910 V.S. and Sidecar, new tyres, Whittle belt, splendid condition, fast and reliable; £37/10, a bargain.—Fond, 349, West End Lane, Hampstead.

3h.p. Quadrant and Sidecar, dry battery ignition, h.b.c., good tyres and quantity spares; £16.—Bennett, King Alfred Rd., Harold Wood, Essex.

4h.p. Twin N.S.U. and Sidecar, accumulator ignition, in perfect running order; £19; trial any time; cash wanted.—31, Allen Rd., Stoke Newington, N.

6h.p. N.S.U., appearance and condition as new, a.c.i.v., N.S.U. 2-speed gear, Bosch, 14in. belt, 2 1/2 in. tyres; £33, without sidecar.—189, Bowes Rd., New Southgate.

3h.p. Kerry and Sidecar, with box under, splendid order, exhaust whistle, lamp, 2 accumulators, etc.; £14; seen appointment any time.—S., 72a, Mare St., Hackney, N.E.

BRADBURY Motor Cycle and Sidecar, 2-speed gear, complete, speedometer, lamp, and accessories, new August, 1911; £60.—Waugh, 15, Aspley Rd., Wands worth.

31h.p. White and Poppo, Chater frame, good tyres, 2 new belt, lamps, etc., with Chater sidecar, first rate order; £15.—Symons, 62, Bridport Rd., Thornton Heath.

31h.p. Rex and sidecar, adjustable pulley, B. and B., 2 brand new tyres and Whittle; genuine bargain, £13/10; also Triumph, £15.—Rosedale, Grove Rd., Hounslow.

9h.p. Bat and Sidecar, fast and powerful machine, car tyre on rear wheel, Albion free engine clutch, Whittle belt, Amac carburettor; £45.—Fond, 349, West End Lane, Hampstead.

6h.p. Sarcles and Sidecar, new tyres and tubes, adjustable pulley, spring forks, B. and B. carburettor, excellent condition; £22.—Stubbs, 20, Sutherland Ave., W. Tel.: 2530 Paddington.

1911 Clutch Triumph, N.S.U., 2-speed gear, many accessories and spares, Millford sidecar, with carrier; cost over £75, accept £60, or nearest, or exchange twin.—8, Egypt St., Warrington.

7h.p. Indian, 1911, free engine model, blue finish, complete with Mills-Fulford rigid sidecar, fitted with hood and luggage board, G. and J. tyres; what offers?—Fond, 349, West End Lane, Hampstead.

TO Clear: taken for debt.—5h.p. V.S. and sidecar, French grey, Bosch magneto, Mabon free engine, perfect running order; worth £37, accept quick sale £25.—Brown, Gloucester Rd., Chesterfield.

BRADBURY, 3h.p., Roc 2-speed, with Premier coach-built sidecar, excellent accessories, new, not ridden 250 miles; would entertain 2-seater car, immediate.—Earl, Waldeck, Edward Rd., Birmingham.

ROC Cycle, with Sidecar, 5h.p. Peugeot engine, twin c.v.s., magneto ignition, 26x2 1/2 Palmer cord tyres, in very good order, general condition excellent; owner got a car; would sacrifice for £30.—12, The Broadway, Maswell Hill.

1911 Genuine 2-speed Bradbury and Sidecar, purchased new middle of season, run about 1,800 miles, is fitted regardless of cost, perfect condition; bargain, £45, no offers; seen by appointment.—102, Ballingdon, Sudbury, Suffolk.

SINGER, 3h.p., clutch model, and sidecar, perfect turn out in every respect, new in May, all possible spares, Palmer cord, Cowey King of the Road, valve, etc.; cost £70, take 50 guineas and no less.—10, Beech Av., Sherwood Rise, Nottingham.

1911 3h.p. 2-speed Premier and Chater sidecar, Dunlops, Whittle, 2 Lucas lamps, Lucas horn, speedometer, and all spares, everything as new; any trial given; £65, or without extras £56.—Boyce, 23, Grand Parade, Archway Rd., Highgate.

1910 Rex, 5h.p., 2-speed gear, free engine, new tyres, Whittle belt, automatic lubrication, Lucas headlight, new Chater-Lea sidecar, all accessories, guaranteed perfect and ready for road; £35.—Masters, 7, Shakespeare Rd., Herne Hill.

HUMBER, 2-speed, 3h.p., new last year, just overhauled by Humber, Coventry, worn parts replaced, making machine equivalent to new, with Millford sidecar, 2 almost new tyres, accessories; £38/10 for immediate purchase.—A. Clegg, Arncliffe, Southwood Av., Bourne-mouth.

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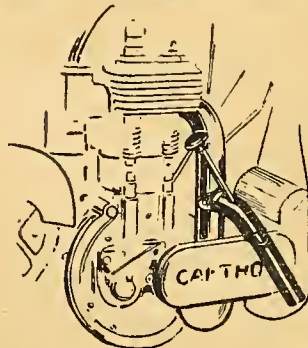
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SIDECAR COMBINATIONS.

7h.p. 2-speed V.S., Bosch, Truffauts, 1911 B. and B., lamp, horn, carrier, stand, 2 brakes, 26x2 1/2 in. tyres, Clincher front, Model de Course with Lomax band rear, numerous spares, genuine spring wheel Chater sidecar, lap joints, and luxurious art cane side-entrance body; £49; any trial; will separate.—229, Burdett Rd., London, E.

QUADCARS.

PHOENIX Quadcar, 7h.p. Palfin, just thoroughly overhauled; any trial.—King, Great Missenden.

BARGAIN.—2-speed and free engine quad, 4h.p. De Dion, good order; £12; room wanted.—Lumb, Lord St., Rochdale.

MOTOR TRICYCLES AND RUNABOUTS.

G.N. Runabout, Model de Luxe, torpedo body, 8-10h.p. J.A.P. engine, dual ignition; trial.—Whittingham's, Winchester Hill.

SPIDER Runabout, grand little car, single seat, with spare double one (interchangeable), 7h.p., magnet, Palmer cords; great bargain, £35; take good motor cycle exchange.—Bunting, Wealdstone.

MONOCAR for disposal; all particulars and illustrations, see last week's "Motor Cycle" or 19th September's "Motor Cycling"; £65; trial by appointment.—H. E. Dew, Lullingstone, Eynsford, Kent.

CARS FOR SALE.

LYON.

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MERCEDES, 20h.p., low racer, excellent condition throughout; only wants viewing to buy; £80.

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MOTOBLOC New Chassis, 20h.p., fitted torpedo 7-seater body; a real bargain, £140.

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ECLIPSE.—15h.p. Darracq, 2 ignitions, side entrance; £80.

ECLIPSE.—10-12h.p. Gladiator, tonneau, hood, smart little car; £35.

ECLIPSE.—6h.p. De Dion-Regal, single-cyl., 2-seater; £32/10.

ECLIPSE.—6h.p. Aster engine, 2 or 3-seater, smart little car; £27/10.

ECLIPSE Engineering and Motor Co., 255, Earlsfield Rd., Wandsworth. Phone 1135 Putney. Earlsfield Station, L.S.W. Rly. 15 minutes Waterloo.

6h.p. Oldsmobile Runabout Car, splendid order, must be sold.—Barnes, Strood, Kent.

12-14h.p. 2-seater, bucket seats, side doors, grey, very reliable; £50.—257, Fulham Rd.

8h.p. 2-seater Phoenix, sell £45, or exchange motor cycle, good make.—Wroe, Ironmonger, Wombwell.

6-8h.p., 2-seater; unfinished, 3 speeds, reverse, shaft drive; offers; after 7.—24, Sidney Rd., Forest Gate.

10-12h.p. 2-cyl. Herald 2-seater, magneto, perfect order; £40, or exchange.—199b, King St., Hammersmith.

RENAULT, 10h.p., 2 c.v.s., 2 or 4-seater, shaft drive, natty little car, perfect order; £70.—128, High Rd., Tottenham.

6h.p. Siddley, 3 speeds, reverse, hood, Stepney, screen, lamps, etc., good running order; £30.—23, Johnson Rd., Marton, Blackpool.

DE DION, 6h.p., light, low, modern, hood, screen, side change, long wheelbase, accessories, splendid tyres, suit doctor.—4, Grove Lane, Camberwell.

42h.p. De Dion Car, good condition, wire wheels, tyres 700x85, nearly new; £20, or exchange tractor or combination.—8, Richmond Rd., Staines.

6h.p. Genuine Dion Regal, magneto and coil ignitions, reliable and good condition, 2 new spare covers, tyres good; £45.—Hubbard Bros., engineers, Basingstoke.

AUSTRIAN Daimler, 4-cyl., dual ignition, side entrance, shaft transmission, seats 5, long, low, handsome car, £85, to clear; smaller car wanted.—128, High Rd., South Tottenham.

BARDON Car, 6-8h.p., 4-seater, 3 speeds and reverse, splendid order, accumulator ignition, paintwork like new, upholstered leather, spare tyre; trial given; £18, or offer.—Bear, St. James St., King's Lynn.

THE MOTOR CYCLE

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Silence and Silencers.

THE Brooklands Automobile Racing Club has issued a notice to all motor cycle manufacturers and *habitués* of the track, that in future no motor cycle will be allowed on the track without an efficient silencer, and that cut-outs will not be permitted. This regulation has been brought about by residents of Weybridge, who, we understand, have gone so far as to apply for an injunction against the B.A.R.C. unless steps are taken to reduce the noise of motor cycles. In the long run, the regulation, if upheld, will prove beneficial to the pastime, because it will cause makers to turn their attention to silencing the exhaust. The only criticisms we have to offer regarding the rule are that we believe an exactly similar one exists in connection with cars at Brooklands, which, in our opinion, is more honoured in the breach than in the observance. The racing cars one both sees and hears at Brooklands may have no cut-outs, and the box into which the exhaust gas is blown may be of the orthodox shape and dimensions, but it is seldom, if ever, a *silencer*. Also the authorities encourage the use of aeroplanes as an attraction, but, as everyone knows, the aeroplane engines are totally devoid of any form of silencer, the exhaust issuing in one continuous Gatling-gun-like rattle. This being so, why should the motor cycle be singled out for special attention? We think it is because the rapid explosions of a highly-tuned single-cylinder racing engine are more irritating to the nervous ear than the continued louder rattle of a four or more cylindered car or aeroplane engine.

This brings us to another most absorbing query. How many cars or motor cycles would accomplish the

speeds they attain at Brooklands were they efficiently silenced? A manufacturer may rightly claim perfect silence for a touring car fitted with the same sized engine he employs at Brooklands, but put that touring vehicle on Brooklands track, change the body and some parts of the engine, set the timing of valves for racing only, and note the difference in the noise. The same thing applies to a motor cycle, with this exception, that nearly every motor cyclist would reject a motor cycle as under-powered if it were handed to him with the same adjustments that the touring car owner is satisfied with.

Apart from the question of inadequate space in which to fit a silencer, it is the craving for utmost speed and power which makes the majority of motor cycles noisy when compared with cars. Our opinion is that makers will have to discard the question of appearance in connection with this one item—the silencer—and fit a large and unsightly instrument to deaden the noise of the explosions, or legislation will step in before long and do it for them. Far better to adopt some improvement in this direction at once than wait till it is done for us. If legislation should define at some future date the dimensions and design of the silencer, it would probably err on the side of absurd size, and be of such a shape that the manufacture of a presentable-looking machine would be impossible. There is no valid reason, beyond that of appearance, why a single or double silencer should not be fitted on the chain stays with a single or branch pipe lead under or at the side of the crank case. Who will be the first to adopt it? Silent machines are said to be dangerous, but we cannot trace any accidents to this cause, whilst there have been more than one due to noise.



Large Twins v. T.T. Singles.

A COMPARISON.



ONE frequently hears the remark, "Why do motor cyclists use 8-10 h.p. machines when $3\frac{1}{2}$ h.p. T.T. mounts have proved themselves only a few seconds slower in hill-climbs and short distance speed tests?" Having owned and ridden both types, and toured extensively, I propose to compare their merits and disadvantages. The average motor cyclist will possibly ridicule the idea of employing an engine of 8 h.p. for solo work, apart from the racing track. He, no doubt, finds that his single-cylinder mount of moderate power will take him almost anywhere at what he considers a reasonable speed.

Now my remarks are addressed not so much to the twenty-miles-an-hour tourist, but rather to the more sporting type of rider—or shall we term him the speed merchant?—who revels in a burst uphill with the wind whistling past his ears.

Having always been an admirer of power, both physical and mechanical, and at the same time having been bestride motor cycles developing from one donkey-power to twenty horse-power, I must confess to a leaning to the big twin-cylinder, but I will deal quite openly with the advantages and disadvantages of what to some minds appear as "abnormal projectiles."

The Comfort of Big Twins.

In the first place, let us consider comfort combined with speed, as this will without doubt appeal to any contemplating a long journey with limited time at their disposal. With large tyres (by this I mean tyres not less than $2\frac{1}{2}$ in. in diameter), and with a wheel-base a little longer than standard practice, no rider can realise the extraordinary increase in comfort to be obtained until he has experimented for himself. At the same time, the small increase in weight entailed by using larger tyres and a heavier frame does not appreciably slow a machine with a large reserve of power.

Experienced readers may perhaps agree with me that it is an unpleasant undertaking to drive a T.T.

single for any length of time at speed, after riding a large twin at an equivalent speed under exactly similar road conditions. In the case of the single the throttle is open almost to the full and the engine turning at quite 3,000 revolutions per minute. Compare with this the twin running comparatively light at a little over 2,000, with a gear approaching 3 to 1. Ignoring the question of comfort, the high engine speed leads to overheating. For instance, the single, when picking up after slowing for traffic or a corner, invariably utters an ominous "knocking" which grates on one's ears, whereas the "eight," with its two cylinders by no means "pink hot," picks up without a murmur and is soon settling down to its stride again.

Another Advantage of Reserve Power.

A point greatly in favour of the larger engine is that when once tuned up it requires little attention, owing to the improbability of one being able to "let it out" for any distance. The T.T. single has undoubtedly been developed almost to the last notch, and has proved itself wonderfully speedy when in perfect tune, but the question is, "How long does this tune last?" Again, as regards reliability at speed, one rarely hears of the big twin being stopped on the road owing to valve troubles, for the reason already stated, viz., that the engine is not being forced along and is rarely turning at its maximum revolutions. How many riders of T.T. single-cylinder machines of even six months' experience can assert they have had no valve troubles?

As winter is rapidly approaching, probably still fewer would care to tackle a powerful mount on the score of side-slip. But against this there are many who "lay up" their smaller mounts for a few months, owing to their dread of skidding, so we will cry quits here. But to my mind the liability of side-slip depends on two things—firstly nerve, and secondly gear ratio. Provided a low gear be used on really treacherous surfaces, I can see no reason

A. Mackenzie-Cott, the writer of the accompanying article.



The machines with which he is depicted are (left) a 1911 8 h.p. J.A.P., and (right) a 1911 T.T. Triumph.



Large Twins v. T.T. Singles. —

to believe that a large twin should skid more readily than a single; in fact, I will go further, and state that the tendency is less likely, owing to the more even torque of the twin-cylinder engine. My practice is to arrange the throttle to close fully, and to control the speed of the machine by the throttle, and not by the switch or exhaust lifter.

The Question of $\$$ s. d.

To come to running costs, I must admit that an undoubted disadvantage of the large power unit is the comparatively high expenses, especially in relation to petrol, tyres, and belts. In the case of the twin, the cost of upkeep I find to exceed that of the single by thirty per cent. But, in my opinion, this extra expense is money well spent in obtaining a more luxurious method of travel.

Lastly, with regard to hill-climbing power, I contend that the close results of competitions are misleading, and tend to give one the impression that the single is quite as fast and every bit as good a hill-climber as its larger brother, which most emphatically is not the case. Why? Because most really stiff hills possess either dangerous corners or a loose and rough surface, and cannot be ascended with safety at more than a certain speed, however great the power may be, and this limit speed the single in expert hands is often capable of attaining. On tour the conditions are totally different, and the high geared twin-cylinder machine will negotiate severe gradients at a speed quite beyond the powers of the single-cylinder with its 4 to 1 gear.

A. MACKENZIE COTT.

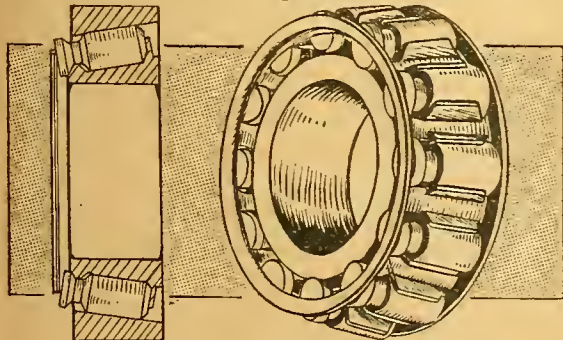


THE AUTUMN QUARTERLY TRIAL.

W. D. South (Scott) at the first acute bend on Farlow. Note the narrow road.

BALL OR ROLLER BEARINGS.

FOR some time past many motor car front wheel bearings have been fitted with the type of roller bearing which is known as the Timken taper roller bearing. They are also being fitted to back wheel bearings of motor cars. Unless we are very much mistaken, more than one high-grade make of motor bicycle will be provided with these bearings next year. They are not cheap, however, and any firm fitting them must have found an appreciable difference in running, or they would not add a matter of a couple of pounds to the cost of a machine merely to have an additional "talking point."



Section and sketch of the Timken roller bearing.

The appended sketch of the Timken bearing in section and perspective illustrates the amount of

bearing surface occupied by the rollers. Most roller bearings are not adjustable, but the Timken is adjustable in exactly the same way as an ordinary ball bearing, namely, by means of a cone. In the case of motor cycle wheel bearings, this cone is adjustable by means of a screwed thread and locked with a nut, so that there is no possible reason why there should be the slightest side play in the wheel bearing; in fact, when perfectly adjusted, there would probably be less than in the usual type of ball bearing. It is a well-known fact among engineers that a ball bearing is not suitable for carrying heavy weights, and has been discarded in many instances owing to the fact that the ball provides a point contact only instead of a line contact.

Whether the weight of a motor cycle and rider is sufficient to bring the undoubted advantages of the roller bearing into prominence in connection with motor cycles remains to be seen, but there is no doubt that on motor cars it has proved itself superior to a ball bearing, particularly in the case of the front wheels. The front wheels of cycles used with sidecars are, of course, subjected to a similar strain in the way of end thrust as a motor car wheel bearing, although the weight carried is less. If the roller bearing for the motor cycle is made of a suitable size and strength for the weight, we are of the opinion that there is a future for it where the expense in producing the higher grade of machine is not studied.

FROM THE CHANNEL TO THE ADRIATIC & MEDITERRANEAN & BACK

By Motor Cycle

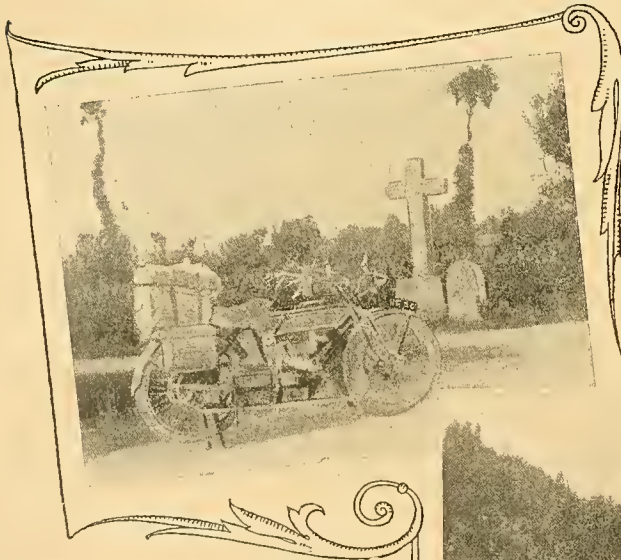
By R.M.B.J.

(Continued from page 1086.)

The run was very enjoyable. Passing an old *château* on the right surrounded by a moat and used as a farm, we entered Vitteaux—a quaint old town—and had lunch. Afterwards we struck a very pretty road with splendid panoramic views through Sombernon. A fast run took us through Auxonne, Dijon, and Dole, just stopping in each to buy cards and get a general idea. All the countryside was alive with haymakers, and the slow-moving bullock waggons, heavily laden, are not ideal vehicles to meet and pass. The country now becomes gloriously pretty as we approach the Jura Mountains, but the road deteriorates, and gets very bumpy to Salers-les-Bains, where we stopped for the night, as it began to pour with rain. After an excellent dinner at l'Hôtel des Messageries, we were entertained by a conjurer. 140 miles.

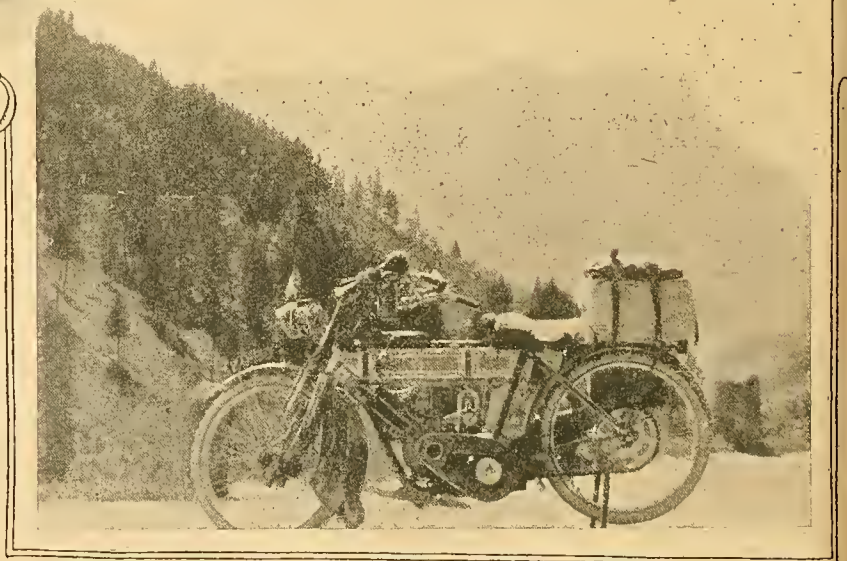
Saturday, July 1st, fortunately broke fine, though

Salins, nestling in the valley below. The roads soon dried up under the hot sun, and ran through a very pretty forest to Levier, but were rather uninteresting to Pontarlier. Passing beneath the gateway inscribed "Liberté, Fraternité, Egalité," into the town, I took a snap of the usual crowd which everywhere surrounded the machines. From Pontarlier right on to the Italian Lakes the scenery beggars description, and the roads are for the most part excellent. Care has to be exercised in negotiating the "cassis" or drains across the village streets. Dropping down a long hillside, with a grand view of valley beneath, we came on the French Customs at Jougne on the right side, and the Swiss, ten yards further on, on the left, at Vallorbe. The French authorities were very bored, and hardly bothered to look at us, except to examine the *permis de circulation*. The Swiss *douane* filled up the International Travelling Pass after much delay. None of the Customs seemed to understand this book, and always asked for the little card with the photograph of the rider and description of the machine. One can get on perfectly with this alone, the other papers proving quite superfluous. Lunching at Ballaigue, we began to drop down for miles, over a splendid road with the most glorious panoramic view it is possible to get in the world. Eighty miles away the snow-capped Alps appear; in the valley, far as the eye can reach, are villages and towns studding the green



An Italian "sign-post" and wayside cross near Venice on the plain of Lombardy.

the *paré* and roads were very greasy at first. Salins is a very pretty town, down in the valley, dominated by forts perched hundreds of feet up on crags on each side. Leaving at 9.40, we were at once faced by a stiff climb of four miles over the Juras. The road surface was tricky and abounded in deep ruts, which made a two-speed gear a *sine qua non*. Halfway up, one gets a glorious view of



The P. and M. in the Swiss Alps. The above photograph was taken in the Simplon Pass.

From the Channel to the Adriatic and Mediterranean and Back.—carpet: every turn in the road brings fresh snow-clad peaks into view, while far away could just be seen the blue waters of the Lake of Geneva. From Orbe to Lausanne the road becomes *very* narrow, bumpy, and dusty, till it drops right down into Lausanne, wherein we just paused, and then ran on through the towns and villages on the lake side, vines all the way above us on the left, the lake below on the right, to Chillon at the head of the lake. We put up at the Chateau de Chillon Hotel, and after dinner explored Montreux and the lake side. The heat had been terrific all day, and towards evening heavy banks of cloud appeared over the lake and mountains, and then a thunderstorm burst in all its grandeur and fury. This was a "no trouble" day, through magnificent scenery. Eighty-six miles.

Improved Roads and Fine Scenery.

Sunday, July 2nd.—Having laid in a stock of petrol overnight, we got going at 11.30. From Chillon, the road runs for seventy miles

CONTINENTAL TOURING ON A MOTOR CYCLE.



The usual crowd looking at the motor cycle at Pontarlier, France.



Buying "essence" (petrol) from the usual grocers' shop in France. The five litre tins can be seen outside, together with the petrol funnel, which is hardly motor cycle size. It will be noticed that the front number of the writer's machine has come adrift.

bother to light up till I reached the town) in the dark, over the greasy roads, with the lightning playing hide and seek in the mountains and the thunder reverberating up and down the valley, to the Hôtel du Terminus, Sierre. Here a concert was in full swing, and the lights and gaiety were welcome after that finish in the dark. By the way, before leaving England I met a motor cyclist who had just returned from the Simplon, and he strongly advised us to take the train from Martigny to Brieg, as there was simply no road. However, the road turned out to be quite fair, though greasy and rutty; 25 to 30 m.p.h. was possible over it with the Kempshalls. Fifty-four miles.

Over the Simplon into Italy.

Monday, July 3rd.—Starting at 9, we found the road in good condition to Brieg. The valley begins to narrow, and one passes through the first typically Italian paved village, and across the quaint covered wooden bridge over the mountain torrent. Arriving at Brieg at 11, we stopped at the police station for our permits to cross the Simplon. A paper is filled in, giving full particulars of machine and rider and specimen signature and exact time of departure from the station. The fee is 2 francs. A copy of the rules for crossing the pass, in French or German, is also handed one. Not less than four hours have to be taken in crossing between Brieg and Gondo (28 miles), where the permit is handed in at the police station and the time noted. Speed nowhere must exceed 7 m.p.h. The fines for breaking these rules range from 25 to



A waterfall near Vernayaz in the Rhone Valley, Switzerland.

500 francs. However, we found it was not so terrible as we had expected, and if one drives

as a gentleman should do, no trouble will result. The pass begins immediately from Brieg, rising steeply, bending to the left, and zigzagging round to the right. The heat was intense; low gear used all the time. Most glorious views are obtained on the way up, broad panoramas, and, far down below, Brieg is visible. Occasional stretches of unrolled stones, the entire width of the road, were rather disconcerting. Passing through the tiny villages of Berisal and Eggen, making a wide sweep round the Kaltwasser glacier and the Simplon.

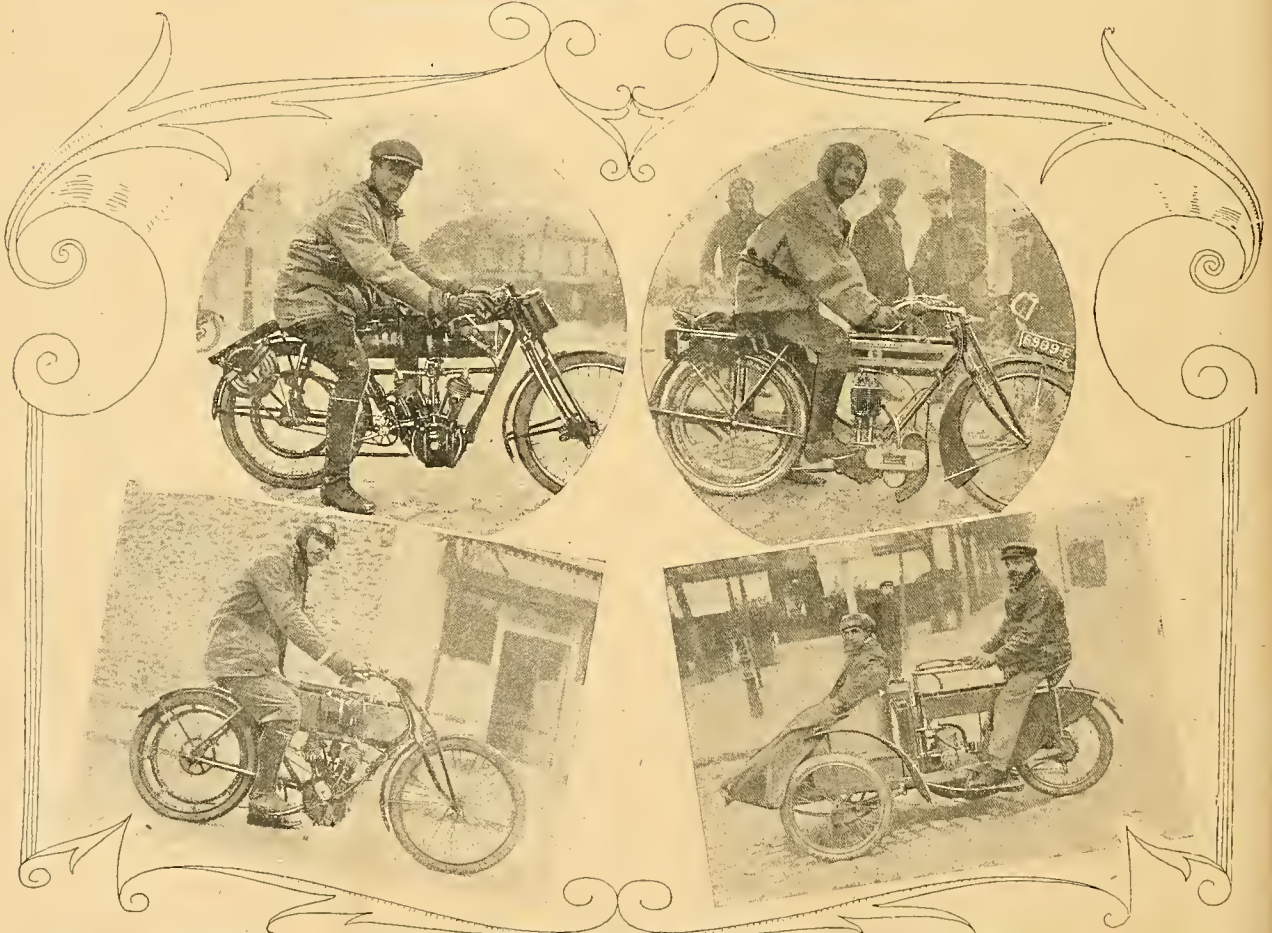
From the Channel to the Adriatic and Mediterranean and Back.—

Kulm comes into sight (the summit = 2,009 metres). Now come muddy tunnels, and water galleries, with mountain torrents rushing overhead and wetting one with spray, and at last, 13½ miles from Brieg by my Cowey, is the summit and hotel, with snow alongside the road. The rarefied atmosphere makes one breathe rather rapidly, but the carburation seemed quite unaffected. The glorious view is indescribable. Entering our names in the visitors' book, sending off postcards, and then the long, long drop down begins of twenty-six miles to Domodossola. Bending to the left, round the Hübachorn, the Hospice comes into view, with some little St. Bernard puppies playing about. Here we visited the chapel, took photographs of each, and continued. Down below on the right is seen the old Simplon and Hospice, and then the road slides into the gorge, from which it does not emerge until Crévola Dossola. On the Swiss side one gets glorious panoramic views; on the Italian side the route lies in a deep gorge all the way, with the mountains rising sheer thousands of feet up. The leather of my brake band began to burn, and engine compression was used as a brake; the front brake blocks were also very hot. The road now is very loose, big

boulders and stones lying about in all directions, being carried down by avalanches, and in places the road is washed away. Fortunately, it was down hill. Then the police station at Gondo—we had taken seven hours, as we had lunched, photographed and enjoyed the scenery—followed by Swiss and Italian Customs. The Italians affixed a seal to each machine, and supplied us with a *permis de circulation* in four languages (the English is quaint), the fee being 25 centesimi. Everywhere my machine caused wonderment because it had no pedals. The favourite remark was: "It is like a little motor car." Then down to Domodossola; in the plain here we had our first taste of the terrible Italian dust. It was now 8.30, and we decided to go on to Pallanza, as we thought it was only twenty miles on. However, it turned out to be over thirty, and a wild ride too. It was creepy under the trees; once I landed in the middle of a light railway in coming round a bend on to a new road, but luckily recovered myself. At last—Lake Maggiore, with its twinkling lights and islands and the moon over the mountains and lake, the whole blending into a wonderful picture. This was a day of glorious views, which I should like to do over again. Eighty-eight miles to-day.

(To be continued.)

PARIS-RHEIMS MOTOR CYCLE RACE. A FRENCH AWAKENING.



There is no promise of a revival of interest in motor cycles in France. Recently a road race from Paris to Rheims was held—a distance of approximately 100 miles. Our photographs show—(1) The winner Naas (7 h.p. twin Griffon). (2) Second, Bloch (6 h.p. twin Rene Gillet). (3) Gabriel (3½ h.p. T.T. Triumph). (4) Dubois, winner of the passenger class on a 5 h.p. Mototri-Contal. Practically none of the French machines had silencers.

OCCASIONAL COMMENTS

G. IXION

Serviceable Tyre Inflators.

Some months ago I complained of the shoddy character of some tyre pumps. These often have a very small barrel, and when a 26in. tyre has to be inflated from the flat the job requires a multitude of strokes; further, the connection is very light and fragile, and the tube is apt to tear away from its end sockets in hard use.

Since that date I have received two excellent pumps—one a Bluemel, which is larger and stronger than the average; the other is a direct bid for the allegiance of the "heavy tourist" type of rider, and is known as the Vevo. The trade undoubtedly want a light, cheap pump. If they are to sell their machines at moderate figures, they cannot afford to pay high prices for accessories. Too many makers fit toy celluloid pumps, and these suit the T.T. stripped machine, the owner of which probably carries a sternly economised kit in a military hairbrush case, strapped to the front forks. One or two makers fit the Bluemel foot pump, which is a large, light, and excellent inflator. But thousands of riders do not mind a little extra weight and cost, and they will be glad to hear of the Vevo, which is a really powerful instrument, with a large margin of strength and magnificent inflating qualities.

Rear Springing.

How much longer are we to wait for the ideal rear springing device? Completely sprung frames seem to hang fire, weight being the chief drawback, with the fear of rattles and lost rigidity in the background. Various accessory dealers continue to market spring saddle mountings, applicable to all makes of machine, but they do not provide for the springing of the mechanism. Existing spring devices other than one or two well-known types which have been tried and found efficient rather remind me of the primitive spring forks introduced six years ago—they are generally obvious makeshifts, containing a hint of future evolution, but themselves plainly doomed to obscurity. In the meantime we continue to stand on our footrests whenever we near a level crossing, and continue to let air out of our back tyres whenever we strike a long patch of corrugated road. I know the trade have plenty to do, but this is a point that needs attention, and one that will well repay the introducer of a good device.

I rather like a rear springing idea embodied in the 1912 model of the Harley-Davidson machine—a leading American make. The saddle is carried on a horizontal lever; the forward end of this lever is hinged to a clip on the top tube of the frame, while its rear end is fixed to a post in the usual saddle pillar tube, and insulated on compression and tension springs concealed in the tube.

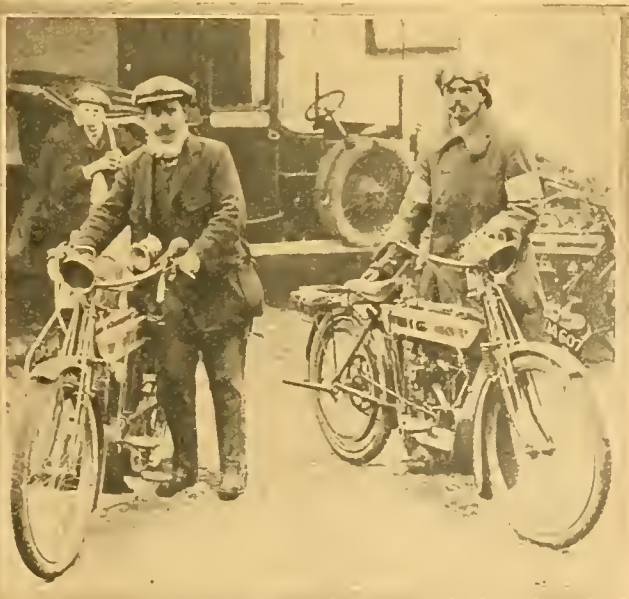
A Stern Test of a Generator.

Last week I took a trip on a car, and as the owner was a little dubious about the reliability of his big acetylene generator, I slipped my 1911 motor cycle generator into the car boot. Sure enough the car generator gave out, and we strapped the little cycle gasometer into position, and used it to supply a brace of giant head lamps for an hour and a half.

The driver of the car was enthusiastic in his praises—said he would have imagined he had a pair of new lamps, for they had never given so excellent a light before. When we got home I emptied the cycle generator, and found it was not quite exhausted. I have never had very satisfactory experiences with the complete cycle set, which goes to show that the lamp is not so good as the generator.

On the car the gas travelled to the lamps through about eight feet of tubing with a steady upward slope, and also through a filter. I believe on some cycle sets the tubing undulates too much, and the levels are not observed so strictly as they should be, while a small filter clipped to the top tube would probably aid in the maintenance of an even light for long periods. One of the essentials is to obtain good carbide, there is a lot of rubbish on offer.

I do not believe in carrying the generator as high as most sets do, nor in dipping the tube between lamp and generator.



NON-STOPS ON FOUR SUCCESSIVE OCCASIONS.

J. and A. J. Stevens, who have made non-stop runs in each of the four Quarterly Trials of 1911, riding 2½ h p. 2-speed chain driven A.J.S. machines.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Stands as Nail Catchers.

[5984.]—The letter of "Never Again" [5923] strikes me as relating to a very peculiar incident. "Never Again" adjusted his stand to clear the tyre by half an inch, and shortly afterwards . . . the bar happened to touch the tyre.

Now what happened? Did the tyre suddenly swell that extra half-inch, or did the "somewhere near 20 m.p.h." cause the bar to be drawn to the tyre by suction?

I should suggest that when "Never Again" adjusted his stand he forgot to tighten up the bolts, or that whilst doing his "somewhere near 20 m.p.h." his tyre picked up a nice large brick which became wedged between the tyre and stand.

As the road "Never Again" did his 40ft. slide upon was tarred, I am in favour of the loose bolt theory.

It may interest "Never Again" to know that I run with my stand as close to the tyre as is possible without actually touching. The distance between the two is probably $\frac{1}{2}$ in. Only during the last fortnight my stand has twice given me the hint that all was not well with my back tyre. One occasion was outside Hanwell Asylum (bad omen), and I heard a miniature child's rattle behind me. I thereupon proceeded to extract a small portion of tramline from my back tyre. A nice little splinter about 1½ in. long. The second occasion was when quite an ordinary nail tried to get through my "Autobi." The above mentioned child's rattle soon made itself heard.

HUBERT J. M. HUGHES.

Single-cylinder Machines and Sidecars.

[5985.]—May I have a word on the single-cylinder sidecar machine question?

Many men I know run single-cylinder machines with sidecars. Nine out of every ten agree that their turn-outs are no good for serious touring in a hilly district. They are useful for short runs, knocking (in more senses than one) about town—"pottering," as I call it. For touring over give-and-take roads they all agree that a twin is necessary.

Of course, if a single-cylinder man has a two-speed gear on his machine, so much the better; it will save him much trouble in traffic, and many weary "dismounts and runs" on steep hills. With a single-cylinder and sidecar the engine always seems to be labouring; picking up on corners, climbing hills, etc., all tell their tale. To maintain a good average speed, say 25 m.p.h., the engine runs fairly warm, the result of a low gear and a generous throttle. Then, when the hill comes, these things take their toll. I speak now of ordinary common or garden amateurs with ordinary common or garden machines, not those experts who get their engines tuned up every other month at the works.

Personally, I have driven a single-cylinder single-gear machine and sidecar in a hilly district several hundreds of miles, and thoroughly enjoyed it. It is sport in the real sense of the word. But there is a certain amount of work in the undertaking, and it would not suit many men, especially those getting middle-aged. The passenger (especially if a lady) might object if the hills she has to walk up become too frequent. This is when the work starts.

EPH WHY.

[5986.]—Regarding the above discussion, I venture to quote Mr. Hugh Gibson against himself, as in the postscript to one of his letters he says, "Wray and myself weighed just over twenty stones on the record ride." There he gives

the whole case away, because the sidecar combination is obviously rather the machine of the heavy than of the light brigade, and if I weighed only ten stones instead of eighteen I do not think I should even trouble a sidecar.

Let all interesting purchasers of sidecars take warning that if, like Mr. Gibson, you are as expert at keeping in tune, as you are at driving and only wish to carry twenty stones a hefty single and two (or three) speed gear will do you all right, but if you are not quite as expert as Mr. Gibson and want to carry twenty-four stones you must have something higher-powered or be constantly in trouble in any (at all) hilly country.

My 7 h.p. twin with two-speed gear takes thirty-two stones up the Kent hills including Westerham, Titsey, Riverhill, Charing, etc., without either of us having to dismount, and we have recently returned from a tour in Devon and Cornwall, and were only stopped on one or two hills by belt slip, but it was just about all the machine could do, and I am quite sure the hefty single with two or even three-speeds would not have done it.

In a nutshell—the power must be suited to the work to be done if you do not want to be in constant trouble. But all the same I do not recommend every rider who wishes to carry twenty stones to assume that what Mr. Gibson can do he can do. Those who are sufficiently expert may do it—the others will not.

J.E.Y.

Overheating.

[5987.]—In one of your July issues, under the heading of Questions and Replies headed "Overheating," you state as follows:

"Too weak a mixture is also quite as likely to cause overheating as too strong a mixture."

Now I do not want to contradict this statement, but only desire clearer information on the subject.

It appears to me that when there is exactly sufficient oxygen present in the mixture entirely to burn all the petrol gas present, or in other words when there is just sufficient petrol gas present in the mixture entirely to consume all the oxygen present, not only is the maximum explosive force generated, but also the maximum amount of heat is produced.

Beyond this point on either side, the explosive force and also the amount of heat generated will be naturally reduced.

Should an excess of air be present this will not be consumed during the explosion, but will be expelled through the exhaust along with the products of combustion in a heated state, having absorbed part of the heat generated during the explosion, thus the temperature of the exhaust gases will be less than if they had been the result of complete combustion.

It thus appears to me that the greater the quantity of excess air present in the mixture the less will be the force of the explosion, and the lower will be the temperature of the resultant gases, consequently less heat will be conveyed to the cylinder and its parts, until eventually a point is reached when the mixture will cease to explode at all.

A similar thing would occur when an excess of petrol gas is present, i.e., more than the oxygen in the mixture could consume; this excess would be unconsumed after the explosion, and be expelled in a heated state along with the products of combustion, having absorbed a portion of the heat generated during the explosion, hence the temperature of the resultant gases would be less than if they had been produced by complete combustion.

Both the force of the explosion and the heat generated would diminish as the excess of petrol gas increased until the mixture ceased to explode as before.

If the above reasoning be correct how it is possible that either too much or too little air can generate more heat than a maximum explosive mixture giving complete combustion?

B. STARKS FIELD.

[It is certainly a fact that too weak a mixture causes overheating, or—perhaps better expressed—coking and bad running due to poor explosions. Bad running always makes the engine hotter than it should be under the circumstances, hence it causes overheating.—Ed.]

Lamps and Winter Riding.

[5988.]—To be overtaken by darkness when within a few miles of one's destination, and to find that one lacks either calcium carbide, water, or matches is a most annoying experience. For some months the writer has carried an accumulator for lighting purposes, but the trouble of finding a charging station running twenty-four hours each day, renewal of plates, and acid affected by vibration, has led to the adoption of a Hellenes dry cell, with more satisfactory results.

This spring a Voltalite magneto electric generator was purchased, but I found that the vibration of the front forks was rather too much, and the tyre rim quite impractical as a bearing surface for the generator pulley, as the rim was frequently clogged with mud and dirt.

On the first of last month I purchased another one, and lengthened the flexible conducting wires to 4ft., discarded the lamp springing device, and attached the lamp direct to the clamping base of the lamp holder.

The generator was then attached to the frame back fork stay, so that the rubber covered generator pulley might bear upon the under side of the belt pulley where the peripheral speed is less and more suitable than the rim of the wheel, also it is kept clean by the brake shoe.

One could easily have several electric lamps with a generator which would occupy no more space than the one acetylene generator and lamp, while the extra weight entailed and power absorbed are not worthy of consideration.

The above motor cycle travelled 1,300 miles last month, and the only fault was the breaking of three reflectors (replaced free of charge by the makers) close to the lamp base. The original metallic filament lamp and rubber faced generator pulley are still in service.

I still carry a dry cell which is switched on when the machine is standing, the cell being carried on the forward end of the footboards, protected by the aluminium air scoop and mud shield on the opposite side from the acetylene generator.

It took years for the magneto to supplant the accumulator for ignition purposes—now let us have it for lighting purposes.

H. W. TURNER.

The A.C.U. and the Liverpool A.C.C.

[5989.]—I should like to endorse the remarks made by your correspondent E. W. Karkopp in reference to the action of the A.C.U. in refusing to grant a permit to the Liverpool A.C.C. for the holding of an open reliability trial, and also, for its subsequent and apparently futile efforts to prevent the trial being held.

He refers to a meeting constituted of various club delegates that should be held in order to discuss the whole question, and concludes his remarks with an appeal to the Northerners to wake up.

This is a matter that affects us Midlanders also, and I think I should be safe in saying that if any organised action be taken almost all the provincial clubs would support the movement in a body.

The treasurer of my club informs me that this year he will pay over £20 for affiliation fees to the A.C.U., and this is being paid apparently to support the A.C.U., when it steps in and says that certain competitions shall not be held, and so attempts to frustrate and destroy the sporting element upon which many of the clubs have built up good reputations, and for which fully ninety-five per cent. of the members join their local clubs.

It is time that this sort of thing was put a stop to. We are towards the end of the competition season now, and club committees will have more time to talk the matter over and form their plans for next year, but before any

gathering is held or a meeting of provincial clubs' representatives takes place I would urge that full and due consideration be given and that a free interchange of opinions between club officials be made.

The next few weeks will, no doubt, show the feeling of the provincial clubs on the matter, and I trust will go a long way towards settling matters right after so many arguments and expressions of opinion have taken place.

Till then, I urge that no plans for a meeting take place, as the time seems hardly ripe.

HOWARD SMITH.

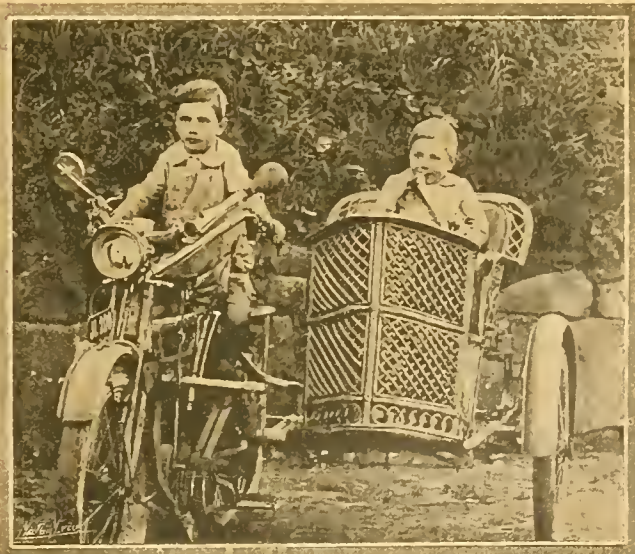
Hon. Secretary, Sutton Coldfield A.C.

[5990.]—I have carefully read the correspondence regarding the attitude of the A.C.U. in banning the Liverpool A.C.C. two-days' trial, and the Harrogate Club's recent trouble, and, as one who is keenly interested, I shall be obliged if you will allow me to point out the futility of any further efforts to influence, persuade, or coerce the A.C.U.

In 1907 a determined effort was made to reform the then Auto Cycle Club by a committee of eight Northern motor cyclists, but without any material effect except to alter the name to the Auto Cycle Union. It was not until Easter, 1909, when the Scarborough M.C.C. originated the Staxton hill-climb and asked for entries from other clubs, that any real good was done. At that hill-climb twelve Northern clubs competed together, although the A.C.U. proclaimed the event. All competitors being suspended *sine die*—84 in number—brought into the minds of a few the idea of a Northern League of Defence and not Defiance, so that friendly competitions might be held amongst neighbouring clubs without paying exorbitant fees for permits and licences to an outside body claiming jurisdiction all over the country.

The Northern League was formed, and held hill-climbs at Staxton at Easter, 1910 and 1911, also a Garroby hill-climb and a Harrogate team trial during 1910. The A.C.U. at the end of 1910 sent four representatives to meet the Northern League Council at York, no doubt feeling that something must be done to meet the Northerners, or the A.C.U. would suffer. Mr. H. W. Fortune, of Harrogate, outlined a scheme at that meeting, offering to recognise the A.C.U. as the governing body by paying a lump sum to it, and the four representatives returned to Piccadilly to consider the question. I am afraid the subject was difficult to digest, as, to the best of my knowledge, nothing has since been heard of the matter, but evidently the militant attitude of the N.L. Council showed the A.C.U. delegates that something would need to be done, and this year we have had some A.C.U. events brought North.

The Northern League has marked time, hoping that now the A.C.U. was showing itself in the North, the pro-



JUVENILE ENTHUSIASM FOR THE MOTOR CYCLE.
Master Eric and Master Billy, sons of Dr. F. C. Wright, of Moy, Co. Tyrone, who are quite enthusiastic over their father's 8 h.p. Matchless-Jap and Montgomery sidecar, on which they have done some extensive touring.

posals made in 1910 might be considered and a better understanding arrived at. Instead of that, what do we find? An autocratic interference from a no doubt estimable body of sportsmen, but not motor cyclists as we know them, and an interference with the liberties of influential clubs like Harrogate and Liverpool, which I feel sure will not be permitted.

A couple of weeks ago I called a meeting of the N.L. at York, and ten clubs sent delegates, some twenty-two motor cyclists being amongst the number, some of whom had ridden fifty miles to attend the meeting. The Harrogate Club's position was gone into, and eventually Mr. H. W. Fortune, the Harrogate M.C.C. secretary, consented to take over the office of secretary of the N.L., vacated by Mr. Straker.

Mr. Hugh Gibson sent a letter to the League, and urged immediate action, and promised his support in extending the scope of the Northern League. I therefore suggest a meeting at some neutral town, say Sheffield or Manchester, at an early date, when the entire subject can be gone into. If all club secretaries interested will write to Mr. H. W. Fortune, St. James's Chambers, Harrogate, saying where and when they could attend an informal meeting I should be very glad.

JAMES R. KELLY

(Chairman Northern League of M.C., Secretary
Leeds M.C.C.)

Cold Vulcanising.

[5991.]-In reply to "Retread's" enquiry of the 12th inst., "What is cold vulcanising?" the process is as follows: The inside of the new tread and the outside of the cover are well cleaned and roughened; both prepared surfaces are given four coats of a solution made by dissolving pure rubber in benzene, and each coat is allowed to dry before the next is applied. Then a solution is made of twenty-five parts bisulphide of carbon and one part sulphuric chloride. This is applied with a camel hair brush to both solutioned surfaces, and the tread is quickly placed over the cover and pressed down. A chemical action takes place, and the tread and cover form one homogeneous mass which cannot be separated by heat.

VULCAN.

Formulae for Hill-climbs.

[5992.]-With reference to my letter which appeared in *The Motor Cycle* of October 5th regarding hill-climbing formulae, I regret that I should have made the misstatement which you pointed out, but at the same time I beg leave to point out Mr. W. Woodward's letter, which draws attention to a similar slip in your article on page 977 of *The Motor Cycle* of September 21st.

[Mr. Colin Macmillan's statement referred to as incorrect is as follows: "Wind Resistance.—The power required to perform this function is proportional to the square of the speed, or, in other words, the force necessary to overcome wind resistance is proportional to the speed." The statement in our article is: "The air resistance varies as the square of the velocity." This is not a "similar slip"—in fact, it is not a slip at all, but perfectly correct, as Mr. Macmillan will see if he reads Mr. Woodward's letter and our comments on it a little more carefully.—Ed.]

Turning now to the example I gave, you state that a 4 h.p. engine could propel the said machine up a mile of 1 in 12 at a speed of nearly 50 m.p.h., and at this speed the wind resistance absorbs 5 h.p. If this is so, then the engine would require to develop something like 9 or 10 h.p., for the weight lifting would then take 3.9 h.p. and windage 5 h.p., and if we allow $\frac{1}{2}$ h.p. for belt and tyre friction we would get a total of 9.4 h.p. This is a power which I hardly think the average 4 h.p. engine is capable of giving out, even under hill-climbing conditions. Suppose the engine even gave out 7 h.p., then this leaves only 2.6 h.p. for wind resistance, which is little more than one-third of the total power given out by the engine. The steeper the gradient and the slower the machine runs, the smaller does the proportion of power absorbed by wind resistance become and the greater the power absorbed by weight lifting. With a gradient of 1 in 8 and speed 40 m.p.h. the proportions would be as follows: Weight lifting $4\frac{1}{2}$ h.p., tyre and belt friction $\frac{1}{2}$ h.p. = $5\frac{1}{2}$ h.p., and if the total power be 7 h.p., then we have $1\frac{1}{2}$ h.p. for wind resistance, i.e., about one-quarter of the total power.

I think your estimate of the area presented to the wind is too liberal. Probably 3 sq. ft. would be nearer to the

effective area presented to the wind by a motor cyclist in a hill-climbing competition with his body flat along the tank, when one considers that such things as frame tubes, tyres, rider's shoulders, head, and legs all present rounded surfaces to the wind which have much less resisting effect than flat surfaces.

As regards the h.p. formula, I think most people admit that rating engines by capacity (or ND^2S) unduly favours the short stroke engine, and that the ND^2 method favours the long stroke engine. In this connection I would refer you to the article which appears in *The Autocar* of October 7th, page 629, "How Stroke affects Horse-power," which confirms my contentions.

COLIN H. MACMILLAN.

[Respecting horse-power, it should be noted that, taking Mr. Macmillan's estimate of 3 sq. ft. effective area (the shape of front surfaces makes but little difference), the horse-power required to overcome air resistance in Mr. Stanhope Spencer's ride at Brooklands when he covered a lap at upwards of 66 m.p.h. would be 7 h.p. The air resistance formula is $.005 Av^2$ ($v = \text{m.p.h.}$); to get the h.p. this must be multiplied by the velocity in feet per second and divided by 550. The resistance of the tyres on the track would consume 1.2 h.p., and probably 20% of the b.h.p. would be lost in transmission. This gives the b.h.p. as 10.25. We do not agree with Mr. Macmillan's last paragraph. We gave an instance to prove that our formula

did not favour the short stroke ($\frac{D^2N}{2.5}$, the R.A.C. formula, certainly favours the long). In his article on "How Stroke affects Horse-power," Mr. Napier deprecates the use of a stroke-bore ratio being introduced into a h.p. formula.

He is alluding to Mr. Poppe's formula $\frac{DSN}{16}$, but we fail to see how this confirms Mr. Macmillan's contentions. Also, the formula is not, as we have already pointed out, a h.p. formula.—Ed.]

Up Edge Hill on a Single Speed Sidecar.

[5993.]-Regarding the article in your last issue on a single geared machine and sidecar climbing Edge Hill, it is very entertaining to read that whilst the engine was cooling down the gear was reduced to $6\frac{1}{2}$ to 1.

It first gives one the impression that, owing to the machine being single geared, it was necessary to cool the engine down, and secondly, it shows that a variable gear is really necessary, as the low gear had to be put in before trying to climb the hill.

And what a very laborious method of putting in the low gear. Fancy, in these days of variable gears, adjustable from the saddle, a rider having to alter his pulley by hand and shorten his belt in order to climb a hill, and then to have to reverse the operation before starting for home. I think that few sidecar passengers would stand being held up for such archaic methods. But that by the way. My point is (and the variable gear man will have grasped it in a flash) that, though the article is supposed to be on a single geared machine, it was to all intents and purposes a "two-speeder."

ZENITH MOTORS, LTD.

W. G. BOWER, Managing Director.

Wear of Big End Bearings.

[5994.]-I have long been an admirer of your contributor "Ixon" by reason of his perfect grasp of the obvious, but I think when he dismisses the subject of the rapid wearing out of the big end bearings of modern engines with the platitude that "it's the pace that kills," he entirely fails to grasp the seriousness of the situation.

I have a $3\frac{1}{2}$ h.p. single of well-known make which has now done 4,400 odd miles, and the third big end bush is now audibly worn. Surely if makers turn out machines capable of 60 m.p.h. they should stand up when driven at about 45 m.p.h., which is about my maximum speed under touring conditions?

The makers of my machine (to whom I have addressed several pained remonstrances) take the matter quite coolly, and evidently do not see that I have any grievance. I believe this particular make is rather exceptional in this respect, but it is a fact that the average T.T. single only does 4,000 to 5,000 miles on one big end bearing. I respectfully submit that this is not as it should be.

JOHN KENNEDY, JUN.

Hill-climbing.

[5955.]-If any of your readers be in search of a new hill to climb, I wish to suggest a trial of the road which runs from Pont Elyan, which is at the upper end of the top reservoir at Rhayader, to the old Aberystwyth coach road. From Rhayader a preliminary test, to weed out those who have no chance, can be made along the old Aberystwyth coach road, which leads to the top of the test hill. A. C. V. GIBSON.

Single-cylinder Records.

[5996.]-By my innocent query in your issue of the 12th inst. I seem to have unwittingly trodden on the Indian toes, for which I am, of course, abjectly contrite; but, referring to the Hendee Co.'s reply to, or rather comments on, my query, I fail to see why, because for three weeks in the early part of the summer I was connected with the clerical staff of the firm, I should *ipso facto* find myself conversant with all subsequent achievements and aspirations of the single-cylinder under discussion. ARTHUR M. C. SCOTT.

Carbon Deposits Analysed.

[5997.]-There is apparently a difference of opinion among experts as to whether the so-called "carbon" deposit produced in cylinder and on piston heads is partly or entirely due to road dust drawn into the compression chamber *via* the extra air orifices.

Having occasion some days ago to remove some of this deposit from the cylinder and piston of my machine (3½ h.p. Triumph), I took the opportunity of making an analysis of the sample I obtained, and append results herewith: 100 parts deposit contained carbon, 58.9 parts; partly carbonised oil, 16.5 parts; silica, 6.07 parts; iron, 9.4 parts; calcium (lime), trace.

Since the previous deposit had been removed, I had ridden 1,200 miles on very dusty roads, giving half a pumpful of Vacuum B every four miles.

From the relatively small proportion of silica and lime compounds, I conclude that road dust is not so largely responsible for the carbon deposit as is generally stated to be the case. D. R. EDWARDES-KER.

[This letter opens up a rather interesting question. Our correspondent writes from Kent, and it is possible the excellent tarred roads of this county are responsible for the absence of dust in the above analysis.—Ed.]

The Trade and the T.T.

[5998.]-Although I am not a member of that august body, the A.C.U., I still am in a position to be aware that the Union has done an immense amount of good towards the improvement of the motor cycle, and, therefore, I view with alarm the stand which you state is being taken by some members of the Manufacturers' Union.

I write in this strain, because I, with numerous other persons who actually do ride motor cycles on the road, have yet to find one particular maker who can get up on his feet and truthfully say, "I have here a machine that will average its thirty miles per hour without failing on some insignificant hill through being over-driven; its valves will keep in excellent condition, neither break nor stretch even if driven for a considerable number of miles at over thirty miles per hour; the cylinder will not require cleaning for at least 3,000 miles; piston rings, gudgeon pin, crank pin, and bushes are guaranteed for 12,000 miles wear; the frame is guaranteed to last for years without breaking; all nuts, bolts, etc., are a perfect fit; and the hubs of the wheels are both waterproof and strong enough for Scottish moorland roads."

Now sir, up to the present the T.T. races (and to a lesser extent the Six Days) are the only events which can really test in a satisfactory manner all the points I mention, and to consider the advisability of running the event on Brooklands is in my mind pure folly, and the reason (irrespective of what I have already written) is, that the results of all races that have been held on Brooklands are only read by the public in an ordinary manner, and very few could tell you a week after the result, what happened to this or that make of machine, but what a difference in the T.T. races. Particulars of machines are carefully noted, arguments are raised as to whether certain parts will stand the strain, the results of practising are studied, and for the race itself, numerous parties of cyclists visit the Isle of Man, and for weeks, months, and even years you will find men who will

bring forward incidents that have happened in races of the past, to prove that this or that machine is better than another, that such a machine was troubled with valves, that so-and-so's back wheel gave way, Jones's pulley broke, Thompson's engine seized, Brown's frame was out of alignment, and such like statements. Take the last races, the first in which variable gears were really tested, and ask yourself if you are satisfied that these gears have reached their zenith, and I think you will agree with me that even if the race was held only to give the gears a chance it would be worth it; but there are heaps of machines, practically unknown, which are only waiting to get a show, and should the perfect makes withdraw they will find that in a year or so the present unknown and despised ones are a power to be taken into serious consideration.

Therefore let not the manufacturers be too hasty, for the public is very fickle and prepared to purchase the goods that are best advertised, and there are more ways than one of advertising in these days of stress. H. W. FORTUNE.

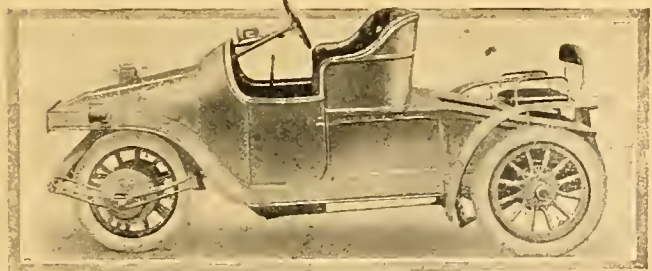
Touring in the West.

[5999.]-I have been much interested in the article, "In Wales and the West." Having myself done most of the ground twice recently, a few comments thereon may be of interest.

It is a fine road from Plinlimmon to Aberystwyth, but if your contributors did it at 45 m.p.h. they risked their lives on the corners, and they are many. I agree with their remarks about Dinas Hill, Fishguard; it is called the worst hill in Wales. I felt quite pleased with myself when I got up on my Triumph without a stop at the first attempt, without lowering the gear. It was not safe to go down at over eight miles per hour, especially with only one brake, as doubtless the spilled man will agree. Part of it is said to be one in four. I should be interested to know how this hill compares with Porlock and Countisbury, which I have not ridden. [Dinas is short in comparison.—Ed.] They do not do St. David's justice, having apparently missed its fine old Cathedral, all down in a hollow sheltered from the Atlantic gales. They had bad luck with their tyres, which bears out the contention that motor cycle tyres are not strong enough. I had a stone go right through a new cover and puncture the tube both sides the other day, which should not be. I always carry a spare butt-ended tube, and if you get a puncture on a dark night you bless yourself that you have it. I certainly agree that a good two-speed is a desideratum, as, while I can generally rush almost any hill on my Triumph, it would be much nicer to be able to go up slowly and safely. There is really nothing more enjoyable than touring the country in this way. TOURIST.

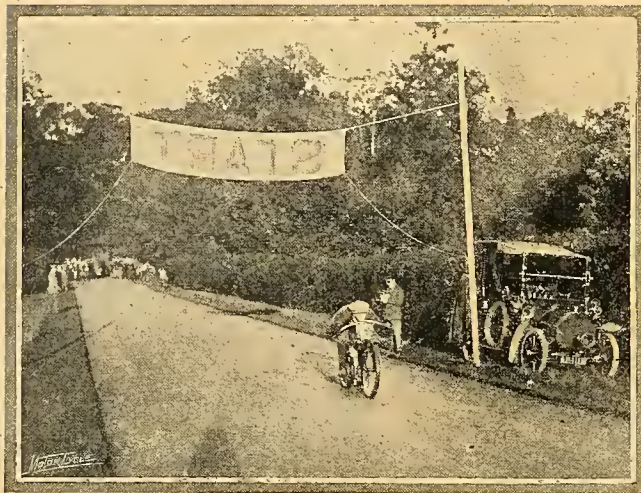
Belts and Bad Weather.

[6000.]-With reference to a letter appearing in your last issue from a correspondent signed "C.F.," we presume that he has not yet heard of the Service belt or he would not make the statement that "an unprotected belt has yet to be invented which will stand a day of rain and filthy roads on a 6 h.p. passenger machine without slipping." We make your correspondent a sporting offer, that if he has a 6 h.p. Zenith we will supply him with one of these belts, and if it slips under the conditions he mentions we should not make any charge for it; the belt, of course, to be kept properly adjusted. THE SERVICE CO. (LONDON), LTD.

**REVERSING THE ORDER OF THINGS.**

A front-driving and front-steering tricar. This somewhat strange looking three-wheeler is electrically driven, of German origin, and called the "Geha." The weight is 13 cwt. and it travels at twelve miles an hour.

Herts. County A.C. Open Speed Trials.



W. F. Newsome (3½ h.p. Triumph), who was the winner in Classes III. and V., Division C, making fastest time of the day.

BY kind permission of Sir Julius Wernher, the energetic motor cycle section of the Hertfordshire Club held a most successful series of speed trials in Luton Hoo Park on Saturday last. A heavy rainstorm detracted from the complete success of the meeting, and caused much belt slipping. Luton Hoo is close to Harpenden, and the way to the park gates was admirably shown by means of arrows. The course started at the park gates, on the Wheathampstead-Luton road, on a down grade, and as soon as the men had passed the banner there ensued a long easy rise, culminating in a fairly stiff curve and a pitch of about 1 in 16. The surface was well-nigh perfect, and was hardly marked by the machines, though during the early part of the event it was very wet.

The park is a particularly pretty one, and the course viewed from the curve, whence nearly its whole extent (1,123 yards) could be seen, formed one of the most beautiful rural scenes which could be imagined, owing chiefly to the lovely autumn tints. Mr. E. B. Dickson (the judge) and Mr. W. Cooper superintended the start, Mr. D. K. Hall took the times near the gate and Mr. F. T. Bidlake at the finish. Mr. C. C. Cooke, the hon. secretary, had his time fully occupied, as when he was not organising he was riding his Triumph in the various classes.

The event began punctually at 2 p.m., and the first three classes were quickly disposed of. During Classes V. and VI. in Division A the rain came down in torrents, and a strong south-westerly wind was blowing. The rain played havoc with the belts, and several suffered heavily in this respect. Some riders were even brought to a standstill. In this and the previous class and throughout the competition Hal Hill's magnificent riding excited favourable comments on all sides. He rode his machine, a 5 h.p. Bat, as if he were part of it, and never, as many others did, switched off at the corner.

In Class VI., for passenger machines, F. W. Barnes (8 h.p. Zenith and sidecar) was brought to a standstill owing to a slipping belt, but G. F. Hunter's performance on a similar machine was quite remarkable. Though at this stage the course was very wet, it was fortunately not slippery even at the corner. By the time Class III. (Division B) was run off the sun came out and the rest of the afternoon was fine.

In Class IV., for any machine, H. Goodwin (7.8 h.p. Blumfield) left the course at the corner and finished his run on the grass, thereby causing no little amusement. Newsome appeared on his Triumph in Class III. (Division C) and gave a splendid exhibition of riding, and later on, in Class V., made the fastest time of the day (40½s.). In this class W. H. Bashall rode Collier's 8 h.p. chain-driven Matchless-Jap, but as it had no rear brake fitted he was disqualified.

The whole event was over by a quarter-past four, and everybody retired to the refreshment tent for tea. The event had been a great success, and was promptly run off

and well managed, but, not content with letting things remain as they were, one of the officials ran off an extra event, which lasted till dusk. Anyone who liked paid a shilling entrance fee and was allowed to ride. Many of the men had no numbers, so that the few onlookers who remained had little idea of what was going on. The timekeepers had to work out the results by the light of a pair of motor car head lights, and were unable to finish announcing them before 6.45 in pitch darkness. Two lady riders took part in the competition, Mrs. O'Donovan (3½ h.p. Singer) in Class III. (Division A) and Miss Hammett (2½ h.p. Douglas) in the extra event.

Division A.

CLASS I.—Any type of standard touring machine. Single-cylinders up to 300 c.c. Award: 1st, silver medal.

	m.	s.
1. J. Dudley (2½ Hobart)	0	51½
2. P. Weatherill (2½ Zenith)	0	52½
3. F. W. Barnes (2½ Zenith)	0	53

Five ran.

CLASS II.—Twin-cylinders up to 343 c.c. Award: 1st, bronze medal.

	m.	s.
C. M. Down (2½ Enfield)	1	4½

Walk over.

CLASS III.—Single-cylinders up to 560 c.c. Awards: 1st, silver cup; 2nd, silver medal.

	m.	s.
1. R. Holloway (3½ Premier)	0	43½
2. E. W. Cheshire (3½ Triumph)	0	44½
3. H. C. Newman (3½ Ivy-Precision)	0	45½

CLASS IV.—Twin-cylinders up to 750 c.c. Award: 1st, bronze medal.

	m.	s.
1. S. T. Tessier (5 Bat)	0	43
2. Hal Hill (5 Bat)	0	43½
3. G. S. Carter (5 Matchless)	0	48

Three ran.

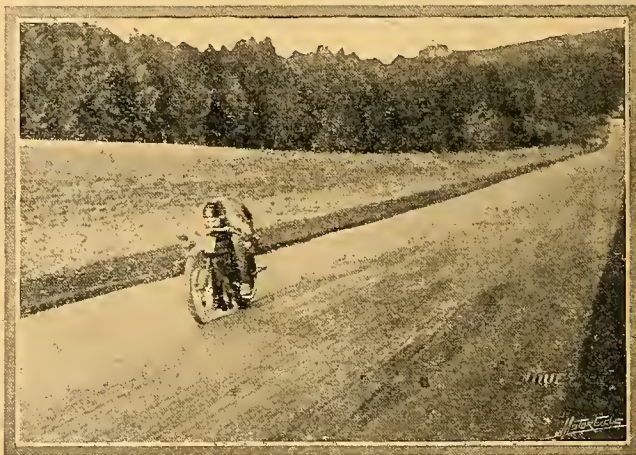
CLASS V.—Any machine. Awards: 1st, silver cup; 2nd, silver medal.

	m.	s.
1. Hal Hill (5 Bat)	0	46½
2. E. M. Cheshire (3½ Triumph)	0	47½
3. C. C. Cooke (3½ Triumph)	0	49½

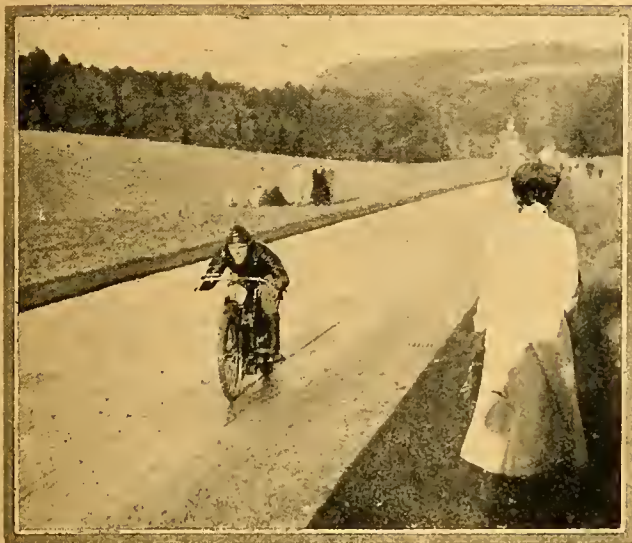
Eleven ran.

CLASS VI.—Any passenger machine. Award: 1st, silver medal.

	m.	s.
1. G. F. Hunter (8 Zenith and sidecar)	0	50½
2. B. T. Rice Pyle (7.8 Bat and sidecar)	1	5
3. B. Allen Hill (3½ Rudge and sidecar)	1	11



Lister Cooper (3½ h.p. Triumph) who gained first place in Class I. in the Amateur Division.



J. Dudley going well on his 2½ h.p. Hotart.

Division B.

CLASS I.—For amateurs. Open to any type of standard touring machine. Twin-cylinder up to 345 c.c. Award: 1st, bronze medal.

C. M. Down (2½ Enfield) ...	m. s.
...	1 8½

CLASS II.—Single-cylinder up to 560 c.c. Awards: 1st, silver cup; 2nd, silver medal; 3rd, bronze medal.

1. H. Lister Cooper (3½ Triumph) ...	m. s.
2. C. A. Colliver (3½ Zenith) ...	0 47½
3. S. Russell Cooke (3½ Rudge) ...	0 51
...	0 54

CLASS III.—Twin-cylinders up to 750 c.c. Award: 1st, silver medal.

1. G. S. Carter (5 Matchless) ...	m. s.
2. R. L. Printz (4 Bat) ...	0 44
3. J. P. Le Grand (4½ Rex) ...	0 45
...	0 53

CLASS IV.—Any machine. Award: 1st, silver cup.

1. Hal Hill (5 Bat) ...	m. s.
2. G. S. Carter (5 Matchless) ...	0 43
3. C. C. Cooke (3½ Triumph) ...	0 46

Division C.

CLASS I.—Any type of racing machine. Single-cylinder light weights up to 300 c.c. Award: 1st, silver medal.

1. J. Dudley (2½ Hobart) ...	m. s.
2. F. W. Barnes (2½ Zenith) ...	0 51
3. P. Weatherill (2½ Zenith) ...	0 51
...	0 53

CLASS III.—Single-cylinders up to 560 c.c. Awards: 1st, silver cup; 2nd, silver medal.

1. W. F. Newsome (3½ Triumph) ...	m. s.
2. H. C. Newman (3½ Ivy-Precision) ...	0 41
3. H. Lister Cooper (3½ Triumph) ...	0 46

CLASS IV.—Twin-cylinders up to 750 c.c. Award: 1st, silver medal.

1. Hal Hill (5 Bat) ...	m. s.
2. G. S. Carter (5 Matchless) ...	0 41
...	0 44

CLASS V.—Any machine. Awards: 1st, silver cup; 2nd, silver medal.

1. W. F. Newsome (3½ Triumph) ...	m. s.
2. Hal Hill (5 Bat) ...	0 40
3. C. M. Simpson (7 Indian) ...	0 44

Extra Division.**Twin-cylinders.**

1. S. T. Tessier (5 Bat) ...	m. s.
2. C. M. Simpson (7 Indian) ...	0 41
3. F. W. Barnes (8 Zenith) ...	0 43
...	0 44

Single-cylinders.

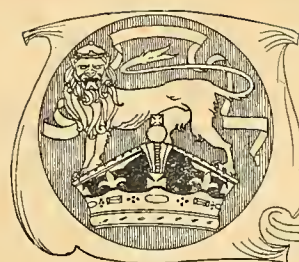
1. W. H. Elce (3½ Rudge) ...	m. s.
2. H. Lister Cooper (3½ Triumph) ...	0 43
3. J. Cocker (3½ Singer) ...	0 45

Lightweights.

1. J. Dudley (2½ Hobart) ...	m. s.
2. P. Weatherill (2½ Zenith) ...	0 51
3. N. D. Slatter (2½ Alcyon) ...	0 52
...	0 58



W. H. Bashall at full speed on an 8 h.p. chain-driven Matchless just after passing the bend. As will be seen, a number of spectators assembled at this point to witness the corner work.



CURRENT CHAT



TIME TO LIGHT LAMPS.

Oct. 26th	...	...	5.45 p.m.
" 28th	...	...	5.39 "
" 30th	...	...	5.35 "
Nov. 1st	...	...	5.31 "

Glen Helen Partially Destroyed by Fire.

Glen Helen, the most famous of the Manx glens so well known to motor cycle visitors to the Isle of Man as the headquarters of various well known firms during the T.T. races, has recently been partially destroyed by fire. Fortunately, the Douglas fire brigade saved the glen from being totally consumed.

The Motor Cycle in Italy.

A 100 kilometres road race was held in the neighbourhood of Turin on October 15th. The course was Orbassano, Brnino, to Piossasco. The contest was divided into classes—engines over 500 c.c., under 500 c.c., 334 c.c., 300 c.c., and 250 c.c. The fastest time was accomplished by Bellorini, 1h. 20m. 15½s.

A.C.U. Autumn Quarterly Trial.

Mr. Harold Pickering, the chief marshal of the above event, asks us to offer his personal thanks to all who assisted on the 14th inst., and especially to Mr. V. Brian Hall, of the Vacuum Oil Co., who lent his Belsize car for the use of officials.

No Speed Limit.

In passing sentence on a motor cyclist who was charged with driving to the public danger at Gainsborough, the chairman (Mr. W. Embleton Fox) said that in Lincolnshire motorists were not prosecuted for exceeding the legal limit, for limits were simply artificial restrictions. But that when cases of furious driving were brought before them they must be taken seriously. A fine of £3 was imposed. This is a commonsense view which we wish was held in other counties, and one which will do much more to put a stop to dangerous driving than traps in open and safe places.

Accident to a Well-known Rider.

A few days ago O. C. Godfrey was driving a 7 h.p. Indian and sidecar to business when a taxicab came out of a side turning and collided with him. Godfrey pulled up immediately, but the cab struck him full, breaking his arm and causing severe internal injuries. The gallant rider was conveyed to the Hampstead Hospital, where he is now lying. Godfrey was shortly to have attempted to lower the hour record, but, of course, all idea of this has had to be given up. Mr. W. H. Wells informed us he will allow no one else to make the attempt. We wish the unfortunate victim a speedy recovery.

Police Trap.

A trap is being worked in the ten-mile speed limit of Stony Stratford. A plain clothes policeman stands in a private garden or leans over the gate, whilst the other constable stands some way up the street with a walking stick in his hand.

Strange Motor Cycle Fatality.

Mr. S. Withers, of Catford, aged 62, was pushing a disabled tricar through Lewisham one day last week, when he suddenly collapsed. A doctor found life extinct. It appears that he had bought the machine second-hand for £17 the same day, and was seen pushing it up a hill between New Cross and Lewisham. A newly taken out licence was found on the body. From enquiries, the machine is a heavy and old type with two bucket seats, and for an elderly man to push such a machine for any distance must prove a severe strain.

A Singular Sight.

Mr. C. H. Hitchen tells us that he saw a very singular sight in the Dales, just above Kirkby Stephen, the other day. The peculiar object approached him at a rapid speed, and proved to be a youthful motor cyclist on a lightweight with a large collie dog standing on the carrier of the machine. Its hind feet were on the carrier and its fore feet resting on the motor cyclist's shoulders. In this manner the pair were proceeding at a speed of 18 to 20 miles an hour.

Many dog owners who are also auto-carists know that their pets are extremely fond of a ride in a car, but we have usually heard of motor cyclists carrying their pets in some form of basket carrier.

SPECIAL FEATURES.

HERTS COUNTY A.C. SPEED TRIALS.

An excellent single-cylinder performance.

1912 MODELS. SOME NEW DESIGNS.

Exhausts on Motor Cycles.

No motor cycle will be admitted to Brooklands unless it is fitted with an efficient silencer, which must not be provided with a cut-out. No form of open exhaust whatever will be admitted. Such is the reading of an order issued this week by Major F. Lindsay Lloyd.

Readers' Experiences.

A sure sign of the advent of the season for ordering new mounts is the sudden jump in readers' requests for others' experiences of certain makes of motor cycles. There were over a dozen such requests under "Experiences Wanted" in our last issue, and eleven this week. Any replies received are forwarded direct to the querist.

The Motor Cycle in Ceylon.

Judging by a cutting from the *Ceylon Times* which has been sent us, there exists at the present time something like a motor cycle famine in that island. Many more motor cycles could have been sold if they were obtainable. One Colombo firm alone, Messrs. Brown and Co., have sold seventy-three motor cycles this year, and the Ceylon M.C.C. has just been formed, the membership already reaching over sixty. All the motor cycles which have been imported have been bought up like "hot cakes," and there is keen bidding to obtain motor cycles from England.



The start of the competition held by the Harrogate and District M.C.C. on the 15th inst. The event included a hill-climb, speed judging (on formula), and a slow downhill run.

A Breakdown Competition.

To-morrow, Friday, 27th inst., the Oxford M.C.C. will conduct a Breakdown Competition at the Creamery Café, Cornmarket Street, Oxford, commencing at 7.30 p.m. This will be followed by an impromptu musical social from about 9 to 11 p.m. Friends of members or others interested in motoring are welcome to the social.

Next Saturday's Inter-club Reliability Trial.

The secretary of the Birmingham M.C.C. informs us that the inter-club reliability trial referred to in "Club News" between the Birmingham and Sutton Coldfield Clubs, has secured a large number of entries from well-known riders. The start will be from College Road, just off the Stratford-on-Avon main road at 2.30 p.m. Twenty-four members of the Sutton Club have entered.

A Record Hill-climbing Expedition.

Last week-end Porlock Hill, Somersetshire, and Lynton Hill, Lynmouth, Devonshire, were climbed for the first time by a motor cycle and sidecar. Frank Smith, who has competed so successfully in all the leading competitions this year, performed this most difficult feat on his 5.6 h.p. Clyno, although the roads were inches deep in mud. He was accompanied in the sidecar by Geoffrey Smith (*The Motor Cycle*), and an illustrated account of the tour, which also included Farlow Bank, Cheddar Gorge, and Countisbury Hills, will appear in our next issue.

Triumph Co.'s Dividend and Bonus.

The Triumph Cycle Co., Ltd., Coventry, have had another excellent year's trading, and show a profit upon the financial year of £73,466 5s. 7d. After adding the balance brought forward from last year's account and providing for repairs, depreciation, directors' fees, etc., there remains a balance of £55,652 10s. The directors recommend a dividend of 15% and a bonus of 1s. per share on the ordinary shares, and to carry forward £8,365 14s. 2d. to next year's account. The shareholders in this company must congratulate themselves on the foresight of the management in adhering to the motor cycle business through thick and thin. It has brought its reward in the shape of substantial profits. Last year's dividend on the ordinary shares was 12½%.

The Trade and the Trials.

At the last meeting of the Manufacturers' Union the committee decided to suggest at the next conference between their committee and the Competitions Committee of the Auto Cycle Union, that manufacturers would be willing next year to support four open events—Spring Quarterly Trial, Autumn Quarterly Trial, Six Days' Trials, and a long-distance race at Brooklands to be held under touring conditions. When the two committees meet the regulations for the above events will be discussed, and it is probable that there will be some alterations to the existing rules for both the Quarterly Trials and the Six Days, as the manufacturers have their own views regarding the way in which these events should be run. Doubtless the opinions of both sides will be of value in formulating rules for the above and similar competitions which should be for the ultimate benefit of the pastime in general.

The Last of the Clubhouse Scheme.

At a meeting which was held at the Service Co.'s offices (Mr. G. W. Mann in the chair), the deposits paid by the provisional committee formed to run the Motor Cyclists' Clubhouse were refunded. Outside subscribers were repaid in full, each member of the committee receiving £1 12s. 9d. for his £2 deposit. Cheques have been posted to all concerned and duly acknowledged.

FUTURE EVENTS

Nov. 20-25.—Motor Cycle and Cycle Exhibition at Olympia.

Dec. 9.—M.C.C. Annual Dinner at the Café Monico.

Dec. 27.—Dublin and District M.C.C. Open Reliability Trial to Waterford and back.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions

Show Tickets.

Mr. Alfred Bednell, secretary of the Manufacturers' Union, informs us that hon. secretaries of motor cycle clubs may obtain admission tickets to Olympia at half-price for members on application to him at Masonic Chambers, Little Park Street, Coventry.

C. and M.T. Benevolent Fund Dinner.

The sixth annual dinner of the above praiseworthy institution was held at the Connaught Rooms, Great Queen Street, W.C., on Thursday evening last. The chairman was Mr. A. Brampton, J.P. It is interesting to note that Mr. A. J. Wilson, the hon. sec. and treasurer of the fund is one of the pioneer motor cyclists in this country. Though many opportunities for so doing occurred during the evening, only one speaker, Mr. Ernest Brown (Brown Bros.), made any reference to the motor cycle industry. At the conclusion of the function Mr. Brampton announced that the Manufacturers' Union had contributed £200 towards the fund. Several well-known motor cycle traders were present.

The M.C.C. Winter Run.

This event will be held on December 26th and 27th as last year. The speed schedule will be 15 m.p.h., and speeds in excess of 20 m.p.h. will lead to disqualification.

Three Speeds on Farlow Bank.

We are informed by the Sturmer Archer Three-speed Gear Co. that one day last week one of their testers, who is giving the three-speed motor cycle hub gear a thorough testing, was successful in ascending Farlow Bank on a 2 h.p. lightweight Humber with this gear fitted. The low gear took him up comfortably with slight pedal assistance in spite of the fact that the roads were wet.

Notes on the Heris. Speed Trials.

In "W. Cooper's Shilling Sweep" W. H. Elce won the single class, riding his new T.T. Rudge for the first time, having spoilt his late T.T. at the Portmarnock speed trials owing to sand getting in the engine.

The A.C.U. was severely criticised owing to W. H. Bashall being disqualified for only having one brake fitted. This was in Division C. for any type of racing machine.

R. Holloway, again demonstrated to the crowd at Luton Hoo what his Premier is capable of by winning the single class, Division A, up to 500 c.c.

The brothers Bashall accounted for seventeen entries between them, but H. B. only rode in two events. The others had not got their machines ready.

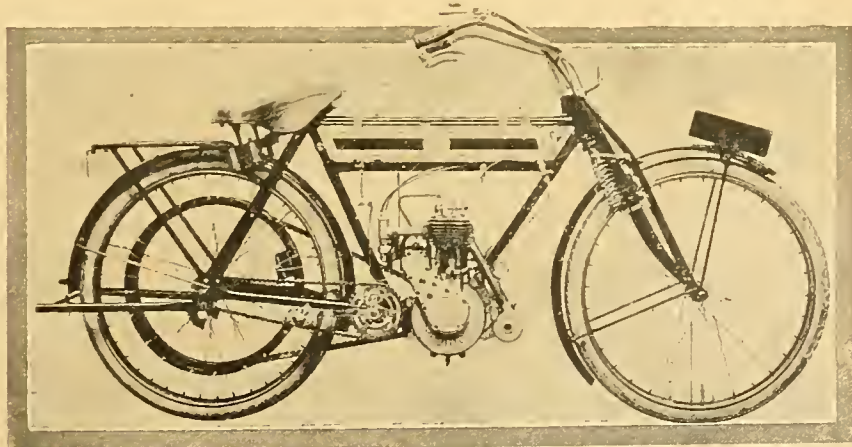
J. Dudley's little Hobart came in for a great deal of comment; it certainly showed an excellent turn of speed.

Will the Triumph Co. standardise the extra air pipe fitted to W. F. Newsome's T.T., on which he made fastest time of the day at Luton Hoo Park?

Indian Wells was congratulating himself over chain drive whilst some of the classes were being run off in the wet.

A great deal of amusement was caused by one competitor being unable to start his engine, although he made several attempts, and at last gave up in disgust, when some "wag" in the crowd shouted, "Why don't you go back to marbles?"

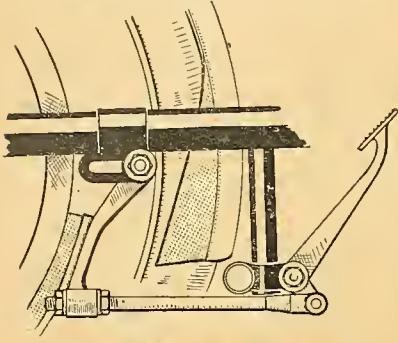
W. Pratt (3½ P. and M.) made his first ride at this meeting in a speed event, but he informed our representative that his machine was too highly geared.



The new 2½ h.p. single-gear light-weight Premier

The New Enfield Sidecar Model.

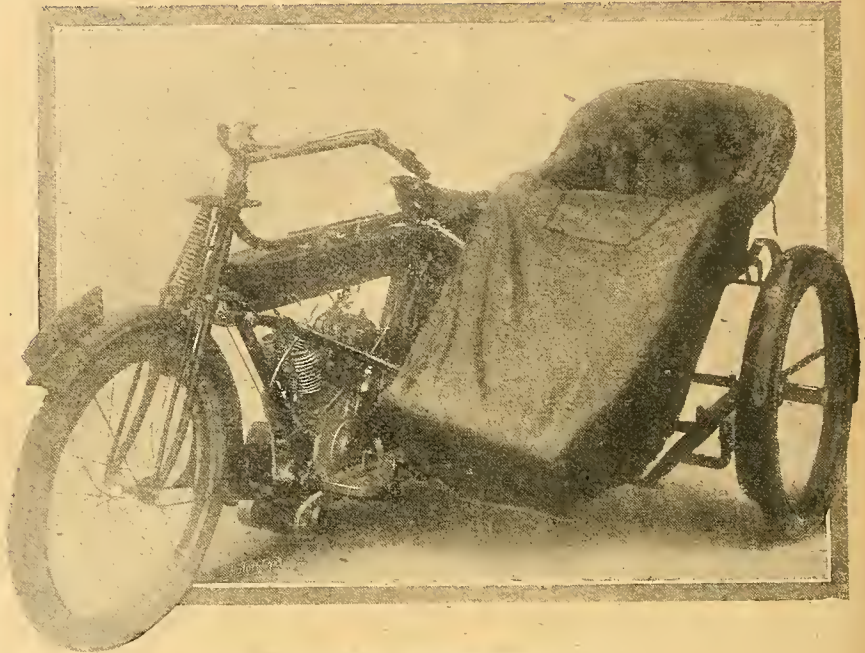
The Enfield Cycle Co. are manufacturing a new model for sidecar work for 1912. It is fitted with the 6 h.p. side valve J.A.P. engine, with a bore and stroke of 85 by 76 mm. An Amac five-jet carburetter is used, and the ignition is by Bosch h.t. magneto placed in front of the engine.



Method of adjustment of the rear brake.

The well-known Enfield two-speed gear, which has been strengthened to suit the extra power, is employed, and controlled by two pedals situated on the left hand side of the two long aluminium footboards. It is possible that a lever control will be substituted for the pedals, and will be attached to the tank.

The frame is specially manufactured for sidecar work, and has neat lugs brazed solid with it which permit of the sidecar being attached on either side of the motor cycle. A 650 mm. by 65 mm. voiturette tyre is fitted to the driving wheel, the front and sidecar wheels being shod with 26in. by 2½in. tyres. The engine is lubricated by a sight drip feed, actuated by



The new 6 h.p. Enfield sidecar described on this page.

the crank case vacuum, but a hand pump is fitted for emergencies.

Our suggestion for an enlarged silencer for sidecars has been studied, as provision is made for a second silencer below the sidecar. The brakes are more powerful than on most solo mounts, and the tank has a capacity of two gallons of petrol and three

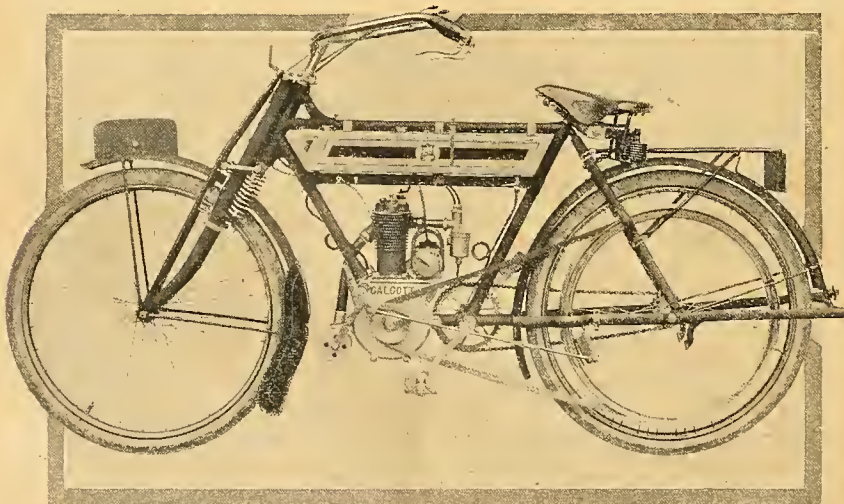
pints of lubricating oil. We had a short run on this new model, and found it flexible, easy of control, and possessed of plenty of power, while we were particularly struck by the ease of steering.

The Enfield Cycle Co. are prepared to manufacture their gears, suitable for belt or chain drive, for the trade.

New Calcott Model.

We illustrate herewith the new 2½ h.p. Calcott lightweight. This is an entirely new model, and has a single-cylinder engine of 63 mm. bore by 76 mm. stroke.

It is fully equipped with stand and carrier, and weighs approximately 100 lbs. The engine unit comprises a gear-driven Bosch magneto with fixed contact breaker



The new 2½ h.p. Calcott lightweight.

carried high up behind the cylinder. B. and B. lightweight carburetter, adjustable pulley, and a neat aluminium silencer. The mechanically operated valves are placed side by side and actuated through adjustable tappets. Druid forks, 26in. by 2in. tyres, and a Lycett saddle are employed, and the tank is fitted with a petrol gauge and injector to the cylinder head. The foot brake is placed below the chain stay, and is operated through a rod adjustable by a right and left handed nut, the pedal being carried on a separate bracket below the footrests.

A Run on a 1912 G.N. Runabout

Owing to the kindness of Mr. George, of the Godfrey and Nash runabout firm, a member of the staff had a most welcome lift from Aston Clinton Hill to his home some four or five miles distant, after the Herts County A.C. hill-climb on October 14th. The little car is fitted with an 8 h.p. J.A.P. engine, and, in spite of its load of three fairly large men, it travelled at a smart pace, and only once required the use of the low gear and that on a sharpish hill. The machine in question has done some 8,000 or 9,000 miles on all sorts of roads so may be considered to have had a fair test.

1912 MODELS.

Advance Details of New Patterns.

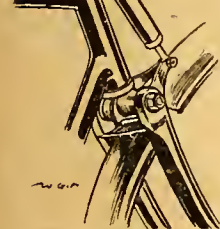
Alcyon.

Through the courtesy of Mr. G. N. Higgs we are enabled to give a few preliminary details of the 1912 Alcyon models. The carburettor for next year will be the well-known Claudel-Hobson, or, more correctly, an Alcyon carburettor made under Claudel licence.

The machine will be even more in conformity with English tastes than the few preliminary models which have

been seen over here this year, and, of course, handle-bar control, with wires running through the handle-bar, will be fitted. The handle-bars themselves will have inverted levers, one controlling the front brake and the other the exhaust lifter. The luggage carrier will be more substantial, and a strong and efficient lamp bracket will be fitted.

The 2 h.p. model, which will be practically the same as this year's machine except for the improvements mentioned, will have a variable pulley controlled from the top tube, while a jockey pulley,



The Alcyon front fork springing device.

worked by the foot, will be fitted to keep the belt at the correct tension.

The chief Alcyon novelty will be a twin-cylinder 47 x 72 mm. 2½ h.p. model, the cylinders of which will be situated side by side after the manner of the Werner. Mechanically operated inlet valves will be fitted.

Rushmore Lamp Set.

The Rushmore Lamp Co. claim to have introduced the first of the searchlight lamp patterns with lens mirror—an event which happened some four or five years ago. It was not, however, until the present time that the company decided to place on the market a British made motor cycle head light, following as nearly as possible the successful lines of the Rushmore car lamp.

The lamp differs from the well-known car model in the following respects. Firstly, it is provided with a hood which is attached to the front of the lamp by means of screws, so that it may be easily detached, and a special fixing is supplied. A genuine Mangin lens is fitted, while special notice must be taken of the bracket clips. The face of the clip is circular, with small semi-circular projections cast on it, while depressions to correspond are cast in the boss of the

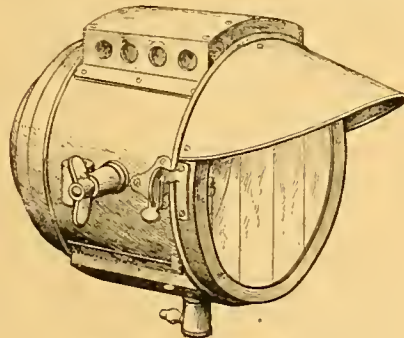
lamp itself. Both projections and hollows are very small, so that a great number of various positions may be utilised. By undoing the wing nuts the lamp may be placed at any angle, and when the wing nuts are screwed up it will stay in the required position, the projections and hollows preventing any further movement.

The front door of the lamp, carrying the glass in sections in the well-known Rushmore style, is provided with a ventilator which gives out no back light, while the position of the burner is adjustable so that the light may be focussed to suit the wish of the rider.

One of the chief features of the Rushmore lamp is that it is entirely put together by means of screws, thus allowing it to be taken to pieces with the utmost facility.

The generator is simply and strongly constructed, and is much on the lines of their well-known car generator.

The water compartment A has a well formation in the bottom of which lies the



New motor cycle searchlight made by the Rushmore Co.

valve D, which can be easily removed for cleaning purposes, by detaching the nut B which holds it to its seating C.

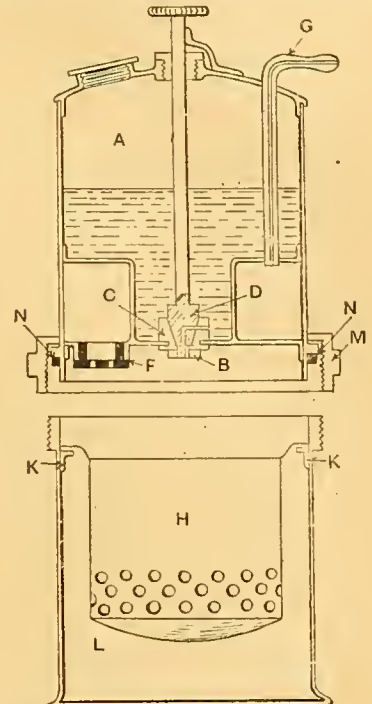
The pace of the water-feed is controlled by turning the valve rod. The face of the valve has a small taper slot across it, at the broad end of which a hole is drilled into the centre, which is bored out to the bottom. A corresponding hole is drilled in the seat C, so that by turning the valve first the small end of the groove comes opposite the hole in C, allowing a small amount of water to leak through, while a further turn causes the holes to be brought gradually in line, thus allowing a steady stream of water to pass. This, of course, is seldom necessary, unless for lighting up in a hurry.

Round the well lies an annular chamber forming a gas reservoir, the gas entering through holes in the screw plug F. From this reservoir the gas is led through a pipe G in the usual manner.

The carbide is carried in the receptacle H, which is perforated round the lower edge and fitted with a heavy gauge wire gauze bottom. The whole is carried and allowed to swing on the two pins K, fixed to the outer shell L.

The object of this is that the used carbide is sifted through the holes and

gauze and drops into the outer shell. Thus when only part of a charge is used the waste may be emptied away and the lamp is at once ready for use again. The



Rushmore gas generator with shaking grid.

top and bottom halves are held together by the internally screwed ring M, a rubber washer N making a gastight joint.

Three different styles of carrying the lamp are provided for. Firstly, with the lamp in front and the generator close behind; secondly, with a slot behind so that the lamp may be fixed on to the usual type of lamp bracket; thirdly, there is a special carrier on the generator so that the generator may be fitted to a bracket attached to any convenient part of the machine.

A New Quickly Detachable Terminal.

The Rex terminal is one of the quickly detachable type and the invention of their draughtsman, Mr. Sargisson; it is both simple and neat. The cable is placed in the large hollow portion of the jaw, the wire is turned back and the jaw clinched. The terminal is now ready to spring on to the thread of any sparking plug central wire. After the terminal is sprung on the wire of the plug a nut may be added as additional security, but is not necessary. The inventor has had one of these in use for some time and has found it perfectly satisfactory. We believe the Rex firm are adopting it for 1912.



The Rex plug terminal

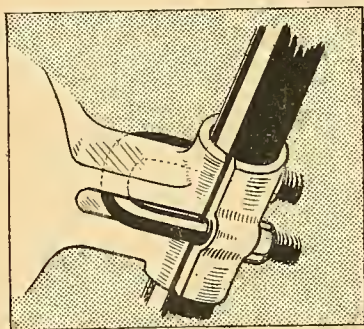
1912 Models.—

Trump-Jap.

The 3½ h.p. Trump-Jap, which is now being made in Birmingham under the direct supervision of Mr. MacNab, will, so we are informed by the makers, be one of the lightest machines on the market next year for its power. The total weight of the machine unladen will be 170 lbs., and with petrol and oil it will not exceed 185 lbs. It will be exhibited at Olympia for the first time next month and will be enamelled French grey.

A New Motosacoche.

The famous Geneva firm of H. and A. Dufaux have plumped for the long-stroke engine, the dimensions of the 1912 model being 64 by 90 mm. The most drastic change, however, is the wholesale rejection of the chassis or tubular frame, to which were fastened the engine and all the accessories. The engine will in future models be fastened direct to the cycle frame by means of the improved clips, of which we append a sketch. It will be noted that one-half of these clips is cast on the crank case, and threaded through them is a staple which engages the loose



The new quick attachment lug on the 1912 Motosacoche engine. The "chassis" has been discarded.

half, nuts screwed on the ends of the staples holding the lot together. The shields, always a Motosacoche feature, are attached to the tank. The carburettor position is now behind the engine, and a variable extra air control will be employed operated from the handle-bar.

The paraffin injection pipe is led to the side of the piston, so no trouble is occasioned by the paraffin running out through the exhaust valve should the latter be open at the time the paraffin is injected. Square radiator fins of very large size are fitted to the 1912 engine, and it is worthy of note that the 1911 and 1912 engines were tried all out at Brooklands one against the other. The radiator fins of the new model were filed on the edges to enable the engineers of the firm to see what amount of discolouration took place; only one fin showed any sign of "bluing," thereby proving that all the heat was efficiently radiated except at that one point. New and larger filler caps are fitted on the bayonet joint principle, and the carburettor can be flooded for starting by means of a push rod working through the tank from the top and in close reach of the rider's hands.

The cleanliness of the new engine is quite remarkable; with copious oiling it is impossible for the crank case to get dirty, and no oil exudes from any joint.

If an excess of oil is forced into the crank case it issues from the centre of the main shaft, but not a spot comes out at the tappet rods or other vulnerable points. The reason for this is that the makers have a very perfect release valve, which is efficient at any speed at which the engine will work.

An improved lady's model will be ready for the Show, embodying all the above-mentioned special features. An illustration of the new model is published on page 1133.

Chater-Lea.

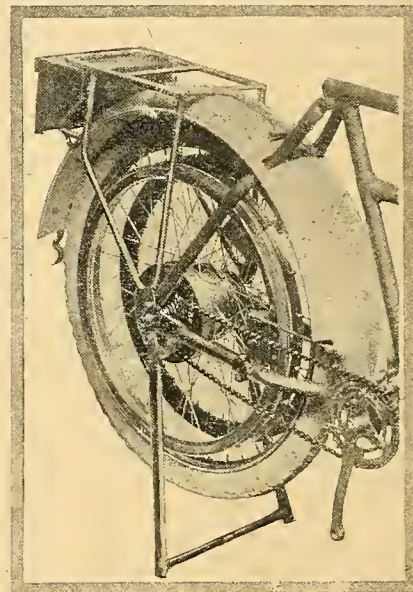
The Chater-Lea Mfg. Co., Ltd., Golden Lane, E.C., are practically confining themselves next year to their well-known No. 7 three-speed chain-driven sidecar model. This machine has been so successful in competition during this year that very little alteration is being undertaken. A few minor improvements will, however, be exhibited next month, notably a front wheel stand and sidecar stand will be added, also a chain guard protecting the rider's clothes from oil which is sometimes thrown from the chains. The sidecar axle will be cranked to bring the wheels opposite to one another, and the chair will be set three or four inches farther back.

The Chater-Lea runabout will not be sold as a complete vehicle, but the firm intend to place on the market a complete set of fittings which will enable motor cycle engineers to build the vehicle themselves. The following parts will constitute a set: The Chater-Lea twin-cylinder V engine, 85 by 85 mm., with outside cone clutch, the Chater-Lea three-speed gear box with sliding counter-shaft, the back axle with hubs differential and bevel gear transmission, steering gear and front axle but not the frame. The back axle brakes are internal expanding and external contracting, all four brakes on the two wheels. The machine will, we understand, attain a speed of forty miles per hour on the level, and the price of a complete set of parts will probably enable the complete runabout to be sold at £100 to £110 retail. Bosch dual ignition will be provided as an extra if desired.

Grandex.

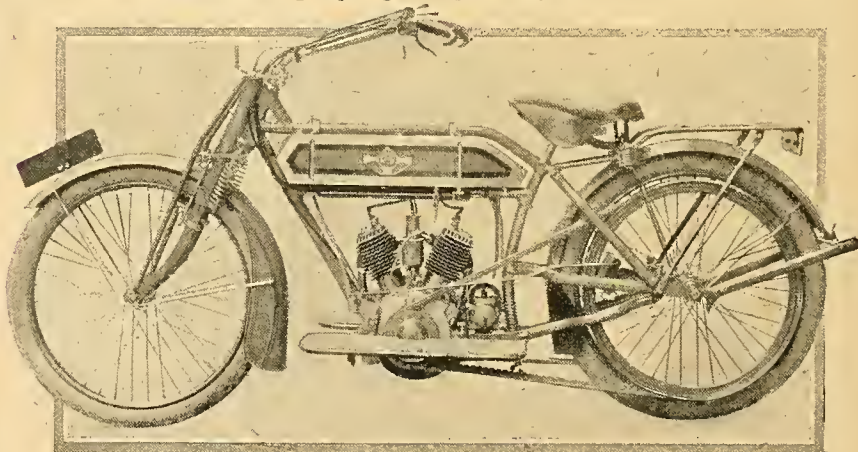
This firm is marketing for next year three distinct models—the 2½ h.p. light-

weight. 3½ h.p. Tourist or T.T., and a 4½ h.p. sidecar machine. The light-weight will have Jap or Precision engine 70×76 mm. and N.S.U. free engine and two speeds on engine-shaft, and will retail at an extremely moderate figure. The frame will be made with a longer ball head, and the top of the saddle will be only 27in. from the ground. The same machine will also be supplied with 24in. wheels to order when the saddle is only 26in. from the ground. Armstrong hub gears will be fitted if desired, but the N.S.U. will be the standard. The same improvements and alterations apply



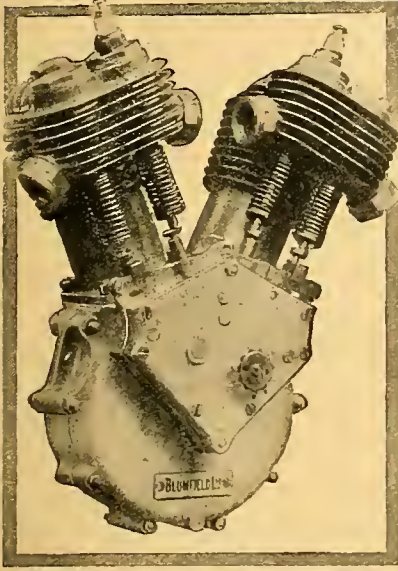
The rear wheel of the 1912 Premier sidecar model fitted with Millennium two-speed gear and very broad back mudguard.

to the 3½ h.p. models. The 4½ h.p. sidecar machine has a 90×96 mm. Precision engine and will be sold with fixed gear as standard. The makers claim that with a moderate gear ratio and this large sized engine a change speed gear is hardly necessary, but they propose to fit a clutch hub and will, of course, provide gears at an extra cost.



The new spring frame P.V. motor cycle which is being marketed for 1912 by Messrs. Elliiston and Fell.

1912 Models.—



1911 model 7-8 h.p. 80 x 95 mm. twin Blumfield engine. Observe the large side-by-side mechanically operated valves. One of these engines was recently tested under load for seven hours without artificial cooling.

Buck.

The Buckman Engineering Co., of Sherwood, Nottingham, are experimenting with a light four-wheeled runabout.

A two-cylinder V engine of 90 mm. bore and 95 mm. stroke is employed, cooled by two fans which blow direct on to the cylinder heads and valve ports.

The engine is set across the frame, and behind it is placed a two-speed epicyclic gear. From this the power is transmitted through a universally-jointed propeller-shaft, enclosed in a torque tube, to a neat live rear axle, a spur differential gear being used. Contracting brakes are fitted to each rear wheel, while the makers tell us that by putting both gears into action at once a powerful transmission-shaft brake is obtained. The wheels are shod with 650 x 65 voiturette tyres, and Bosch magneto and Amac carburetter are employed. The machine we were shown had a tubular frame, but in future pressed steel will be used throughout. A bonnet and scuttledash, with two aluminium seats, are fitted. Steering is effected by worm and nut.

While in the works we were shown a three-cylinder rotary engine, with rotary valves. This engine was originally made for aeroplane work, but we hear that a smaller and modified type will shortly be produced for motor cycle work.

P.M.C.

Three new models will be marketed by the Premier Motor Co., of Birmingham. In each case the frames are made by the Rex Manufacturing Co., while the engines fitted are the 4 h.p. single-cylinder and 6 and 8 h.p. twin-cylinder J.A.P.'s.

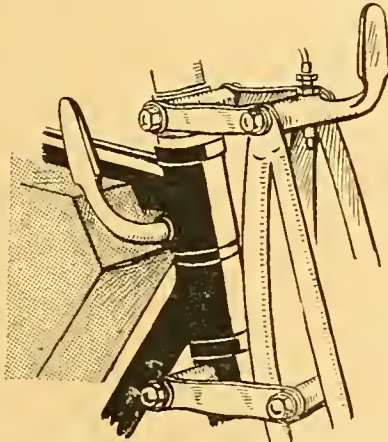
One of the twins was shown to us, and we were at once struck by the neat and workmanlike appearance of the machine. The Rex two-speed is fitted in the rear hub, and both wheels, belt rim and gear brakes are effectively mudguarded, while the magneto is placed behind the engine,

thus being easy of access and protected from mud.

Special lugs are brazed to the frames for sidecar attachment. The mention of sidecars brings us to the fact that we saw in the process of construction a new model P.M.C. sidecar, the frame of which has a cranked rear cross-member to allow the wheel to be brought in line with the rear wheel of the motor cycle, while the front member is dropped to allow the body to come more to the rear without bumping the frame. We were also shown a neat coach-built torpedo sidecar body, with a side door.

Brough.

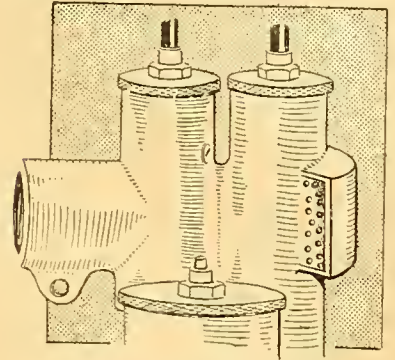
W. E. Brough and Co. have produced a very neat and interesting 6 h.p. twin. The two cylinders are set at 50° and have a bore and stroke of 77 by 85 mm. The cooling ribs are tapered off towards the bottom, giving a neat pear-shaped appearance, and an air space is formed between the valve ports and cylinder wall. The valves are mechanically operated and



Arrangement of lamp and generator brackets on the Rex-Jap, which is sold by the Premier Motor Co.

are placed side by side. The operating mechanism is decidedly novel. It will be noticed that only two cams are used to operate the four valves, and the makers claim that, by placing them one above and one below the crankshaft, considerable strain is taken from the bearings. A plat-

form is cast on the front of the crank case to carry the magneto. Concave, flat-topped, or convex pistons can be fitted, thus making the engine suitable for passenger,



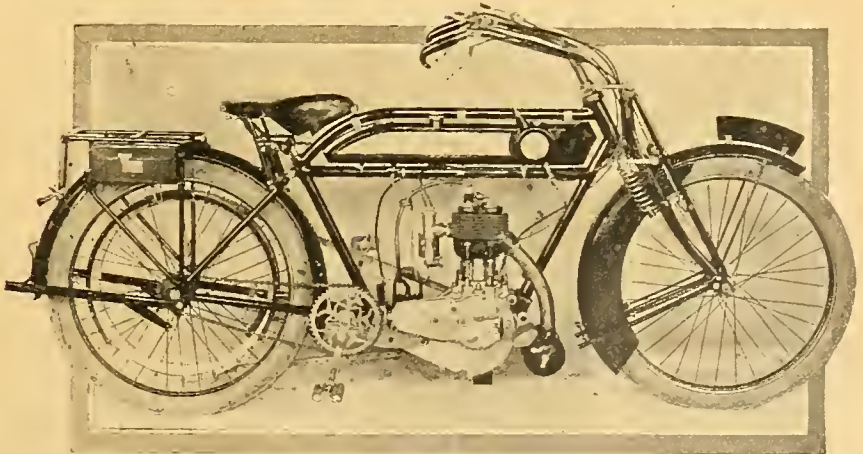
Neat aluminium air inlet cover fitted to H. Lister Cooper's T.T. Triumph.

touring, or racing work. We are informed by George Brough that the new 6 h.p. is wonderfully speedy for its size, and that he has his eye on some of C. R. Collier's latest records.

The 3½ h.p. will be increased to 85 by 88 mm., and will have other slight modifications, whilst a 2½ h.p. 75 by 76 mm. lightweight is being introduced. A two-speed gear of the counter-shaft type is also being manufactured for 1912.

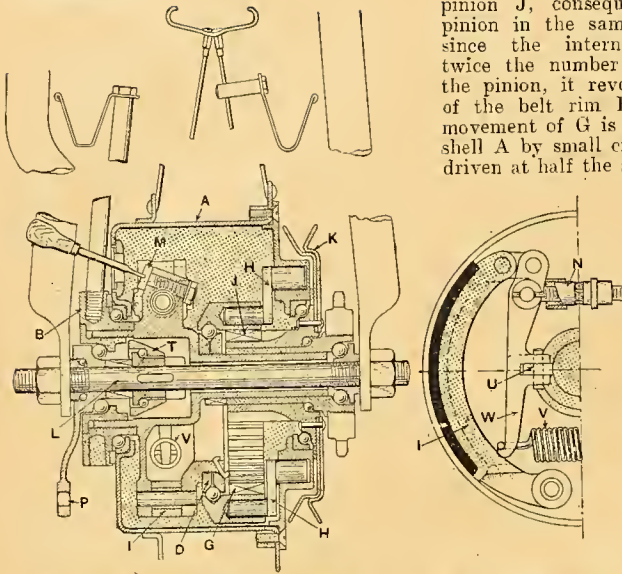
S.I.A.M.T.

We should like to add to the description of this interesting Italian motor cycle that, although both valves are situated in the combustion head above the piston, the valve heads cannot fall into the cylinder in the event of a breakage, as two small knobs are fitted to the valve chamber in such a manner that if a valve broke the head would catch the knob and therefore fall no further. The magneto is the "U.H.," not "N.U.," as originally printed, and the combustion head itself is not screwed into the cylinder. It has a ground seating, and it is the castellated ring which screws into the cylinder, so locking the combined valve chamber and top of combustion head firmly in position. Reference to the illustration published on October 5th, page 1042, will render this quite clear.



The 1912 3½ h.p. single-gear Humber.

1912 Models.



Figs. 1 and 2.—Sectional end and side views of the Brown and Hingston gear, showing the position occupied by the screwdriver when the clutch is being adjusted.

Wulfruna.

A call at the Wearwell Cycle Co.'s Wulfruna Works elicited the information that they will market four models for 1912; $1\frac{1}{2}$, $2\frac{3}{4}$, $3\frac{1}{2}$, and 4-5 h.p. types are being manufactured. We were shown the $1\frac{1}{2}$ h.p. which is being made to meet the demand for a real lightweight. It has a single-cylinder vertical engine, with magneto placed behind. The carburetter is an Amac, two-lever type, and both valves are placed side by side. The complete machine with stand and carrier weighs 96 lbs. The larger models (of which the 4-5 h.p. is a twin) have unusual strengthening tubes to the frame. We hear that the firm will have several interesting novelties at the Show which are not yet ready for the public.

Brown and Hingston Improved Two-speed Gear.

This gear was shown at the 1910 Olympia Motor Cycle Show, and has this year been undergoing tests and alterations, with the result that Messrs. R. T. Shelley, Ltd., have laid down a plant for its manufacture in the improved form.

The gear is a somewhat unusual type of epicyclic. The belt rim drum B is driven by the engine, and the power is conveyed to the hub-shell through the expanding clutch I (shown best in fig. 3), normally held in engagement by springs V acting through toggles W. When this clutch is expanded it locks the drum B direct to the hub shell, thus giving a direct drive without passing through gears. On moving the lever P the cone I is caused by a cam action to slide along the spindle L, thus, through rollers U, forcing apart the toggle levers W and causing the clutch I to contract. This gives the neutral position. To bring the low gear into action a fibre-faced brake band is contracted on the drum K, thus preventing the pinion J from revolving. The low gear works as follows: The eccentric portion D, which is driven by the belt rim, carries round with it the internally-toothed ring G. This ring,

which is in engagement with the locked pinion J, consequently rolls round the pinion in the same direction as D, and since the internally-toothed ring has twice the number of teeth possessed by the pinion, it revolves at half the speed of the belt rim B, and as the forward movement of G is transmitted to the hub shell A by small cranks H, the shell A is driven at half the speed of the belt rim B.

The hub spindle is prevented from turning by the end being squared to fit a slotted fork end.

The clutch can be adjusted by turning the screw M, which actuates a micrometer adjustment, so allowing for any wear on the fibre clutch segments. The screw-driver is inserted through a hole in the hub-shell, which is capped. The hub must, of course, be turned until the head of

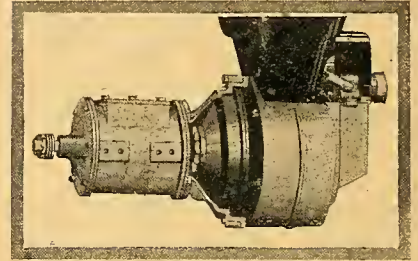
the screw comes opposite the hole in the hub-shell.

An important feature is that the engine may be started by pedalling with the gear in neutral. It will be noted that there are only two gear wheels in the construction of this hub gear.

Crouch Sociables.

The Crouch three-wheeled sociable has been redesigned for 1912. The power is supplied by a 7 h.p. water-cooled V twin, and is transmitted through a single chain to the rear wheel, after passing through a three-speed gear box, and a leather cone clutch. The engine clutch and gear box, together with a platform carrying the magneto and water pump form a unit which is placed transversely across the frame, close behind the seat. Each part of this unit is bolted rigidly to the next, and the whole forms a neat workmanlike looking job. The gear box has

stationary shafts, on which run hardened steel sleeves carrying the gears, which provide three speeds forward with direct drive on top and a reverse.



The new 7 h.p. water-cooled twin engine on the Crouch Motor Co.'s sociable.

Pivoted to the main shaft is a tubular frame, which is rigidly connected to the rear wheel so that the wheel can only move vertically on its springs.

The frame is of armoured ash, and carries the front axle on full elliptical springs, while the rear springs are of the grasshopper type. A stand is fitted to the rear of the frame, and by simply removing the driving chains and undoing two tie rods the rear wheel can be removed for the purpose of repairing punctures, etc. Two large internal expanding brakes are fitted to the rear wheel.

Steering is effected through a 14in. wheel and a simple set of levers. Fixed Eisemann high-tension magneto and Amac carburetter are employed.

The machine, which was illustrated in these columns when it made its first appearance, and was originally known as the Titan Carrette (see page 700, July 6th, 1911), has a very pleasing appearance, and we are looking forward to a run which has been promised us at an early date.

Goodrich Tyres.

Goodrich tyres for next year will include a 650×65 mm. tyre for motor cycle use in addition to the usual $26 \times 2\frac{1}{2}$ in. pattern. These tyres are made both 28in. and $26 \times 2\frac{1}{2}$ in. and $2\frac{1}{2}$ in.

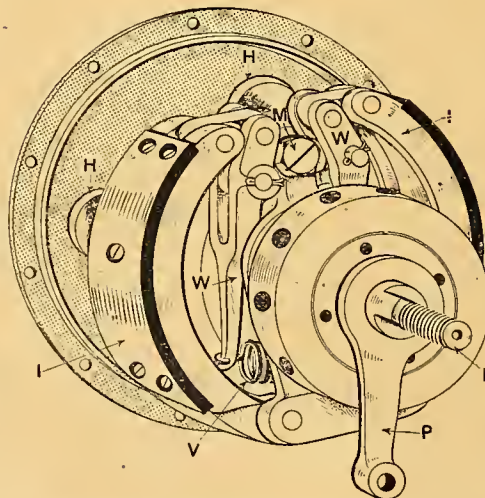


Fig. 3.—The gear removed from the hub shell showing clutch operating mechanism and drum for belt rim.

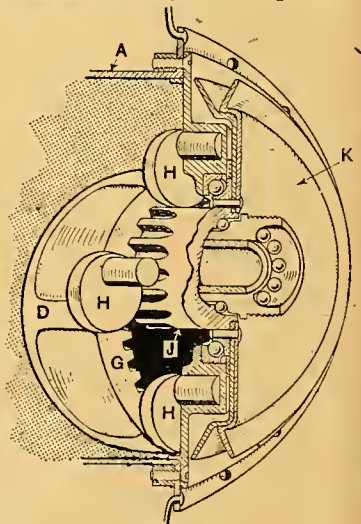


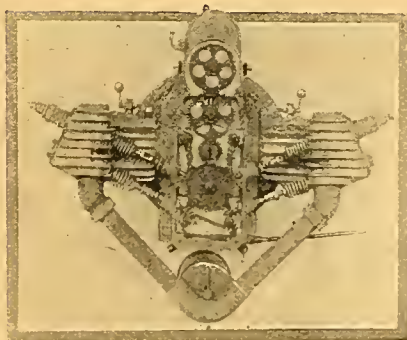
Fig. 4.—The two gear wheels and the transmission cranks H, also the low speed brake drum.

NEW DOUGLAS MODELS.

2½ h.p. Engine, Side-by-side m.o.i.v. standardised for 1912.

LAST week we examined the new model Douglas machines, which possess a number of novel features which should gain for these popular little mounts a still bigger vogue. Briefly the improvements consist of a gracefully dropped frame, enabling an exceedingly low saddle position, and an entirely new engine with side by side mechanically operated valves. Again, Messrs. Douglas Bros. have adopted the wise plan of specialising on one model engine, that is the 2½ h.p. horizontal twin-cylinder, which they have found to answer all requirements, for, in conjunction with the excellent two-speed gear, which long ago proved its worth, the 2½ h.p. stops at nothing, and it will be remembered repeated its consistent successes in, probably, the most severe trial on record, viz., the Yorkshire six days' trial.

We mentioned some weeks ago that Mr. W. W. Douglas had had a 5 h.p. twin built for his own use from one of the engine sets which are made specially for the Marconi Co., but, despite state-



The complete 1912 engine showing the timing gear mechanism.

an outstanding improvement, for by merely taking out five screws the cover plate may be removed, exposing all the parts ever likely to need adjustment. The valves themselves are larger in diameter and tapered at the most vital point under the head. The crankshaft is mounted in Hoffmann ball bearings.

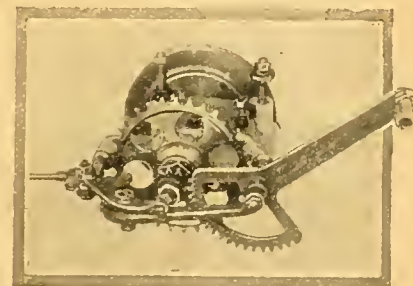
A single silencer will be used in future, and its position, immediately under the crank case, exactly balances to the eye the position of the magneto on the top, giving the *tout ensemble* a most symmetrical appearance. The new method of fixing the induction pipe on the top of the cylinders and the inclined sparking plugs at the upper portion of the head, where they have been rendered more accessible, will be noted from our illustrations. The cylinders are now detachable without the necessity for dismantling the crank case from the frame.

Other 1912 Innovations.

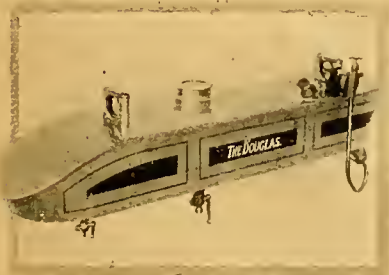
There will be no direct drive Douglas in future. It has been found with the two-speed model that the large pulleys render belt adjustments so infrequent that the single-gear mount will have a chain reducing gear from engine-shaft to counter-shaft, to permit of a large diameter belt pulley. A notable departure in connection with the two-speed

mount is the provision of a kick starting apparatus. A rearward dig of a crank with a toothed quadrant meshing with a small pinion gives several revolutions of the engine which should be an ideal arrangement; ease of starting was always an attractive feature of the Douglas. The operation of the clutch is much more convenient on the two-speeder. Instead of a pedal in the region of the crank bracket a toe and heel pedal is mounted on the front footrests, or at the front footboards as the case may be, the foot brake having been transferred to the right hand side. To enable this method of operation, the leather to metal clutch has been redesigned and fitted on the right hand side of the machine, the final belt drive also being on that side.

Further modifications are an oil pump, the working of which may be seen at a glance, for after leaving the pump barrel the oil is delivered through a glass gauge mounted on the top of the tank. Further, it is not necessary to press the plunger



The gear and new kick-starting device on the Douglas machines.



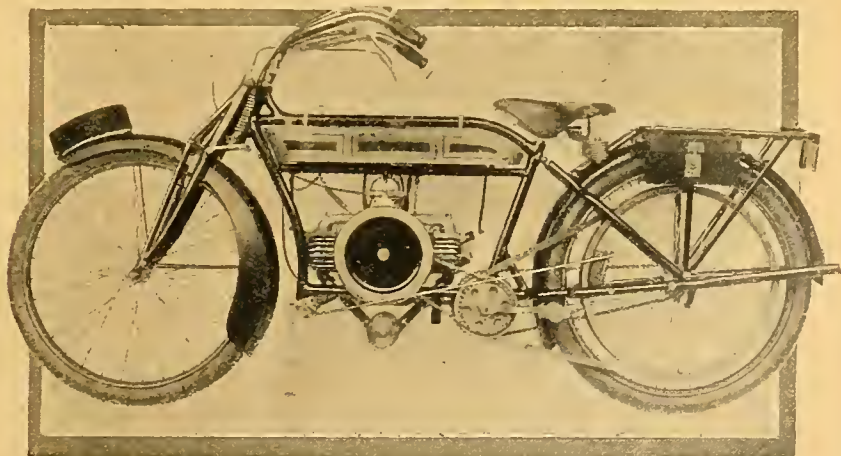
The tank on the 1912 model Douglas motor cycles.

ments to the contrary, we have the assurance of the makers that it was never their intention to market this machine. Nor would such a policy be justified in view of the sustained and constantly increasing demand for the 2½ h.p. model.

Four different types in all will be listed, each with identically the same power unit. These are: 1, a single-speed mount; 2, two-speed; 3, two-speed and free engine; and 4, an open frame mount with two-speed gear.

The New Design Engine.

The engine has been redesigned throughout, but remains of the same capacity as heretofore, i.e., 60x60 mm. = 340 c.c. The advantages of mechanically operated inlet valves in the matter of slow running and reliability have not been lost sight of, and in the 1912 engine we have a clean design with a noticeable absence of push rods and bell cranks. Instead there is a central cover devoid of excrescences which encloses the valve gear, magneto transmission, and exhaust lifter mechanism, and emerging from each side of the casing are sloping tappets, adjustable by means of locknuts. The valves, as will be seen, are also inclined. In previous Douglas engines, the timing gear was carried inside the crank case, so that this exterior box may be regarded as



The 1912 model single-gear Douglas, showing new design dropped frame and redesigned m.o.i.v. engine.

CLUB NEWS.

Durham and District M.C.C.

The results of the novices' competition held on October 15th are: 1, J. H. Wood ($3\frac{1}{2}$ h.p. Dene-Precision); 2, H. Anderson ($3\frac{1}{2}$ h.p. Ariel). A smoking concert has been arranged for November 4th, to be held at headquarters (Neville's Cross Hotel) at 7 p.m.

Stockport and District M.C.C.

Results on formula of the hill-climb on October 15th have now been confirmed as follows:

Lightweight Class.—1, W. Heaton ($2\frac{1}{2}$ A.J.S.), 211.7.

Single Class.—1, H. J. Scale ($3\frac{1}{2}$ J.A.P.), 289.1.

Twin Class.—1, H. Marsden (5 Matchless), 318.6.

Sidecar Class.—1, J. Emerson (5 M.S.L.), 338.9.

In the single class H. J. Scale made fastest time, not J. Whyte as previously reported. The club annual dinner has been fixed for December 2nd.

Doncaster and District M.C.C.

Below are the results of the slow mile competition which was held on October 19th, the prize being a Rom combination cover presented by the makers:

Rider and machine.	Time.
1. T. H. Dunstan ($3\frac{1}{2}$ Rudge) ...	10m. 17s.
2. T. H. W. Dew ($3\frac{1}{2}$ Triumph) ...	9m. 28s.
3. H. Cundall ($3\frac{1}{2}$ Rex) ...	8m. 15 $\frac{1}{2}$ s.

Marlborough Athletic Club.

On October 15th the last reliability and speed-judging competition of the year was decided over a course from Kilburn to Bicester and back to Edgware, the distance being approximately 100 miles. An entry of fifteen was secured, and four prizes were presented by the club, whilst in addition Mr. A. P. Rey, of Hampstead, kindly presented a Hutchinson non-skid for the sidecar competitors. The successful competitors were: Messrs. F. J. Watson ($3\frac{1}{2}$ h.p. Bradbury), A. W. Hunt (5 h.p. Sarclea), J. C. Ball ($2\frac{3}{4}$ h.p. N.S.U.), and A. Rucker (7 h.p. Peugeot), losing 15, 30, 31, and 58 marks respectively.

Lancashire M.C.C.

A non-stop trial over a course of 170 miles from Preston to Kendal, Ambleside, Keswick, Shap Fell, and back was run off in splendid weather on the 15th inst. Competitors had to make a non-stop run to Dunmail Raise and then take the hill at not exceeding 15 m.p.h. From Keswick to Shap was also a non-stop run, and Shap Fell had to be climbed at over 25 m.p.h. Four riders made non-stops—Hugh Gibson and G. Wray on single-gear Bradburys, F. Sixsmith (Scott), and F. Jackson (B.S.A.). Owing to the failure of the stop-watches, there is some doubt about the timing up Dunmail Raise, and there is to be a committee meeting to decide upon the allotment of the prizes, the first being a Kempshall tyre.

Newcastle and District M.C.

The winter session was inaugurated on Thursday, the 19th inst., when a largely attended supper and smoking concert took place in the club house, 3, Saville Place, Newcastle-on-Tyne, about eighty members being present, with Mr. Robson Crosier in the chair. A most interesting musical programme had been arranged.

Mersey M.C.

A reliability trial from Liverpool to Kendal and back was held on October 15th, the prizes being awarded to the riders adhering nearest to a set speed of twenty miles per hour, the checks being all secret. The winners were: 1, S. W. Philippott (Humber); 2, J. Bethel (Douglas); 3, F. C. Jones (Bradbury).

On October 29th will be held the last competition of a very successful and strenuous session in the form of a flexibility hill-climb on a well-known acclivity in North Wales. Prizes (value £2 and 10s. 6d.) are presented by two clubmen.

One of the most enjoyable contests organised by this club was the week-end speed-judging expedition to Kendal and back (137 $\frac{1}{2}$ miles), the speed set being twenty miles an hour. The judge's awards were: 1, W. S. Philippott (2 h.p. Humber), 6m. 52s. error; 2, J. Bethel (Douglas), 7m. 36s.; 3, F. Jones ($3\frac{1}{2}$ h.p. Bradbury and sc.), 8m. 24s.

Harrogate and District M.C.C.

An extra competition was held on the 15th inst., when the whole of the arrangements were entrusted to the secretary, and none of the entrants were aware of his plans. At the outset the competitors were informed that they must run on the same gear during the afternoon under penalty of disqualification, while the penalty for riding in front of the secretary, or for any stop was a loss of five marks.

The afternoon included many diverting forms of control, riding round a blind corner and coming to a dead stop to avoid over-riding the inexorable secretary, a speed trial decided on formula, also a hill-climb, and a slow down hill run, then licences had to be produced under penalty for default. The highest number of marks obtainable was 110.

CLASS I.—For ordinary fixed gear models.

Rider and machine.	Points.
J. E. Brooke ($3\frac{1}{2}$ h.p. T.R. Triumph) ...	109
W. E. Grange ($3\frac{1}{2}$ h.p. Bradbury) ...	93
T. Maynard ($3\frac{1}{2}$ h.p. Triumph) ...	84
H. Ballance ($3\frac{1}{2}$ h.p. Triumph) ...	63
F. Stafford ($3\frac{1}{2}$ h.p. Triumph) ...	50
W. Atkinson ($3\frac{1}{2}$ h.p. Calthorpe) ...	37
G. Sayner ($3\frac{1}{2}$ h.p. T.T. Triumph) ...	32

CLASS II.—For variably geared models.

	Top gear.
1. T. C. Atkinson ($2\frac{3}{4}$ h.p. New Hudson) ...	4 to 1
2. W. Aldon ($3\frac{1}{2}$ h.p. Premier), three speeds ...	4 to 1
3. C. Nettleton ($2\frac{3}{4}$ h.p. Hudson) ...	5 $\frac{1}{2}$ to 1



The Herts County A.C. Speed Trials at Luton - Hoo. A general view of the course. The surface was in excellent condition at the start, but owing to the rain which fell heavily during Classes V. and VI. in Division A, the surface became rather wet.

Club News.—

Edinburgh and District M.C.

It is hoped that the entry for the concluding hill-climb of the year, which is fixed for October 28th, will be a good one. Competitor will assemble at Whitebault's Farm Hill, near Linlithgow, and will be divided into six classes. Entries, except at double fees, close to-day (Thursday). Hon. secretary, T. E. B. Chalmers, 6, Summerside Street, Leith, N.B.

North Middlesex M.C.C.

On Saturday, October 28th, the meet will be at the Gatehouse, Highgate, at 3.30 p.m., for a run to the Red Lion, Hatfield. In the evening a smoker will be held at the Gatehouse, for which a strong musical programme has been arranged.

Western District M.C.

At the recent committee meeting it was again decided to hold the annual club supper. Full particulars will be issued later. The hon. secretary, Mr. V. Armstrong, Eden Hall, Montpelier Road, Ealing, W., will be pleased to hear from any member who is able to assist in the organisation of the musical programme. Further donations to the club prize fund have been received from Messrs. N. Hall and T. Babbage.

Sutton Coldfield A.C.

The above club is holding a reliability trial in conjunction with the Birmingham M.C.C. on Saturday next, the 28th inst. The first prize is the P. J. Evans Trophy kindly presented by the winner of the Junior T.T. Race, whilst other valuable prizes will be given by Messrs. Humber, Ltd., Triumph Cycle Co., Ltd., Joseph Lucas, Ltd., Powell and Haumer, Cox and Phillips, and the Lycett Belt Co. Endeavours have been made to ensure the competition being of an enjoyable character throughout. Full particulars may be obtained from the hon. secretary Birmingham M.C.C., Oakdene, Cambridge Road, King's Heath, or the trials hon. secretary, Sutton Coldfield A.C., 33, Fountain Road, Edgbaston.

Newcastle and District M.C.

With the view of filling up the long winter evenings, this club has decided on the following fixtures:

November 9th.—Motor cycle fault competition, light supper and impromptu smoking concert.

November 30th.—Whist drive.

December 21st.—Supper, to be followed by a paper on "The Show," by the Chairman.

January 11th.—Supper and smoking concert.

January 20th.—Semi-final and final of the Billiard Handicap.

February 1st.—Whist drive and dance.

February 22nd.—Motor cycle fault competition, light supper and impromptu smoking concert.

March 14th.—Supper and smoking concert.

Doncaster and District M.C.C.

The following are the results of the hill-climb held at Stainborough Lowe on the 12th inst.:

	Position on time.	Position on formula.
F. H. Dunstan (3½ Rudge) ...	X	.736
E. Gault (3½ Triumph) ...	N4½s.	.875
J. Gill (3½ Calthorpe) did not finish.		

Results of the flexibility hill-climb: 1 (the club's gold medal), J. Haslam (6 h.p. Zenith-Gradua); b (gold medal for the fastest time of the day), T. Dunk (3½ h.p. T.T. Bradbury); c (medal for the fastest single-cylinder), T. Dunk (3½ h.p. Bradbury); d (silver medal for the slowest time of the day), J. Haslam (6 h.p. Zenith).

Tie in Class II. (Touring Singles), on the 28th ult.

Stockport and District M.C.C.

The last hill-climb of the year was held at Woodhead on the 15th inst. The course was 1½ miles with a rise of 900 feet. In spite of a small entry some very fine riding was witnessed. W. Heaton (2½ h.p. A.J.S.), winner of the Liverpool A.C. trial last week-end, made a very fine ascent for a small engine, and stands well for first prize on formula. H. Marsden (5 h.p. Matchless) did fastest time of the day. 2m. 40s., and J. White's Triumph was the fastest single. J. Emmerson (5 h.p. N.S.L. and sidecar) won the sidecar class. The final results on formula will be published later.

Tunbridge Wells and District M.C.C.

The final run of the season was to Cranbrook. This club has now a membership of over sixty, which, as the club was only started four months ago, is highly satisfactory. This is largely due to the energy of the hon. sec., Mr. A. R. Courtenay.

Brookdale Cycling and Social Club (Motor Cycle Section).

The club's first hill-climb was held on Westerham on the 14th inst., J. Hault (3½ h.p. Bradbury) making fastest time in 1m. 24½s. He also secured third position on formula. R. Croucher, on a 3½ h.p. Kerry-Abingdon, was placed first on formula, besides winning the flexibility trial. A. J. Ball, on his 3½ h.p. twin J.A.P., was the second rider on formula.

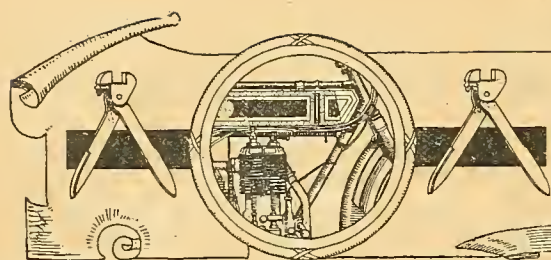


**MORE MARRIED COUPLES WHO
MOTOR CYCLE.**

Frau Rossner, who is said to be
the only lady motor cyclist in
Germany.



Herr and Frau C. N. Rossner of Berlin, subscribers to this journal, who were moved to send the above photograph on seeing our series of married couples who motor cycle. The machines are the Austrian Puch, which have been ridden 3,000 miles this year.



THE TRADE AND THE T.T.

THE leaderette we published last week stated that a large percentage of the members of the Manufacturers' Union had agreed to abstain from the Tourist Trophy Race if the A.C.U. decide to hold it in the Isle of Man next year, but we did not explain the manufacturers' reasons for withholding their support of further T.T. road races held under conditions similar to those which have prevailed up to now. Motor cyclists might reasonably argue from the decision of the makers that the industry is averse to all kinds of racing, but this is not the case, and as riders who are not acquainted with the inner workings may regard the makers' attitude as somewhat arrogant we have penned this short article, not in defence of the manufacturers, but to explain to our readers some of the reasons underlying the unfavourable disposition of the bulk of the industry towards road races in the Isle of Man.

Reasons for Abstention.

First. The makers are of the opinion that the T.T. races are not held under tourist conditions, that the machines employed do not foster the improvement of the ordinary touring motor cycle, and that the title of the races is a farcial misnomer.

Second. Twin-cylinder and single-cylinder engines have to compete against one another, the former being allowed an increased cubical capacity which, although theoretically correct, is, the makers claim, unfair to the single-cylinder machines. The fact that both last year's races were won by riders on twin-cylinder mounts is sufficient proof that, other things being equal, the single-cylinder engine of a less cubical capacity has no chance.

Third. The expense of competing such a long distance from home as the Isle of Man is considerable in comparison with a similar contest held, say, at Brooklands. Most of the important firms in the trade have London agencies or depots, and the convenient accessibility to Brooklands for their managers and racing staff makes practice and tuning-up a very simple matter compared with the despatch of a staff of riders and someone to look after them to the Isle of Man, and their temporary residence there for a week or a fortnight previous to the contest. Spare parts, tools, and other impedimenta have also to be sent over the water, whereas if the race were held at Brooklands the assistance of London workshops is immediately available, and even if these had to be transported temporarily to Brooklands for a week, the expense would be trivial in comparison with sending to the Isle of Man.

Fourth. It is annoying to manufacturers of motor cycles, when they have decided upon the equipment of their machines which are to run in the Tourist Trophy Race, to find on arrival in the Isle of Man that there are representatives of various firms strongly

in evidence who leave no stone unturned to induce the riders, and the representatives of the firms whose machines they ride, to change various fittings and accessories with the bribe that if victory in the races should accompany the use of their particular brand of tyres or accessories, a money prize will be offered in addition to the prizes awarded by the promoters of the contest. Whatever advantages this system may offer to some riders and manufacturers, it is a bad one and often abused. The more important and better class of manufacturers are very much opposed to this touting practice, and although they are not antagonistic towards a proper business arrangement with regard to the accessories which are fitted for a race, they do not approve of their riders being more or less tampered with when they are out of their control.

Training and Self-restraint.

Fifth. The general holiday surroundings at a seaside resort like Douglas are not conducive to that thorough training and self-restraint which a severe contest like the T.T. Race imposes on those who take part in it. No one objects to a little harmless amusement at times like the Tourist Trophy week, but the unfortunate variety of taste shown in the forms of that amusement does not by any means promote the health or sobriety of some of the competitors, with the result that a few—fortunately they are very much in the minority—who are not sufficiently strong-minded to resist temptation, instead of coming to the post with clear heads and strong nerves, are physically unfit to take part in any strenuous form of competition. Doubtless the same kind of thing exists in almost every form of sport, and is not confined to motor cycle racing, but the manufacturers think, and we agree with them, that as it is a very difficult thing indeed to control such vagaries of conduct, the only other course to pursue is to endeavour to alter the venue of the contest and hold the race where many, if not all, of the undesirable conditions to which we have alluded would be at least improbable.

Will there be T.T. Races in 1912?

Doubtless the meetings which will take place between, now and next year between the committees of the A.C.U. and the Manufacturers' Union will enable matters to be arranged so that the above conditions do not interfere with a sporting competition, and although we should not like our remarks to be read as a sermon, we know that we are voicing the opinions of some of the most prominent men in the industry who are the backbone of the Manufacturers' Union.

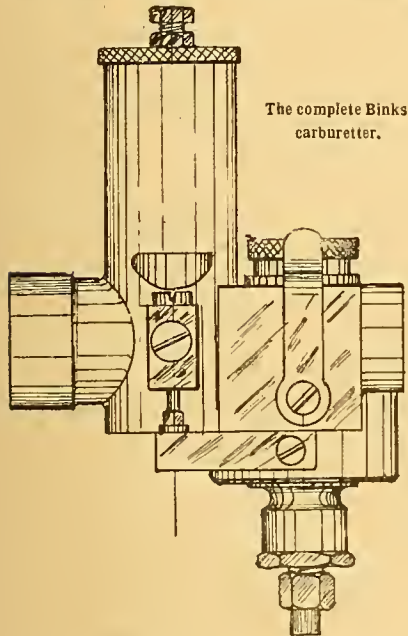
It is possible that the Auto Cycle Union will hold the race in the Isle of Man despite the decision of many of the makers, and if it does, we hope that the rules will be so formulated that the vexatious methods under review will be entirely eliminated.

The Binks Carburetters.

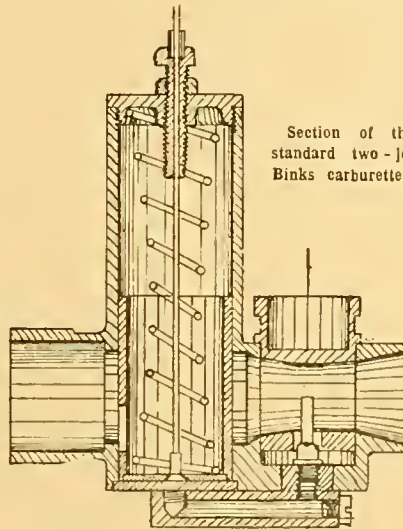
Two new carburetters have been sent to us by Messrs. C. Binks, Ltd., Eccles, Manchester, which embody principles not usually found in such instruments. It has been found that if a body is passing

choke tube gradually expands beyond the jet at the proper angle, the gas will pass through with less resistance than if there are corners, etc., which set up eddies. It will be noted that these carburetters fulfil this condition when working at full throttle. The second point is the fitting

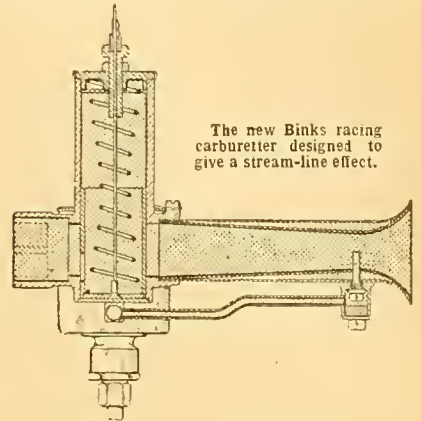
In the racing pattern the jet is situated a long way in rear of the float chamber; this has the effect of raising the petrol level in the jet when going up hill. The jets, six of which are supplied with each carburetter, can be changed without dis-



The complete Binks carburetter.



Section of the standard two-jet Binks carburetter.



The new Binks racing carburetter designed to give a stream-line effect.

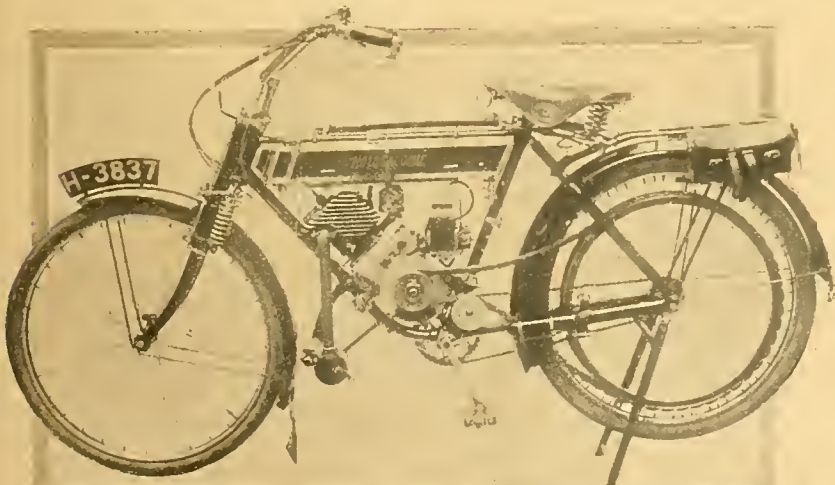
swiftly through the air the shape of the back part has a greater effect on its progress than the shape of the front, and the same naturally applies to the case of air or gas passing through apertures, and if a carburetter can be designed in which the

of a pilot jet for slow strong pulling and starting purposes. A slight movement of the lever opens the pilot jet, and a larger opening brings the main jet into play. The choke tube in the roadster pattern can be slightly turned round to cut off part of the air supply, but except for this the carburetter is automatic, there being no separate air control.

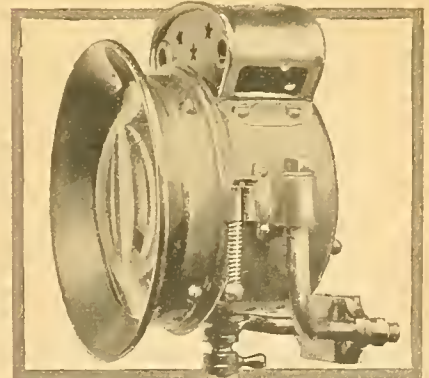
mantling the parts. The accessibility of the parts is a big point in favour of the Binks; for instance, the top of the float chamber is held in place by a spring clip, and is therefore very quickly and easily detached.

THE NEW AUTOCLIPSE LAMP.

We illustrate below the new Autoclipse motor cycle lamp, with fork bracket, which will be shown for the first time at the Show next month. This lamp is supplied with a rolled gold reflector, which is quite untarnishable and has been found to give very good results, especially



Next year's 2 1/2 h.p. Motosacoche, a description of a run on which appears on another page.



in foggy weather. A yellow light has been found to penetrate fog better than the usual white light. The lamp can be had either with or without the anti-dazzling mechanism from Brown Bros., Ltd., 15, Newman Street, W.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Weymouth to Kidderminster.

? What is the best way to get from Weymouth (Dorset) to Kidderminster (Worcestershire) by motor cycle?—H.B.M.

Your best route would be: Weymouth, Yeovil, Bruton, Frome, Beckington, Bath, Stroud, Gloucester, Tewkesbury, Worcester, and Kidderminster.

Southwold to Liverpool.

? I shall be pleased if you will tell me the best route from Southwold to Liverpool on an 8 h.p. Minerva cycle.—R.H.M.

Your best route would be as follows: Southwold, Halesworth, Bungay, Norwich, Dereham, Swaffham, Lynn, Long Sutton, Swineshead, Sleaford, Newark, Mansfield, Alfreton, Wirksworth, Ashbourne, Leek, Congleton, Northwich, Chester, Birkenhead, and Liverpool.

A Driving Licence Query.

? I have a 5s. driving licence, which I obtained by application to Stafford. When I received same I found it was made out for a car only, while I expressly asked for a cycle licence. The fee is, I believe, the same in both cases. Can you please tell me whether I should do right in driving a cycle with it, and whether a car licence is applicable to a cycle as well, and *vice versa*? If not, shall I send it back and ask for it to be altered?—A. P. BOWER.

Your licence is quite in order, as it enables you to drive a motor cycle. A cycle licence, however, does not allow you to drive a car. In applying for the licence one should state that both types are to be driven.

Care of Magneto.

? I have recently purchased an A.J.S. motor bicycle. The magneto with which it is fitted is, I believe, a U.H. I cannot discover how to lubricate this, as there seems to be no oil holes. I presume it requires lubricating. Can you please advise me how to do this, how much oil to give it, and how often? Being a novice I do not care to tamper with the magneto.—A.L.

We have been in communication with the agents for the U.H. magneto, and they inform us that there is no need to lubricate this magneto. The bearings are packed in vaseline, and this lasts practically indefinitely. If the magneto is taken down to be overhauled the bearings should be washed out with paraffin and the vaseline replaced.

Free Engine on a Lightweight.

? (1.) Will you please give your opinion of the Royal Enfield free engine model twin? Do you recommend it as a thoroughly satisfactory machine for hard wear and no worry? (2.) Is the free engine an advantage in any way for a machine so light that it can be started by pedals? (3.) Is the engine more difficult to handle than, say, a Triumph $3\frac{1}{2}$ h.p.? Does it need more attention, and lastly what about the chain drive? (4.) Do you recommend it in preference to a belt, as I am a bit suspicious of the chain drive? (5.) How can pedal chain be adjusted?—T.W.T.

(1.) We have a high opinion of the machine mentioned in your letter. (2.) A free engine is distinctly an advantage, either with a light or heavy machine. (3.) It is not more difficult to handle than the $3\frac{1}{2}$ h.p. single-cylinder referred to. (4.) You need not worry about the chain drive. (5.) There is no pedal chain on the free engine model. It has a two-speed gear, and pedals are not required.

A Motor Cycle for Sidecar Work.

? Can you give me information as to the T.A.C. machine for general and sidecar work? Is it reliable, comfortable, and easily driven, and are the makers easy to deal with when repairs, spares, etc., are required? What is about its average mileage per gallon of petrol when driven by a driver of average ability? Also can you advise me as to the suitability of the single-cylinder Zenith-Gradua for sidecar use? I mention the single-cylinder because I shall require it for solo work as well.—N.F.

We regret we cannot give you definite information about the machine in question, as not enough has been seen of it on the road this season. We refer you to a description of a trial run in our issue of February last. The petrol consumption would be 60 to 70 m.p.g. Yes, the machine in question is good for sidecar work, but a single-cylinder, of course, has not very much reserve of power. We recommend a 5 to 6 h.p. twin and variable gear.



Start of the Lancashire M.C.C. 180 miles non-stop reliability trial last week. The course was to the Lake District.

What Size Jet?

? What is the best size jet (B. and B.) for my 3 h.p. (75 x 90) Zedel engine? I want to try about five jets to see with which I get the best results. I have now got in a No. 32 jet, but think it is far too large, as the engine overheats very quickly, and the exhaust valve wants grinding about every 200 miles.—O.C.

No. 32 is certainly too large. Try a No. 28 or No. 27, but the correct size jet can only be found out by experiment. Before commencing your experiments, test the petrol level. A set of four jets in a case may be bought from Messrs. Brown and Barlow, Witton, Birmingham.

Knocked Down by a Cart.

? I was proceeding up Kentish Town Road, N.W., about one yard from the kerb on my proper side at about 8 m.p.h. when I noticed a cart come sharply across from the opposite side and in the opposite direction. The traffic being very thick I did not notice this until it had got almost on to my side (the driver was taking a narrow turning on my near side), not giving me any chance to pull up in time, as it was within three or four yards of me. I put on my brakes, which reduced my speed to 3 or 4 m.p.h., when the shaft of the cart caught me in the face, knocked the machine on to its near side, doing considerable damage, as the horse went right over it, with my machine acting as a brake under the wheels of the cart. I had all but got by the turning, my machine lying right on the corner. I have since had notice that I am to be responsible for a broken cart shaft and injured horse's fore legs. You will notice that had the driver pulled the horse's head round square with my road, or even slightly so, I could have got through. I shall be very glad of your advice in this matter, as I am thinking of suing the man for my damages; it, therefore, amounts to a crossed case.—PERPLEXED.

Our legal correspondent writes: "With regard to the query of 'Perplexed,' if he can prove the statements made in his letter

he should be able successfully to withstand any action which may be brought by the driver of the cart. I think your correspondent would be well advised to claim damages for the injuries sustained by him, but before commencing proceedings he should see a solicitor, who would advise him as to the sufficiency of the evidence. He does not mention in his letter whether he knows of anyone who saw the accident. It would be absolutely useless for him to start an action unless he has good witnesses to support him. He must also be prepared to satisfy the court that there was no carelessness on his part in not noticing earlier the direction the horse and cart were taking. Your correspondent does not say whether the owner of the cart was driving at the time. If someone else was driving, the owner is not responsible, unless the driver was his servant and was so driving in the ordinary course of his employment."

Nottingham to Lancashire.

? Which is the best route from Nottingham to Burnley, Burnley to Wigan, Wigan to Bolton, and Bolton back again to Nottingham?—F.J.F.

There is no good route from Nottingham to Burnley except the following, which necessitates a fairly big detour: Nottingham, Mansfield, Doncaster, Ferrybridge, Aberford, Bramham, Harewood, Otley, Ilkley, Skipton, Colne, and Burn-

ley. Burnley to Wigan: Burnley, Accrington, Blackburn, Chorley, and Wigan. Wigan to Bolton: Direct road. Return to Nottingham. It would be best to go through Atherton and Warrington, and then via Knutsford, Macclesfield, Buxton, Bakewell, Chesterfield, and Mansfield to Nottingham.

Long Exhaust Pipe.

? I have a 1908 2½ h.p. Ariel (magneto) and wish to make it more silent. (1.) Would it run more quietly if I fitted an exhaust pipe running to the back hub without a silencer in connection? I might add that the exhaust valve is on the near side of the engine with overhead mechanical inlet. (2.) If above would not do, could you tell me a better method without losing more power than necessary?—S.H.C.

The long pipe is quite a good idea, but you ought to have an expansion chamber fitted into it midway between its extremity and the exhaust port. It might be necessary to fit one or two baffle plates in the expansion chamber.

EXPERIENCES WANTED.

"Capt. J.A.B." (Preston). N.S.U. gear on a Triumph.

"C.J. 523" (Hereford). Morgan runabout; also 2½ h.p. two-speed A.J.S.

"A.E." (Godalming). (1.) 3½ h.p. P. and M. and sidecar. (2.) 5-6 h.p. four-cylinder F.N. and sidecar.

"H.A.H.T." (Stroud Green). 3½ l.p. Humber, two speeds and sidecar.

"W.S." (Brixton Hill). 3½ h.p. Calthorpe, also 3½ h.p. Ivy-Precision.

"R.S.C." (Huddersfield). Carburettors suitable for use on the A.C.

"C.J." (Barnet). 8 h.p. Matchless-Jap and sidecar, with V.S. two-speed and twin belt.

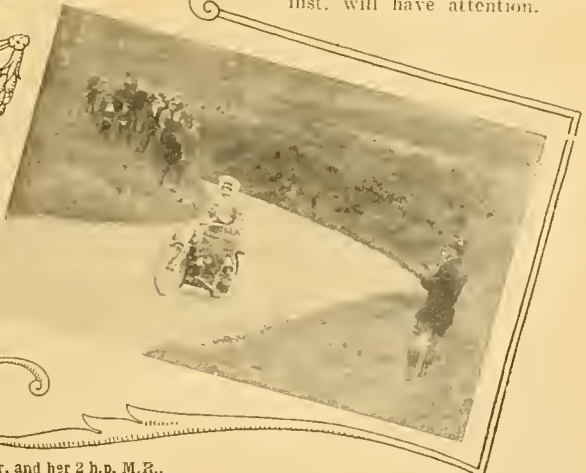
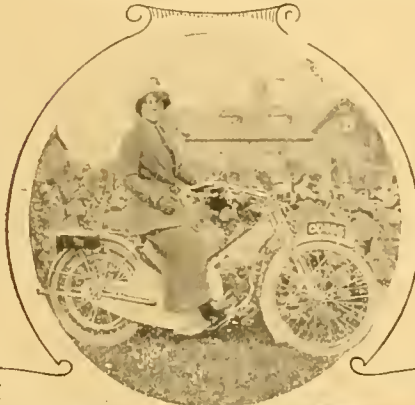
"A.H." (London). 3½ h.p. two-speed 1911 Humber and sidecar, especially with regard to engine reliability and running costs.

"B.R." (Lincoln). 5½ h.p. and 5 h.p. two-stroke Scott, also C.A.P. carburetter.

"W. 1590" (Bucks). Bedelia Runabout, particularly as regards reliability and cost of upkeep.

If "R.N., H.M.S. Blenheim," will forward a stamped and addressed envelope, his letter of the 16th inst. will have attention.

LADIES AND THE MOTOR CYCLE.



(1) Miss Maud Rowland, of Bangor, and her 2 h.p. M.R., which she has ridden 2,000 miles since last May.

(2) A Worcestershire rider of a new model open frame Enfield.

(3) Mrs. A. B. Wade (3½ h.p. Scott) competing in the South Wales A.C. hill-climb. She covered the course of 1,196 yards in 1 min. 44 secs.

B.M.C.R.C. Secretary's New Post.

Mr. T. W. Loughborough, the able hon. secretary of the B.M.C.R.C., has recently taken up an important position with the London General Omnibus Co.

Changes of Address.

The Express Rubber Co., Ltd., have removed to more commodious premises at Nobility House, 1-3, Worship Street, E.C. Samuel Hall and Sons, Ltd., are moving from Edinburgh to a new factory in Wrotesley Street, Birmingham.

Catalogues Received.

The first 1912 catalogue of motor cycles which we have received for review comes from Humber, Ltd., Coventry, and contains specifications of all their new models. Illustrations are in course of preparation, some of them having already appeared in recent numbers of *The Motor Cycle*.

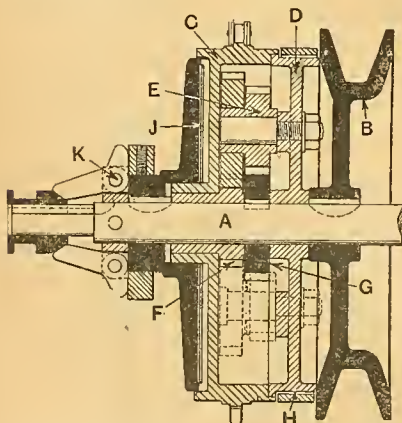
Sparking Plugs.

Messrs. Leo Ripault and Co., Poland Street, Regent Street, W., of whom we made mention a few weeks ago, are the selling agents of the "Oleo" sparking plug. In the manufacture of these plugs the insulator is pressed into the plug hydraulically so as to render it absolutely compression tight. The best French porcelain is used in its manufacture, and the plug is made in four different qualities, which therefore enables it to suit all pockets.

The above plugs were tested by a member of our staff and found to be quite satisfactory.

A Counter-shaft Two-speed Gear.

Upon the counter-shaft A is keyed the belt pulley B, and, mounted loosely, the chain sprocket C, which is driven from the engine. Between the pulley B and sprocket C is a carrier D, carrying compound pinions E, which gear with pinions F and G, of which F is fixed to the sprocket C and G secured to the shaft A. The carrier C is provided with a brake band H. On the opposite side of



the sprocket C is a plate clutch J provided with actuating mechanism K. In operation, when the band H is released and the plate clutch J inoperative, a "free-engine" is obtained, the effect of the rotation of the sprocket C being merely to rotate the carrier D backwards. Tightening the brake band H holds the carrier D stationary, and a reduced drive takes place *via* the sprocket C, pinion F,

**Auction Sale.**

Nye and Co. are holding an auction sale at their city premises, 59, Leather Lane; E.C., commencing Thursday, November 2nd. Second-hand machines of several well-known makes will be offered at low reserve prices.

Self-sealers' Annual Report.

The Self-sealing Rubber Co.'s sixteenth annual report and statement of accounts, which was presented at the ordinary shareholders' meeting in Birmingham, shows a total credit on the profit and loss account of £4,736 15s. 1d.

Dry Battery Ignition.

We are in receipt of the latest catalogue, No. 527, of dry cells and batteries from Messrs. Siemens Brothers and Co., Ltd., York Street, Westminster. This is a useful publication, as it gives not only prices and particulars of the cells, but also instructions as to how to use and wire them. It is interesting to note that Harry Martin and F. Chase used No. 387 Siemens-Obach dry batteries in the motor cycle race at the Crystal Palace held by the Marlborough Athletic Club last month.



compound pinions E, to the pinion G, and thus to the belt pulley B. By releasing the band H and engaging the clutch J, a direct drive is provided, the whole mechanism rotating solid.—T. S. Grieve and A. V. Clarke, No. 27,213, 1910.

An Ingenious Scavenging System.

By this invention the strokes of a four-cycle engine are made variable in length, the object being to provide efficient scavenging. The diagrammatic figures 1, 2, 3, and 4 respectively illustrate the engine in the following positions: Commencement of induction stroke, end of induction stroke, end of compression

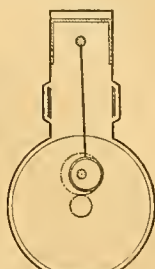


Fig.1

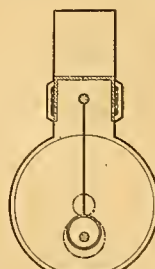


Fig.2

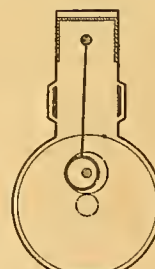


Fig.3

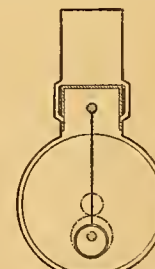


Fig.4

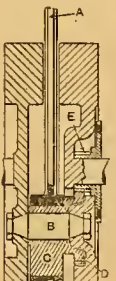


Fig.5

stroke, end of explosion stroke. Transfer passages are provided between the crank case and the combustion chamber, and, as shown in fig. 2, these passages are not opened by the piston at the end of the induction stroke, but at the end of the firing stroke the piston descends far enough to open these passages, as shown in fig. 4, allowing a scavenging charge of air to pass into the cylinder. This operation is effected by mounting the connecting rod A (fig. 5) upon the crank pin B through the intermediary of an eccentric C. Upon the eccentric is a pinion D passing through an aperture in the flywheel and engaging a pinion E fixed on the interior of the crank chamber. By this means the eccentric is operated in such a manner as to provide the variable strokes required. Further, by an adjustment of the position of the eccentric the upper limit of movement of the piston may be variable, being caused to ascend nearly to the top of the cylinder on the exhaust stroke, still further ensuring complete scavenging.—S. J. H. Wilkes and F. E. Baker, Ltd., No. 4,482, 1911.

Tyre Successes.

At the recently held Herts County A.C. meeting, Mr. J. T. Bashall made the fastest time of the day on Rom tyres, which we are told had already done 1,000 miles on a sidecar machine.

A New Tyre Depot.

The Lomax Tyre Co., William Street, Birmingham, have taken premises at 244, High Holborn, W.C., where they will hold a stock of all sizes of Lomax tyres.

Stanhope Spencer's Record List.

In addition to the five world's records already announced, there are four other records standing to the credit of W. Stanhope Spencer and his 3½ h.p. Rudge. They are the fifty miles, one hundred miles, and one hour previously made on machines of two-cylinder and 750 c.c. capacity; also the one hundred miles record made on a twin-cylinder of 1,000 c.c. capacity.

Valve Cotter Extractors.

The Relyabull valve cotter extractor sold by the Nottingham Factoring Co. is a useful tool. We have one in use and have found it remarkably easy to detach the exhaust valve with its aid. This particularly applies to an extraction when the engine is hot, as it is possible to fit the Relyabull on the valve, lift the spring, withdraw the cotter, and file the burr off the edges of the slot while the engine is cooling down. No part of the valve need be touched with the fingers during the operation.

OFFERS WANTED.

N.S.U., 4 h.p., brand new, single-cylinder, ideal sidecar machine; listed £48	£36 0
REX DE LUXE, 5 h.p., twin, two speeds, handle starting, M.O.V., 1911 model	£43 10
REX DE LUXE, 5 h.p., twin, two speeds, 1910	£42 10
BRADBURY, new 1911 model	£44 10
REX, 3½ h.p., spring forks, magneto, b.b. control, 1909 model	£22 10
N.S.U., 6 h.p., twin, two speeds, free engine, magneto, b.b. control	£25 10
HUMBER, 3½ h.p., 1909, two speeds, handle starting, h.b. control	£26 10
REX, 3½ h.p., 1908, spring forks, magneto, h.b. control, beautiful condition	£16 10
N.S.U., 3½ h.p., two speeds, magneto	£19 10
N.S.U., 3½ h.p., magneto good order	£16 10
QUADRANT, 3½ h.p., magneto, spring forks	£16 10
REX, 5 h.p., twin, with forecar	£11 10
N.S.U., 3½ h.p., M.O.V., magneto	£15 10
N.S.U., 3 h.p., M.O.V., nice order	£10 0
REX DE LUXE, two speeds, magneto, handle starting, h.b. control	£26 10
ENFIELD, 2½ h.p., M.O.V., acc. ignition	£9 10
ARIEL, 2 h.p., Minerva engine, M.O.V.	£5 10
HOBART, 3 h.p., vertical engine, low	£8 10
ROYAL STAR, 2½ h.p., vertical engine	£5 10
KERRY, 2½ h.p., 20in. wheels, vertical engine	£8 10
WERNER, 2½ h.p., vertical engine, 20in. wheels, low built, finished French grey	£6 10
PREMIER, 3½ h.p., 1912, three-speed gear	£58 0
PREMIER, 2½ h.p., 1912, three-speed gear	£47 5
2½ h.p. MINERVA	£4 15
2½ h.p. DE DION, vertical engine	£4 10
2½ h.p. WERNER, very low	£5 10
2 h.p. ARIEL, M.O.V.	£5 10
2½ h.p. STANDARD, vertical engine	£4 15

PUSH CYCLES TAKEN IN EXCHANGE.

TRICARS.

TWIN REX, air-cooled, belt drive, Fit-all two-speed gear	£14 10
STEVENS 4 h.p., single-cylinder, air-cooled, Roc two-speed gear, handle starting	£14 10
TWIN REX, 5 h.p., air-cooled	£11 10

CARS.

DE DION, 6 h.p., genuine throughout, two-seater, two speeds and reverse, nice order	£27 10
EAGLE, 14 h.p., four-cylinder, five-seater, two speeds and reverse	£27 10
BEDELIA, 1911, 5-7 h.p., air-cooled twin engine, magneto; cost £93	£55 0
HUMBER, 3½ h.p., two-seater, bucket seats, two speeds and reverse	£18 10

GENUINE MICHELIN TYRES.

	Beaded.	Wired.	Tubes.
26 x 2	17	16 6	9 6
26 x 2½	18 6	17 6	9 9
26 x 2	21	18 6	10
28 x 2	19	17	10
28 x 2½	19	—	10 6
MICHELIN 26 x 2	11 6	28 x 2	12
BUTTED 26 x 2½	11 9	28 x 2½	12 6
TUBES 26 x 2½	12	28 x 2½	12 6

Carriage Paid. All Guaranteed. Prompt Delivery.

MISCELLANEOUS.

Carburettors—Longemare and F.N.	4/6
New Amac Carburettor, H.B. control	15/-
Long Handle-bars, drop ends	3/6 and 6/6
Coronet Silencers, up to 5 h.p.	3/3 and 4/6
XL'ALL Spring Forks	9/6
Gripkin Belting: 3in. 100, 3in. 110, 3in. 116	1/-
Wide Mudguard, 3in. 2/3; 4in. 2/11 pair	4/3
Handle-bar Watches, with bolsters	2/1
Magneto Handle-bar Switches	2/1
Trembler Coils, 6/6. Plain	2/11
Powell and Hammer 11 Lamp	11/8
16 Guinea Lowen Sidecar	£5 0
Nearly New Coronet Sidecar	£3 10
Farrar's Halifax Sidecar	£3 10
Mabon free engine clutch	£2 6
New 3in. treadle lathe	£3 or exchange

Booth's Motories,

Keighley Mills, Bedford Street North, Halifax.

Tel. 1062.

MOTOR BICYCLES FOR SALE.

- 1910 3½ h.p. Rex, with P. and M. 2-speed; a bargain, £42.—A. H. Barnett, Ferrybridge.
- 1907 Triumph, tyres almost new, magneto, B. and B. h.b.c., complete with lamp, horn, tools; £25.
- REX, with Peugeot engine, N.S.U. 2-speed and sidecar, h.b.c., new Kempshall back, will go anywhere; £25.
- BRADBURY, with new Michelin tyres, h.b.c., a real flyer; £10.
- WE are now booking orders for 1912 models: Clyno, Scott, Triumph, B.S.A., Rudge, Indian, Singer, Hamber, Premier.
- BRING your old mount and book 1912 model in exchange; accessories of every description.—Earnshaw's Motories, Bradford Rd., Huddersfield.
- TRIUMPH, 1908, good condition; £23.—Letters only, Miles, 14, Norfolk Terrace, Chapelallerton, Leeds.
- 5 h.p. Twin N.S.U., magneto, perfect condition, lamp, tools; what offers?—Cawood, Change Alley, Sheffield.
- 1911 T.T. Triumph, special engine, new condition, complete; £39.—Houghton, Fishmonger, Rotherham.
- DOUGLAS, 1910½, almost new condition; genuine bargain, £25; lamp and spares.—Dent, Stonegate, York.
- LADY'S 3½ h.p. Rex, magneto, clutch, good condition; £27.—Mrs. Baxter, 5, Blantyre Rd., Liverpool.
- 1911 Singer, 3½ h.p., free engine, new, soiled only, complete kit; £48 10.—Cunliffe, Lord St., Southport.
- 1912 Bradbury, Ridges, Enfields, Premiers; orders; delivery dates; exchanges.—Golby, Bradford Rd., Batley.
- SPECIAL T.T. 3½ h.p. Twin Moto-Reve, Arm-trong 3-speed, 300 miles only; £36.—Haigh, Northgate, Halifax.
- 1911 Hamber Lightweight, spares, in splendid condition; very cheap.—Gourlay, Fallowfield, Manchester.
- GOURLAY, the Great Douglas Agent, now booking 1912 models.—Gourlay, Fallowfield, Manchester.
- 1910 3½ h.p. Magneto Triumph, grand order, lamp and horn; £34 10.—327, Skircoat Green Rd., Halifax.
- F.N., 1909, 5-6 h.p., 4-cyl., perfect order; £20, or exchange for smaller power.—Gorall, Pilling, Garstang.
- TRIUMPH, 3½ h.p., late 1907, splendid condition, accessories, mackintosh suit; £23.—137, Queensgate, Bolton, Lancs.
- 1½ h.p. Lightweight, Stevens engine, first-class order and condition; nearest £11; any trial.—2, Hollins Grove St., Darwen.
- 1911 Moto-Reve, 2½ h.p. twin, cost £45, P.H. lamp, horn; nearest £30; bought sidecar.—Pick, Woodhouse Field, Thirsk.
- BRADBURY, new May, 1910, perfect condition, spares; trial, appointment; nearest £30.—Milner, Westbourne Rd., Selby.
- SCOTT, 3½ h.p., 1910, free engine, 2-speed, Jones speedometer, good tyres, fast; bargain, £37.—Holdsworth, Chetwy, Wakefield.
- LADY'S Hobart 2½ h.p. Arm-trong 3-speed gear and free engine, good condition; what offers?—Mallinson, Rombold House, Ilkley.
- 1910 3½ h.p. Magneto Rex, accessories, backrest; any trial or expert examination; £26.—22, Belvoir Gardens, Skircoat, Halifax.
- HUMBER, 3½ h.p., chain drive, 20in. frame, good order, new tyre, vertical engine; £9.—Woodcock, Burnley Rd., Padiham, Lancs.
- ROYAL Enfield, 2½ h.p., chain drive, new Amac carburettor, h.b.c., running order; £12, or offer.—Hemigway, Flowergate, Whitby.
- 1909½ Triumph, excellent condition, new back tyre and belt; £32 10.—Robinson, grocer, Sunderland Terrace, Doncaster Rd., Burnley.
- HUMBER Lightweight, 2½ h.p., almost new, excellent order, lamp, gear-ratior, and horn; accept £25.—Wiltshire, 52, Barnsley St., Wigan.
- JUNE, 1911, 2½ h.p. Moto-scooter, little used, all spares, equal to new; 28 guineas.—Whittaker, 63, Union Rd., Oswaldtwistle, Lancashire.
- 1911½ 2½ h.p. chain drive Enfield, perfect condition; £35; particulars; exchange Triumph, Zenith, etc.—62, Park Av., Barrow-in-Furness.
- BRADBURY, 1910, 2-speed gear, good tyres, new belt; £36; complete with sidecar, £39.—Reynolds, 32, Downing St., Ardwick, Manchester.
- 3½ h.p. N.S.U., 1911, spring frame, adjustable pulley, £32; N.S.U. 2-speed gear, £4 10; large roomy sidecar, £8 10; all as new.—Lingard, Bolton.
- 1909 Brown, 3½ h.p., 1911 B. and B., Whittle, adjustable pulley, spring forks, Brooks saddle; £18, or very near offer.—Percy Milner, Hawes, Yorks.
- 3½ h.p. Rex, enamel green and gold, low frame, new front cover, new horn and lamp, tools; lot £6 10; owner going abroad.—Jacks n, 269, Manchester St., Oldham.

CORONET SIDE CARS

ONE MINUTE REQUIRED.

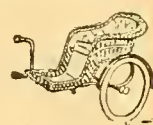
CORONET Sidecars are all fitted with our improved QUICK DETACHABLE JOINTS, and can be detached in one minute.

LESS POWER REQUIRED.

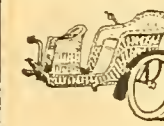
In consequence of the unique design of frame in the "CORONET," less power is required to drive, compared with other sidecars.



MODEL C.—£7 2s. 6d.



MODEL A.—£5 5s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest car pattern mudguards. Wicker, cane, or coach-built bodies. Child's reversible seat. Excellent upholstery.

NOTE front arm which grips main tube of sidecar, which is the only correct mechanical method—nothing lopsided about this attachment.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURY'S, etc. Discounts to Agents.



TEE BEE
SEAT-PILLAR,
5/- each.

TYRES. TYRES. TYRES.

New Dunlops, 28 x 2 and 2½, wired edges	10/6
Dunlops, 28 x 2, beaded, heavy treads	14/9
2½ x 2 and 2½ Beaded Clipper Covers, new	8/6
Best Quality Butt-ended Tubes	7/9
Best Make Inner Tubes, with valves	6/11
Robber-studded Covers, best make	25/-

ENGINES:

4 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
9 h.p. GREGGIE Twin, water-cooled	£14 10
3½ h.p. N.S.U., M.O.V., with gear-driven magneto, brand new from makers	£11 10
5 h.p. Twin SAROLEA, good order	£6 15
9 h.p. DARRACO, water-cooled	£12 0
4 h.p. WHITE & POPPE, M.O.V.	£5 0
4 h.p. CORONET, M.O.V., air-cooled	£4 5
3½ h.p. AUTOMOTO £2 0	2 CYCLONE, M.O.V. £1 15
1½ h.p. MINERVA £1 8	2½ h.p. BROWN £3 5
3 h.p. QUADRANT £3 0	2½ h.p. MINERVA £3 5

Exchanges entertained.

MAGNETOS. MAGNETOS. MAGNETOS.

We have a large stock of the best makes from 59/6. Your old coil and acc. taken in exchange.

NEW CARBURETTORS FOR OLD.

22/- and your carb. secures a new 1911 B. and B. with h.b. control.
20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control.
Delivery per return.

BOOTH'S MOTORIES,
KEIGHLEY MILLS, BEDFORD ST. NORTH,
(off Pellon Lane), HALIFAX. Tel. 1062.



REMEMBER, ALL GUARANTEED. CASH OR EXCHANGE.

MOTOR CYCLES FOR SALE.

All machines marked thus * at Halifax Depot.

LONDON STOCK.

QUADRANT, 1911 model, as new	£39
SCOTT, two speeds, magneto	£39
REX, 1911, 5 h.p., M.O.V., gold medal winner	£35
REX, 1910, 5 h.p., two speeds, magneto	£42
REX, 1911, 7 h.p., two speeds, excellent order	£51
RUDGE, 1911, 3½ h.p., clutch model	£47
F.N., 1910, 2½ h.p., two-speed model	£28
REX, 1911, 5 h.p., magneto, very fast	£24
TRIUMPH, 1909, 3½ h.p., standard model	£32
ARIEL, 1910, 3½ h.p., footboards fitted	£30
N.S.U., 1908, 5½ h.p., two speeds, perfect	£30
REX, 1911, 5 h.p., de Luxe, brand new. In stock.	
REX, 1911 5 h.p., cone clutch, new. In stock.	
REX, 1911, 3½ h.p., tourist, new. In stock.	
REX, 1911, 3½ h.p., cone clutch, new. In stock.	
TRIUMPH, 1908, 3½ h.p., XL/All saddle	£34
REX, 1907, 5 h.p., free engine, spring forks	£18
F.N., four-cylinder model	£16
TRUMP-JAP, 1911, 4 h.p., as new	£35
MATCHLESS 6 h.p. latest 1911 two-speed models. Immediate delivery.	
SCOTTS, 1911 models. Delivery from stock.	£60
ALL DAYS, 3 h.p., magneto, low built	£15
MOTOSACOCHE, 1911, ladies' model, as new.	£26
ARIEL, 2½ h.p., lightweight model	£10
ROVER, 2½ h.p., 1911 clutch model	£45
GRIPPER, 3 h.p., a beauty, touch 25	£7
MATCHLESS-J.A.P. 8 h.p., side valves	£37
ANGLIAN, 2½ h.p., good running order	£6
KERRY ABINGDON, 1910, 3½ h.p., clutch	£32
REX, 1911, 7 h.p., tourist model	£37
REX DE LUXE, 1908, 5 h.p., two-speed	£28
KERRY, 3½ h.p., handle-bar control	£11
F.N., 4½ h.p., 1909 model, four-cylinder	£25

HALIFAX STOCK.

*N.S.U., 2½ h.p., 1909, lightweight	£22
*F.N., 4½ h.p., 1909, four-cyl.	£23
*REX, 5½ h.p., clutch model, magneto	£24
*FAFNIR, 3 h.p., two speeds	£15
*ARIEL, 2½ h.p., thoroughly overhauled	£11
*REX, 1909, 5 h.p., Tourist, good order	£29
*TRIUMPH, 1909, 3½ h.p., good order	£32
*BRADBURY, 1911, 3½ h.p., magneto	£39
*REX, 1910, 3½ h.p., Tourist model	£28
*N.S.U., 3 h.p., Tourist model	£22
*REX, 5 h.p., 1909, Speed King	£30
*HUMBER, 1909, 3½ h.p., two-speed	£30
*TRIUMPH, 1907, 3 h.p., magneto	£19
*ANTOINE, 5 h.p., twin, footboards	£15
*P. & M., 1910, 3½ h.p., excellent order	£45
*REX, 1909, 5 h.p., two speeds, fast	£35
*MINERVA, 1911, 8 h.p., two speeds, P. & M.	£48
*REX, 5 h.p., twin, coil ignition	£16
*MINERVA, 4½ h.p., spring forks	£20

50/- deposit secures—	
*LLOYDS, 2 h.p., £10	*BARTER, 2½ h.p., £8
*MINERVA, 2 h.p., £6	*BROWN, 2 h.p., £7

Balance 5/- weekly.

CARS AND TRICARS.

*BEDELLA Car, single-cylinder, very easy	£40
REX Litette, 1911 models, new	£50
REX Litette, 5 h.p., magneto, two speeds	£30
*BRETTE, 5½ h.p., two speeds, open frame	£22
BROWN, 3½ h.p., two speeds, air-cooled	£16
FORD Car, 10 h.p., twin, two speeds	£18
STAR Car, 9 h.p., three speeds	£25
REXETTE, 6 h.p., latest model	£22

SIDECARS, &c.

MONTGOMERY Sidecar, child's seat	£7
MILLFORD Castor Wheel, like new	£6
FOREGAR, with tyres, aluminium finish	£2

MAUDES MOTOP MART.
136 GREAT PORTLAND STREET.
LONDON W.

Telephone 552, Mayfair
Telegrams 'Ab-dicate' London
20 POWELL STREET HALIFAX
Telephone, 433, National
Telegrams 'Petrol' Halifax
(LISTS POST FREE)

MOTOR BICYCLES FOR SALE.

N.S.U., 1911 Model de Luxe, 3½ h.p., 2-speed and free engine, brand new: list price £52/15, cash £40.—Graydon, 19, Kensington Rd., St. Anne's-on-Sea.

F.N., 1909, 4-cyl., 5 h.p., 1911 improvements, magneto, etc., in splendid condition; exchange for smaller power; £25—C. 17, Peel St., Accrington.

TRIUMPHS! Triumphs!—Immediate deliveries from stock: standard and free engine models.—G. W. Warriner, Triumph agent, 138, Micklegate, York.

2½ h.p. De Dion, engine in first-class order, accumulator, later; bargain, £8 to clear.—Warriner, 138, Micklegate, York.

1911 Free Engine Model, only run 175 miles, fitted with lamp, horn, and Jones £3/10 gear-driven speedometer, perfect; £55.—Warriner, 138, Micklegate, York.

CROSS for Triumph and Matchless Motors in Rotherham.—New T.P. Triumph, £46; 1911 Bradbury, like new, £37; 1911 Douglas, like new, £32, complete.

5 h.p. Twin Indian, green, just overhauled cost of £4/10, very fast, easy starter, guaranteed; accept £35, or exchange for 2-speed single.—Millard, Dinnington, Rotherham.

3½ h.p. Tourist Rex, new and unused; makers' price £2 4/6, accept £18/10 deposit and 19 payments of 20/-; first remittance secures.—Halifax Motor Exchange, Westgate, Halifax.

MINERVA, 3½ h.p., 1908, dry cell ignition, tools and spares, new back tyre on, all complete, and in good condition and running order; £15.—Roberts, 9, Arley Av., West Didsbury, Manchester.

TWIN Moto-Reve, new August, adjustable pulley, Miller's headlight, Lucas generator, spare valves, belt, tube, etc., perfect condition, run 500 miles.—W. Beaumont, Bird's Royst, Brighouse.

SCOTT, 1910, overhauled by makers last month, 1911 frame complete, latest radiator, front wings, new chain, etc., extra petrol tank, perfect condition; £40.—63, Moss Lane, Swinton, Manchester.

5 h.p. Rex, 1909, did 66 m.p.h. last Sunday, Cowey speedometer, C.A.P. carburetter, tyres A1, 1911 pistons just fitted, lamp, and all accessories; £29.—Storey, Lime Grove, Brooklands, Manchester.

1911 Triumph, free engine, all accessories, engine just overhauled at Triumph works, tyres nearly new, £46; also 1910 Millford cane rigid sidecar, new cover, £6; offers.—Simmons, 26, Princes Rd., Hull.

BRADBURY, 3½ h.p., 1911, new July, not run 1,000 miles, perfect, all spares, including valve, plug, new P. and H. lamp, horn, overalls, and mack; going abroad; £39.—George, Nelson St., South Bank, Yorks.

SCOTT, 1910, 3 h.p., 2 speeds, free engine, kick starting, Palmer cord tyres, in good condition, B105 saddle, Jones speedometer, recently overhauled by makers, ready for the road; £40, or cash offers.—Everingham, Pecklington.

1909 Triumph, 1911 tank, handle-bars, and stand, just been re-bushed throughout, and in splendid condition, good tyres, new Lyso belt, Lucas lamp, etc., and many spares; very fast machine; £32, or nearest offer.—Hodgkinson, Heather Mount, Cowpasture Rd., Ilkley.

3½ h.p. 1908 Minerva, magneto, B. and B., spring forks, just had £7 spent on engine, guaranteed perfect; exchange for powerful twin, or F.N., or sale £21; also 2½ h.p. Bowden, F.N., h.b.c. free engine, chain drive, good order; £15; approval.—Smith, engineer, Bedale.

1908 Triumph, 1911 improvements, splendid condition, dirt cheap at £22; 1911 3½ h.p. Bradbury, only 4 months old, and done very little running, lowest £34; Mahon clutch and variable pulley to suit 3½ h.p. J.A.P., 20/-; 1911 B. and B. carburetter, 17/6; N.S.U. carburetter, 5/-.—Haslam, 293, Ecclesall Rd., Sheffield.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

1910 Enfield Lightweight, splendid order; bargain, £24.—A. Senior, Northwich.

B.S.A., new last June, perfect condition; any trial; 37 guineas.—128, Station Rd., Old Hill.

£17.—F.N., 4-cyl., 1908, recently overhauled, front new Michelin, back tyre good.—Holmleigh, Carnarvon.

ZENITH, 6 h.p., June, 1911, perfect, accessories; sell, or exchange for single.—P. W. Owen, Ironbridge, Salop.

7 h.p. Indian, 1911, clutch model, blue, excellent condition; 42 guineas.—Norman, Tunstall, Stoke-on-Trent.

BRADBURY 1911 Standard Motor Cycle, in stock; £58 for quick sale.—W. S. Huxley, Malpas, Cheshire.

1910 Motosacoché, free engine, magneto, Whittle belt, good condition; £25.—Everatt, Saltergate, Chesterfield.

1 h.p. Premier, bought August 12th, 1911; £30, offer; 32 wanted, rigid sidecar, cheap.—Minshall, Stoneway, Bridgnorth.

1911 Premier, free engine, run under 300 miles, good reasons for selling, accessories; £50.—Ruckman, Matlock.



REMEMBER

The value of your present machine is depreciating week by week.

Why not exchange now or at the end of the season for a 1912 model?

We can allow far better prices than those which rule in April, and, if you wish, advance you a big part of the allowance in cash.

Why not write, or, better, call and discuss with us.

ANY MAKE.

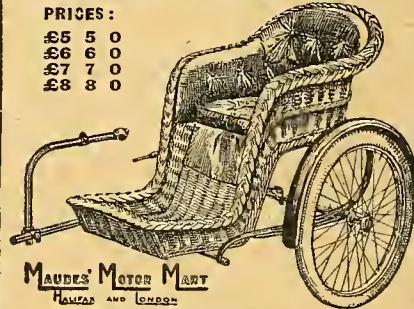
EARLIEST DELIVERIES.

HIGHEST ALLOWANCES.

THE PORTLAND SIDECAR.

PRICES:

£5 5 0
£6 6 0
£7 7 0
£8 8 0



MAUDES MOTOR MART
HALIFAX AND LONDON

Guaranteed twelve months.

Luxuriously sprung.

Just the fitment for winter riding.

REMEMBER, World's Sidecar Record, 40 miles 1,660 yards in the hour.

26 x 24 Michelin tyres. Double Coe springs. Wide mudguard. Three-point suspension. Dropped bearer bar if desired. Double stove enamelled.

Guaranteed twelve months.

Standard Wicker RIP Model	£5 5 0
Improved Wicker PORTLAND Model	£6 6 0
First quality Cane PORTLAND Model	£7 7 0
Closed type Wicker Portland Model	£8 8 0

ALL fitted with heaviest spindles.

TO AGENTS AND SHIPPERS.

We are now fixing up Agencies for the Portland Motor Cycles and Sidecars. Write us for best terms.

REXES! REXES!! REXES!!!

We have a few brand new 1911 Models. If you would save money, write us.

3½ h.p., cone clutch..... Write
5 h.p., ditto for our
5 h.p. DE LUXE Prices.

FULLY GUARANTEED. CALL AND INSPECT.
SPECIAL PRICES.

SPECIAL BARGAINS.

Sarolea Engines, 2 h.p., brand new, complete with Bosch magneto	£8
Sarolea Engines, as above, for accumulator ignition	£5
Fuller Accumulators, new, 20 amp.	7 6
Studded Covers, 26 x 2in. and 2½in.	17 6
Wide Mudguards, 3in. and 4in.	
Separate Generator Lamps, complete	12 6
Silent Silencers up to 6 h.p.	3 6
Matchless Spring Forks, shop-soiled	pair 11 6
Triumph Pattern Horns. Our price	3 9
Leather Magneto Cover	2 6
Pannier Bag, good condition	6 6
Ditto, rather larger	8 6
Kumli Handle Grips, rin. bars	pair 1 3

Look out for the 1912

GRADO-GEAR.

MAUDES MOTOR MART.
136 GREAT PORTLAND STREET.
LONDON W.

Telephone 552, Mayfair
Telegrams 'Ab-dicate' London
20 POWELL STREET HALIFAX
Telephone, 433, National
Telegrams 'Petrol' Halifax
(LISTS POST FREE)

DO IT NOW!

This is the principle of success in business. The man who leaves things until to-morrow never does them at all. Months ago we decided that it was THE RIGHT TIME to buy Motor Cycles for next year's delivery, and WE BOUGHT THEM. The same thing applies to Tubes, and Tyres, and Accessories, and it is only by this means that we can give to our customers the extensive variety at such low prices and such quality.

It is no use approaching the makers of high-class machines at this time of the year, as they are long since booked up for 1912. The machines that can be bought now are not much class, and you don't want them.

You will have noticed that we have been telling the tale about going to Lancaster for some weeks now. However, upon taking a survey of Lancaster and district, we could not find anything in the way of a Garage half so big as ours. We could not find a place as GOOD AS OURS WILL BE when the extensive alterations which the landlord finally decided to do are finished. We shall very shortly have a NEW ROOF ON, and have the option of a piece of ground on which TO BUILD AN EXTENSION. Having these favours offered us, we remembered the maxim above, and DID IT. We are now fixed up for a lengthy period in Morecambe, and anticipate your kind favours and CONTINUED PATRONAGE in the FUTURE, as in the PAST. What we ask of you is TO DO IT NOW—that is, place your order with us for that 1912 model, whether for Cash, Deferred, or Exchange terms; they are all alike to us. We have now made Special Capital arrangements, whereby we shall be enabled to extend our operations in the field of supplying NEW MACHINES on the DEFERRED. Our terms will be THE BEST ON THE MARKET. Our CHOICE of machines IS ALREADY the best on the market, and the ONLY THING that we are wanting is to get the LARGEST TRADE of any firm on the market. We think we are not far from that now. However, patience will do it.

We have had a wonderfully successful year, and want it to be the FORERUNNER of many others. We have GROWN LIKE A MUSHROOM, but NOT on mushroom foundations. The foundation IS GOOD, and therefore the structure will stand.

Once more, we offer to any man who is dissatisfied with our deals SATISFACTION. We don't succeed in pleasing everybody—no one can—but, we want to please YOU. It is impossible to go wrong with us. As stated week after week, if the goods are not satisfactory, return them at once, and have your money back in full. These words have been used hundreds of times in "The Motor Cycle," and yet we find it necessary to repeat them week after week. People seem to be so sceptical that they cannot imagine them to be correct, as there comes a hundred letters per week enquiring as to the correctness of same. YES, WE DO THIS WITH PLEASURE.

By-bye, B'hoys. From one of the Nuts.

GREAT 1911 REDUCTIONS.

ENFIELD, 1910, splendid order	£55 0
P. and M., 1911, two-speed, 2 in stock	£60 0
BRADBURY	£48 0
BAT-J.A.P., 5 h.p., cash price	£58 0
BRADBURY, two-speed	£55 0
SCOTT, 1911, two-speed, 2 in stock	£60 0
BAT-J.A.P., 8 h.p.	£60 0
HUMBER, two-speed	£60 0
ZENITH-GRADUA, 5 h.p.	£65 0
TRIUMPH, free engine, 2 in stock	£55 0
HUMBER, 1 1/2 h.p., single-cyl., three-speed	£39 0
TRIUMPH, standard, 2 in stock	£48 15
RUDGE, 1911, free engine	£55 0
DOUGLAS, Model D	£40 0
DOUGLAS, two-speed, Model E	£48 0

All above and any other new machine can be bought on the deferred terms, with one quarter down and balance in twelve monthly payments.

GOOD S.H. MACHINES.

All guaranteed running order before leaving Morecambe.	
ENFIELD, 1910, splendid order	£27 10
MOTO-REVE, 1911 twin	£30 0
DOUGLAS, 1910, grand	£31 0
DOUGLAS, 1910	£29 0
MOTO-REVE, twin, 1910 1/2, new	£27 0
MOTO-REVE, 1910 1/2, twin, fine order	£23 0
SIMMS, 1 1/2 h.p.	£20 0
F.N., 1 1/2 h.p.	£15 0
DOUGLAS, 1910, fine order	£29 0

MOTOR BICYCLES FOR SALE.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

FOR Sale, cheap, 2 h.p. Werner, low and light.—Particulars, A. Moyse, Kessingland.

REX, 3 1/2 h.p., new cylinder, coil and accumulator, tyres, tubes nearly new; £14.—Mulleigh, Outwell, Wisbech.

1909 3 1/2 h.p. Triumph, in topping order and condition; £28; complete, all spares.—3a, Bridge St., Cambridge.

QUADRANT, 3 h.p., good running order; £5; exchanges entertained.—Osborne, Old Cattle Market, Ipswich.

TRIUMPH, B.S.A., Singer, Premier, and Rudge motor cycles; early deliveries of 1912 models.—Parker and Son, St. Ives, Hunts.

3 1/2 h.p. 11-month old Ariel, variable gear, half compression, splendid order, little used; must sell, cheap.—R. Lee, Woodton Rectory, Bungay.

1909 Motosacoche, magneto, spring forks, in first-class order, thoroughly overhauled by makers; accept £14.—37, Searle St., Chesterton, Cambridge.

TRIUMPH, 1909 1/2, no fault, perfect running order, good condition; inspection of trial, lamp, and spares; £35.—8,761, The Motor Cycle Offices, Coventry.

MINERVA, 1908, 3 1/2 h.p., grey enamelled, low, fast, reliable, climb anything, 1911 B.B., everything h.b.c.; £18; photo. trial.—Elthett, 12, Tenson Av., Cambridge.

3 1/2 h.p. Quadrant Motor Cycle, Bosch magneto, h.b.c., carburettor, spring forks, good tyres, low frame, good running order; £14 10, bargain.—Bridge House, Boxford, Suffolk.

3 1/2 h.p. Minerva, beautiful running order, Dunlop, Bates, new belt, spring seat, footrests, runs well, 4 to 40 m.p.h.; bargain at £20, cash price £18, or exchange F.N., or other lightweight.—G. Seaman, Hantsdon.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

1911 Humber 2 h.p. Lightweight, perfect condition, like new; £25/15.—Douglas Harris, Old Vicarage, Llando.

ARIEL, 1911, 3 1/2 h.p., in splendid order, decompressor, spares, etc.; trial; £36.—Curry, St. James Rd., Hereford.

TRIUMPH, 1910, little ridden, just overhauled by makers, many spares; cost about £70; owner going to India.—Pratt, Hazeldean, Bromsgrove.

3 1/2 h.p. Hamilton, good condition, splendid, timber, fast, B. and B. carburettor; £8 10, lowest.—Mayall, 80, Chensmore Lane, Kidderminster.

TRIUMPH, 1911, very carefully ridden, 1,200 miles only, practically new machine, 2-note exhaust whistle; £40.—Lewis-Evans, M.A., Abertillery, Mon.

1911 Douglas, new in May, great bargain, 30 guineas for quick sale; owner buying car; Gloucester-hire district.—No. 8,745, The Motor Cycle Offices, Coventry.

TRIUMPH, T.T., 1911, P.R.S. large size lamp, Cowey speedometer, Lucas best horn, exhaust whistle, carbide carrier, all spares; £45, no offers.—Harvey Bryant, Bromsgrove.

1912 2 1/2 h.p. Special T.T. Twin Humber, 3-speed Armstrong, used in speed trial only, 2 pairs of bars, spares, 55, tyres, etc., as new; cost £55, sell £45.—Adams, Highbury, Lye, Stourbridge.

1911 Free Engine Rover, chrome machine, been out 3 times, run only 85 miles total, bought new September, guaranteed absolutely perfect and unscratched; must sell; best offer, or first cheque for £50 secures.—Phillips, New Rd., Worcester.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

LADY'S 1911 Motosacoche, 2 h.p., only done 25 miles; £27.—Hall, 38, Burton St., Gloucester.

5 h.p. Rex, Whittle, free engine, good condition; £13, bargain.—C., 35, Balmer's Rd., Reading.

L.M.C., 3 1/2 h.p., just been overhauled by makers, magneto, h.b.c.; £20.—H. Euton, 10, High St., Witney.

FAPNIR, 3 h.p., fast, low, reliable; £10, or exchange lower power.—Cry, Fairfields, Christchurch, Hants.

TRIUMPH, clutch model, 1911, soiled only; best offer above £45; genuine bargain.—Layton's, Bicester.

B.S.A., 1911, ran 1,000 miles only, as new, complete with lamp, horn, and good spares; £38.—Layton's, Bicester.

TRIUMPH, 1910 standard model, Palmer cord tyres, equal to 1911 machine; £35.—Layton's, Bicester.

TRIUMPH T.T. Roadster, actually used only about 500 miles, magnificent machine; any reasonable offer.—Layton's, Bicester.

TRIUMPH, 1906, condition perfect, tyres good; £18; will ride 40 miles.—Perris, Salthrop, Wroughton, Wilts.

Lady's HOBART, as new, three-speed	£39 10
ENFIELD, 1910, fine order	£28 10
MOTO-REVE, 1910, single-cyl., as new	£22 0
HUMBER, two-speed, 1910	£32 10
HUMBER, two-speed, 1911	£39 0
N.S.U., 3 h.p.	£16 10
BROWN, 1909, 3 1/2 h.p., free engine	£25 0
SIMMS, 3 1/2 h.p., magneto	£12 10
BROWN, 1909, twin, 5 h.p.	£29 0
HUMBER, 1911, two-speed	£37 10
BRADBURY, 1910, fine order	£35 0
SINGER, 3 h.p., magneto	£12 10
N.S.U., 3 1/2 h.p., M.O.V.	£15 0
GRITZNER, 3 1/2 h.p., free engine	£17 10
REX, Twin, 5 h.p., four-speed	£28 0
J.A.P.-CHATER-LEA, 5 h.p.	£22 10
BRADBURY, two-speed, as new	£42 10
BRAITHWAITE, 1909, 3 1/2 h.p., two-sp'd	£29 0
N.S.U., two-speed, 5 h.p., twin, 1910 1/2	£39 0
N.S.U., 4 h.p., twin, two-speed	£29 0
J.A.P.-CHATER-LEA, 10 h.p., racer	£40 0
F.N., 4-cyl., 4 1/2 h.p.	£22 10
ZENITH, 6 h.p., late 1909, Gradua gear	£40 0
J.A.P.-CHATER-LEA, 4 h.p., free engine	£26 0
REX, twin, 5 h.p.	£25 0
P. and M., 1910, perfect order	£45 0
BAT-J.A.P., 5 h.p.	£32 10
REX, 5 h.p., fine order	£27 10
BAT-J.A.P., two-speed, 1910	£48 0
REX de luxe, two-speed	£35 0
P. and M., 1910, splendid order	£50 0
TRIUMPH, 1910, Mabon clutch	£35 0
REX, 3 1/2 h.p., M.O.V.	£15 0
SINGER, 3 1/2 h.p.	£18 10
REX, 1910, 3 1/2 h.p., splendid order	£28 0
SIMMS, 2 1/2 h.p., magneto ignition	£14 10
TRIUMPH, 1909	£32 10

Many of the above machines can be purchased on the deferred terms, with one-third down and the balance in twelve monthly instalments.

Sold out of accumulator machines at the moment, but some coming in.

SEASONABLE LINES.

Special Separate Generator Lamp	12/6
Special Bracket ditto Lamp	22/6
1911 F.R.S. Latest	58/6
1911 Lucas Latest	55/- and 50/-
1911 Lucas Lightweight	35/-
State wants, as we have largest stock in the world, and make good allowance for old one off Lucas and F.R.S. lamps. Silver or ebony finish.	
S.H. Leather Coats	13/6
New Leather Coats	£2
Long Waterproof Umbrella Coats	5/11 1/2
Oil-skin Breaches	2/11 1/2
100 Motor Cycle Saddles (new)	8/11 1/2
1000 Brand New Inner Tubes, all sizes	4/11 1/2
Waterproof Suits complete	12/11 1/2
Cowey 1911 Speedometer, new	£3 10
Jones 1911 Speedometer, new	£2 15
Ajax Heavy Tyre	35/-
MORECAMBE Studded, new pattern	19/11 1/2
Heavy MORECAMBE Studded, new pat.	23/11 1/2
50 Odd Tyres from 13/6 to 17/6 to clear.	
Mabon 1911 Free Engine	£2 5
Large Side Bags	5/11 1/2
Swan-neck Seat-pillar	2/9
Specially Strong Carrier	4/5 1/2
E.I.C. Plugs, 2/6 size	each 1/1
Magnetos, S.H., all sizes	£3, £3 5s., and £4
Parker Self-contained Lamp	15/11 1/2
Special Bracket Separate Generator Lamp	23/6
F.I.E.N. Magnetos	£3 4 11 1/2
Sidcar Aprons, ready to fit	6/11 1/2
Special Twist Horn	3/11 1/2
New F.R.S. Generators	7/-
Exhaust Cut-outs	2/11 1/2
Handle-bar Mirrors	2/9 and 4/6
Tube and Belt Cases	5/11 1/2
Rubber Belts, 7 1/2 ft. x 1 in.	5/11 1/2
Special H.B. Watch Holders	10/d. and 1/11 1/2
New Self-contained Lamp, large size	13/11 1/2
Tubes, all sizes, brand new	6/11 1/2 and 8/11 1/2
Leather and Steel-studded Bands	19/9
S.H. Lucas Lamps, complete	30/-
B. and B. Carburettors, h.b. control, 1911	23/-
Trembler Coils	6/11 1/2
Non-trembler Coils	6/9
New Specification List now ready, post free.	

THIS WEEK'S BARGAIN.

For Cash you can have a new 1911 5 h.p. BAT-J.A.P. for £51. Don't offer swaps, deferred terms, or low offers, as no good.

HITCHEN'S MOTOR EXCHANGE CO., LTD.,

Euston Road, MORECAMBE.

Telephone: 112. Wires: Motor, Morecambe.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1911, done about 300 miles; owner going abroad; what offers?—Smith, Chiland, Winchester.

3 1/2 h.p. Rex, splendid condition; £18, or offer.—**32** Thurner, Grove Lane, Winkfield Rd., Bracknell, Berks.

LINCOLN Elk, 3h.p., 1910, magneto, footboards, perfect; £18.—Johnson, Surrey Rd., Bishopston, Bristol.

TRIUMPH, 1911, clutch, little and very carefully used, perfect condition; £48.—59, Hanbury Rd., Oxford.

BRADBURY, 1911, standard, only 900 miles, equal to new, unsratched, spares; £40.—Baldwin, Twyford, Berks.

2 3/4 h.p. De Dion, Chater-Lea, 1910 B. and B., h.b.c., 24 Dunlop tyres, Shamrock belt; £9.—18, Temple St., Aylesbury.

3 1/2 h.p. Brown, good order, good tyres; price £10; light weight wanted.—J. Cook, Shaftesbury St., Fordingbridge.

1910 Premier, 3 1/2 h.p. twin, in good condition, recently overhauled; £20.—No. 8,745, *The Motor Cycle* Offices, Coventry.

3 1/2 h.p. Birmingham Quadrant, magneto, spring forks, new belt, lamp, etc., good condition; £16.—H. Williams, Fleet, Hants.

DOUGLAS, 1910, little used, lamp, horn, etc., splendid condition; £25, offers.—Priourse Villa, Candemas Lane, Beaconsfield.

1911 Triumph, only recently delivered, not done 50 miles; accept 43 guineas; any trial.—John Webber, Crauthurdis, Maidenhead.

1911 Triumph, free engine model, almost equal new; only run 1,200 miles, Rich tubes, several spares; £45, or near offer.—Godfrey, Sulgrave, Banbury.

SINGER, 2 1/2 h.p., Simms magneto, Hella lamp, new Dunlop spare belt, 2 spare covers, first-class condition; £18, or nearest.—Kidd, Acton Turville, Glos.

DOUGLAS Motor Cycle, 2 1/2 h.p., late 1910, very little used, everything excellent condition, lamp, horn, tools, etc.; £51.—A. Whaley, 23, Bonree Av., Salisbury.

OPEN Frame 1911 Midget Bicar, 3 1/2 h.p. Precision, B. and B., 2 speeds and free engine, new condition; £35, or near offer.—Morris, 395, Oxford Rd., Reading.

1910 Clutch Triumph, practically new, seldom ridden, guaranteed perfect, Palmer cord, Chatter, Lyso, accessories; £45.—Milward, Wood St., Swindon.

1911 Triumph, free engine, splendid condition, done 2,000 miles, lamp, horn, exhaust whistle, new belt, etc.; £47/10.—Bedford, 88, Basingstoke Rd., Reading.

DOUGLAS, 1908, splendid machine, good condition, just overhauled, lamp and accessories complete, not done 5,000 miles; £17.—Somerville, 8, Melrose Place, Clifton.

LATEST Model 1911 4-cyl. 3-speed T.A.C. run only 500 miles, take sidecar and passenger anywhere, exceptionally reliable mount; cost £80, best offer accepted.—A. Ward, Home Farm, Ascot.

TRIUMPH, 1911, free engine, ridden 800 miles, Lucas £2/10 lamp, horn, spare tube, valve, plug, enamelling and plating badly scratched, faultless; 40 guineas.—Bennett, Scullards Hotel, Southsea.

3 1/2 h.p. Quadrant, h.b.c., magneto, spring forks, good 32 tyres, spring footrests, good going order; £18, or offer; exchange with cash for Rudge or other good make.—Gale, 2, Sutton Villas, Junction Rd., Andover.

TWIN-CYL. Moto-Reve Lightweight, late 1910 model, spring forks, magneto ignition, tyres good, and machine in splendid running order, engine just been overhauled; price 20 guineas.—Atkins, Longmoor Camp, Hants.

BOURNEMOUTH—Harvey, 58, Poole Rd., sole district agent Humbers.—Tourist Trophy Twin delivered from stock, also 1911 second-hand lightweight, £27/10; 1911 3 1/2 h.p., £32/10; and brand new Moto-Reve, twin, to clear £30.

1911 Premier, 3 1/2 h.p., free engine, purchased new June, owner proceeding abroad, spare butt-end and belt, lamp, horn, Jones speedometer, mirror, watch, good running order, covers new October, £47; Kerry sidecar, £5; can be tried by arrangement.—Pepps, Church Crookham, Hants.

1912 Triumphs, Phelon and Moore, Douglas, and Enfield motor cycles.—Our large contracts for these machines enable us to give the earliest possible deliveries for next season; book your machine now and avoid disappointments, or, if you wish, our representative will be pleased to meet you at the Motor Cycle Show at Olympia.—Morris Motor Cycle Garage, Oxford.

TRIUMPH, 1909, standard model, Cowey speedometer, Lucas lamp, generator, horn, also set of 11 mudscreens, engine just been thoroughly overhauled, good condition throughout; genuine bargain, £30.—Morris Motor Cycle Garage, Oxford.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

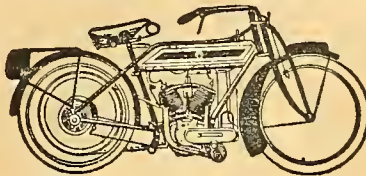
N.S.U. Lightweight, Bosch, in new condition; £13/10.—89, High St., Walthamstow.

FOR Bargains in second-hand motor cycles, write, The Ketco Motorcycles, Smarden, Kent.

BRAND NEW 5 h.p. TWO-SPEED TWIN REX DE LUXE,

Latest type cylinders and spring forks, mechanical overhead inlet valves, Bosch magneto ignition, cantilever seat, extra large capacity tanks and filler caps, special sidecar fittings, handle starting and other special fittings, fully guaranteed, 26 x 2 1/2 in. non-skids, £51 10s.

3 1/2 h.p. Two-Speed de Luxe, £48 10s.



Liberal allowances on a few single-speed machines. Cash offers considered, as a reduction of stock is URGENT.

NEW

1911 2 1/2 h.p. 2-speed REX Junior 50 Gns.
1911 3 1/2 h.p. Free-engine REX 48 Gns.
1911 Twin REX DE LUXE 63 Gns.
Very Liberal Exchange Allowances.

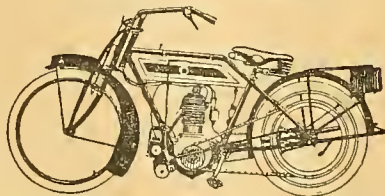
SECOND-HAND MACHINES.

CASH, EXCHANGE, OR EASY PAYMENTS.

1910 7 h.p. Twin REX, M.O.V.	£37 10
5 1/2 h.p. N.S.U., free engine and sidecar	£33 10
Magneto TRIUMPH, spring forks, very smart	£25 10
Twin REX DE LUXE and Montgomery Sidecar	£25 10
REX, 1910, 4 h.p., "hot stuff"	£29 10
1910 Twin REX, M.O.V., special machine	£29 10
4 1/2 h.p. 4-cyl. F.N. magneto	£19 10
3 1/2 h.p. REX, vertical engine, fine condition	£8 10
Twin REX DE LUXE, M.O.V., 2 speeds	£42 10
1910 T.T. TRIUMPH, almost equal to new	£33 10
Twin REX DE LUXE and Sidecar	£27 10
MOTO-REVE, magneto, Drmids	£19 10
QUADRANT, 3 1/2 h.p., magneto, spring forks	£24 10
F.N. Lightweight, magneto, spring forks	£19 10
REX Twin, 5 1/2 h.p., spring forks, last	£19 10
1909 Two-speed Twin REX DE LUXE	£33 10
1911 3 1/2 h.p. Free-engine REX	£37 10
1911 Twin REX DE LUXE	£47 10
REX Magneto Lightweight, adjustable pulley	£16 10

A CALL WILL REPAY YOU.

BRAND NEW 3 1/2 h.p. TOURIST REX.



Sold under maker's catalogue guarantee.

NOTE.—Reduced Price, £31 0
Two-speed gear £5 15 extra.

£10

deposit and 10/- weekly secures—
Magneto Triumph £25 10
5 1/2 h.p. Twin REX de Luxe, mag. £24 10
Four-cylinder F.N., magneto .. £19 10
3 1/2 h.p. Magneto Quadrant £24 10
Twin Moto-Reve £19 10
F.N. Magneto Lightweight £19 10

Collier's Motorcycles,
WESTGATE, HALIFAX,
— ENGLAND. —

MOTOR BICYCLES FOR SALE.

WILTON Cycle Co., Victoria, S.W.

WILTON—Sole S.W. agents for Clyno; delivery from stock, also from Show and early 1912.

WILTON—Sole S.W. agents for Matchless; immediate delivery, or early 1912.

WILTON—Bradbury agents; immediate delivery, or early 1912.

WILTON—Bradbury, with 2-speed gear, sidecar, and accessories, quite new; £53.

WILTON—Kerry-Abingdon, 2-speed gear, sidecar, and all accessories, 6 weeks old; £50.

WILTON—Exchanges and instalments arranged.

WILTON—1910 V.S., 5 h.p. twin, as new; only wants seeing; £27/10.

WILTON—1910 Excelsior, splendid order, thoroughly up-to-date; £25.

WILTON—4-cyl. F.N., good order; £22.

WILTON—1911 2 1/2 h.p. F.N., 2-speed and free engine, as new, all accessories; £36.

WILTON—1911 Bat, 8 h.p. J.A.P., T.T. model, new condition; £35.

WILTON—Motosacche, 1 1/2 h.p., Palmer tyres, good order, accessories; £14.

WILTON—New and guaranteed 3 1/2 h.p. Kerry-Abingdon and 2 1/2 h.p. Moto-Reve, £39 each; New Enfield, belt model, £30.

WILTON Cycle Co., 110, Wilton Rd., Victoria, S.W. Phone: Westminster 5115.

CASS'S Motor Mart, 5, Warren St., Easton Rd., W. Phone: 3624 Mayfair.

CHATER-LEA-ANTOINE, 3 1/2 h.p., magneto, 1911 B. and B., free engine, just been re-enamelled; £20.

F.N., 4 1/2 h.p., 4-cyl., special model, cut down top tube, adjustable handle-bars, re-enamelled; £28.

MATCHLESS, 6 h.p., 2-speed, has had very little use; £36.

5 h.p. Rex, Dunlop tyres, excellent condition; must sell; £13/15.—124, Romford Rd.

DOUGLAS, 1910, splendid condition; £22/10.—Bennett, Steyne School, Worthing.

1911 N.S.U., 3 1/2 h.p., magneto, h.b.c., spring forks, good order; £24.—234, Belsize Rd., N.W.

TRIUMPH, free engine model, late 1911, little used; £39.—Barker, 34, Oxford Rd., Worthing.

MINERVA, 2 1/2 h.p., reliable, good engine and tyres; £10.—Brice, 2, Bermington Sq., Vauxhall.

TOTTENHAM—We have following 1911 machines in stock ready for immediate delivery.

BRADBURY, standard, £48; free engine, £54/10; 2-speed, £55.

HUMBER, 2-speed, £50; T.T. twin, single speed, 40 guineas; 3-speed, 50 guineas; early delivery.

RUDGE-WHITWORTH, free engine model; £55.

TRIUMPH, standard model; £48/15.

SEVERAL Shop-soiled machines at substantial reduction.

MILLFORD Cane Body Sidecar, £11; Millford Herald sidecars, 6 guineas.—128, High Rd., South Tottenham. Phone, 1982. (Foot of Stamford Hill.)

TOTTENHAM—We have following first-class second-hand machines for immediate disposal at bargain prices:

HUMBER, 1910, 2-speed, just returned from works; £35.

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5 h.p. Twin Kerry, magneto, just overhauled; £20.

N.S.U., 6 h.p. twin, variable gear, Chater-Lea sidecar; £33.

N.S.U., 2-speed gear, 6 h.p. twin, as new; £28.

ROC, 4 h.p., 1910, 2-speed, military model, spring forks; £34.

3 1/2 h.p. M.M.C., magneto, new, h.b.c.; £20.

3 1/2 h.p. Lagonda, Palmers, perfect condition; £12/10.

1911 Humber, 2-speed, and sidecar, all as new, only used for demonstration; £47/10, or separate.

TRIUMPH, 3 h.p., most reliable and perfect machine; £17.

MOTOSACOCHE, 1910, free engine, just home from makers, as new; £25.

F.N. Lightweight, 1910, 2-speed, very little used; £35.

TOTTENHAM—128, High Rd. Phone 1982 (Foot of Stamford Hill.)

THE MOTOR CYCLE

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The A.C.U. and Provincial Clubs.

THE old bone of contention between the Auto Cycle Union and provincial clubs with regard to the control of the pastime is being wrangled over once more. Some few years ago the Union—then the A.C.C.—was subjected to the same trials and tribulations as it will apparently have to face again in the immediate future, with what result time alone will show. The result of the last uprising on the part of local organisations resulted in certain alterations in the rules and regulations, principal among which were the perambulating council meetings, formation of provincial centres, and the alteration of the title of the Auto Cycle Club to that of the Auto Cycle Union. In response to the requests of local centres, the quarterly trials courses were altered to enable local riders who resided many miles from the London area to participate in these events without being compelled to ride long distances to and from the venue. Despite such concessions and ameliorations, the local support of the trials has been somewhat meagre and disappointing, and without the trade entrants, who do not apparently mind, within limits, where the trials take place, the contests would have been somewhat of a failure. This points to the fact that, despite the alterations which have been made, those who were keenest in advocating the changes have not shown the same strong desire to take part in events specially arranged to suit their convenience. There are exceptions, but the general support which was promised if the venues were changed has been poor on the whole.

The chief causes of the present trouble are refusal by the A.C.U. to grant permits to provincial organisations to hold open trials on the lines of those already

promoted by the governing body; the suspension by the A.C.U. of riders who compete in open events, such as hill-climbs, without a licence, and for which no permit has been obtained; the alleged trade influence on the executive of the A.C.U. being detrimental to the pastime; and the allegation that a goodly proportion of the acting executive are not habitual users of a motor cycle.

Open revolution has not been established, but threats have been made that provincial bodies are determined to form another organisation and to ignore the A.C.U. unless their present demands are met. Now, we hold no brief for either party. We exist for the purpose of improving the motor cyclist's lot in every possible manner that lies in our power and in a legitimate way. Therefore we recommend arbitration as opposed to open warfare. Let those who have grievances meet the A.C.U. executive and discuss their differences in an amicable spirit. Nothing will be gained by the formation of opposing organisations, because the time-worn phrase, "Union is strength," will yet be found the best policy. Those who are so anxious to form an opposing body or bodies will find if they ever get into swing that running big open events and the general conduct of trials cannot be successfully undertaken without funds. A very large proportion—we might say nearly all—of the A.C.U. executive work is done gratuitously. Will a new body be able to secure more honorary labour than the present one? We doubt it. Mistakes have been made, and further errors will occur, but are those who are desirous of throwing off the yoke certain that they can do better? A multiplicity of organisations would prove as dangerous as it has already proved a menace in other directions.

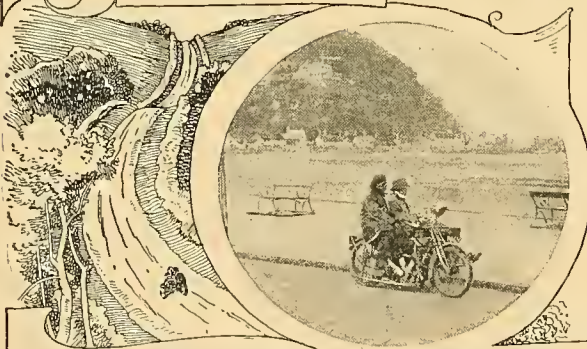
A RECORD HILL-CLIMBING EXPEDITION.



UP PORLOCK;
LYNTON, COUNTISBURY,
CHEDDAR GORGE, BIRDLIP
& FARLOW BANK
ON A
SIDE CAR.



In Cheddar Gorge.



On the sea front
Minehead.

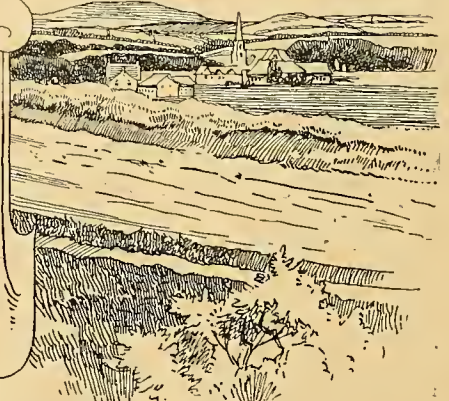


Climbin' Countisbury.



Sydney
R. Jones

At the top of Countisbury.
Observe the narrow road.



IT was during the Six Days' Trials in Yorkshire that Frank Smith unfolded an ambitious scheme he had in mind of climbing all the Devonshire hills of repute, and thus be the first to make a clean ascent of Porlock, Lynton, and Barbrook on a motor cycle and sidecar. Would I accompany him on his Clyno sidecar, observe and duly chronicle the performances? The opportunity of a trip in Devonshire does not come my way very often, so my answer was short and wholehearted. It so happened that we could not fit in a week-end, owing to previous engagements, until October, and at each delay I pointed out the improbability of success should the roads be covered with winter mud. Of course, Frank Smith should have been in the better position to know, as his stoppage on Porlock in the M.C.C. Trial last August was due to the driving wheel spinning round on the wet roads with the sidecar at a standstill.

It was raining, literally pouring, as I trained for Wolverhampton, on Friday, October 20th, where we had arranged to meet. Here I also found Roy Walker, to whom I had tentatively suggested only the day before that he might accompany us on one of the new model $3\frac{1}{2}$ h.p. three-speed New Hudsons. Surely never was a tour commenced under such dismal conditions. We headed for the nearest point on the Quarterly Trials course, our intention being to include Farlow Bank on the first day's run to Bristol. A few miles out of Wolverhampton we were obliged to stop and don oilskins, and how I inwardly blessed the thoughtful individual who put a storm apron on the sidecar for me. The country side was wrapped in mist and fog, but the machines ploughed through the seas of water. I was undoubtedly the most comfortable of the trio, ensconced in the luxuriously upholstered coachbuilt sidecar, which is suspended at the front on a laminated spring placed transversely, and at

A Record Hill-climbing Expedition.—

the rear on cee springs. Soon the weather conditions improved, the sun peeped from behind the clouds, and we noticed, as Walker sped past us on a hill, that he smiled for the first time that day.

Farlow Bank was in a very different state from what it was on the day of the Quarterly Trials. The soft black soil had apparently been washed away, and the surface was now strewn with small loose granite. We had arranged to take Farlow Bank on the run with hot engines, and I fancied it was going to be a tough test, but writing this subsequent to our further truly exciting adventures in Devonshire, one cannot go into raptures with any exhibition on Farlow, as the Bank cannot be compared with Porlock, for instance. The corner is bad enough, though much easier for a sidecar than a solo motor bicycle, but Frank Smith's four-speed Clyno simply toyed with the gradient on its low gears of $8\frac{1}{2}$ and $14\frac{1}{2}$ to 1. Dropping down the hill again to the corner, we turned the sidecar round and restarted from a standstill, gathering speed practically all the way. Roy Walker had never seen Farlow, and as I glanced from the sidecar I saw him and his machine at a standstill twenty yards above the bend. After a little practice on the corner he made several sure climbs on the lowest ratio of his Armstrong gear. We found a nail and a thorn in the sidecar tyre, and after repairs we continued over the Cleve Hills, making good progress to Worcester and Tewkesbury. The ride was becoming most enjoyable; we passed through richly-wooded avenues, the rain-soaked leaves of a wonderful variety of tints looked most beautiful in the sunlight. A mile out of Tewkesbury our party was reduced, for we came upon Walker looking very disconsolate as he held out his hand "good-bye." He was the victim of a most unusual accident. A spare belt on the luggage carrier had by some means shaken loose, and one end of it had dangled into the rear wheel and ripped every spoke out of one side of the wheel in addition to shearing off the rear hub flange. This experience should act as a warning to other motor cyclists to fasten belts, or any other spare for that matter, securely to the carrier.

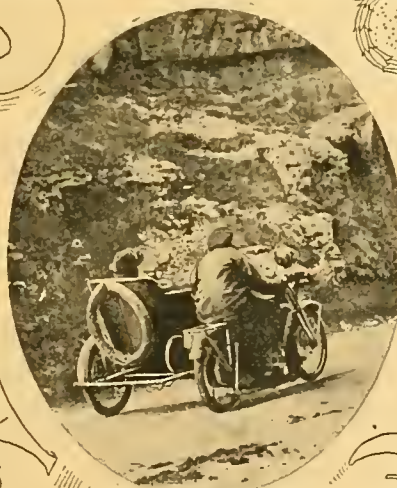
Darkness and Rain.

We took tea at the New Inn, Gloucester, filled our tank, and set out into the inky darkness for Bristol.

For miles we hummed along merrily on the $3\frac{1}{2}$ to 1 top gear, a couple of F.R.S. lamps throwing a fine light well ahead, though one for some unaccountable reason went out regularly every ten miles or so. We could only think it due to the lamp being so much below the level of the generator. We had not done with the rain yet, and once again we had recourse to double waterproofing. We were covering ground rapidly and silently, but to our surprise when nearing Bristol the engine suddenly released itself, roaring round in the free position. What's wrong? we asked each other simultaneously, and found that the gear had come out of engagement, nor would it stay in for any length of time.

On the four-speed Clyno which Frank Smith has used in all the important trials this year, there is a pair of gears, that is, each two speed is independent of the other. The standard gear is embodied in a shell of the counter-shaft, and one or other of the gears is engaged by a rocking pedal which actuates

expanding rings. On the left-hand side of the machine is the auxiliary gear, composed of double chains and sprockets from the engine to the counter-shaft; a dog clutch slides on a square of the shaft, and so locks the smaller or larger chain wheel to the counter-shaft. Thus four gears are obtained, all having a direct drive, and any special ratio or ratios of gear may be employed. This auxiliary gear has done extremely severe work in the Scottish and other trials, and the corners of the dogs had got worn, and that was why



(1) The 1912 model four-speed Clyno with "Dreadnought" coachbuilt sidecar.
(2) Climbing Cheddar Gorge.

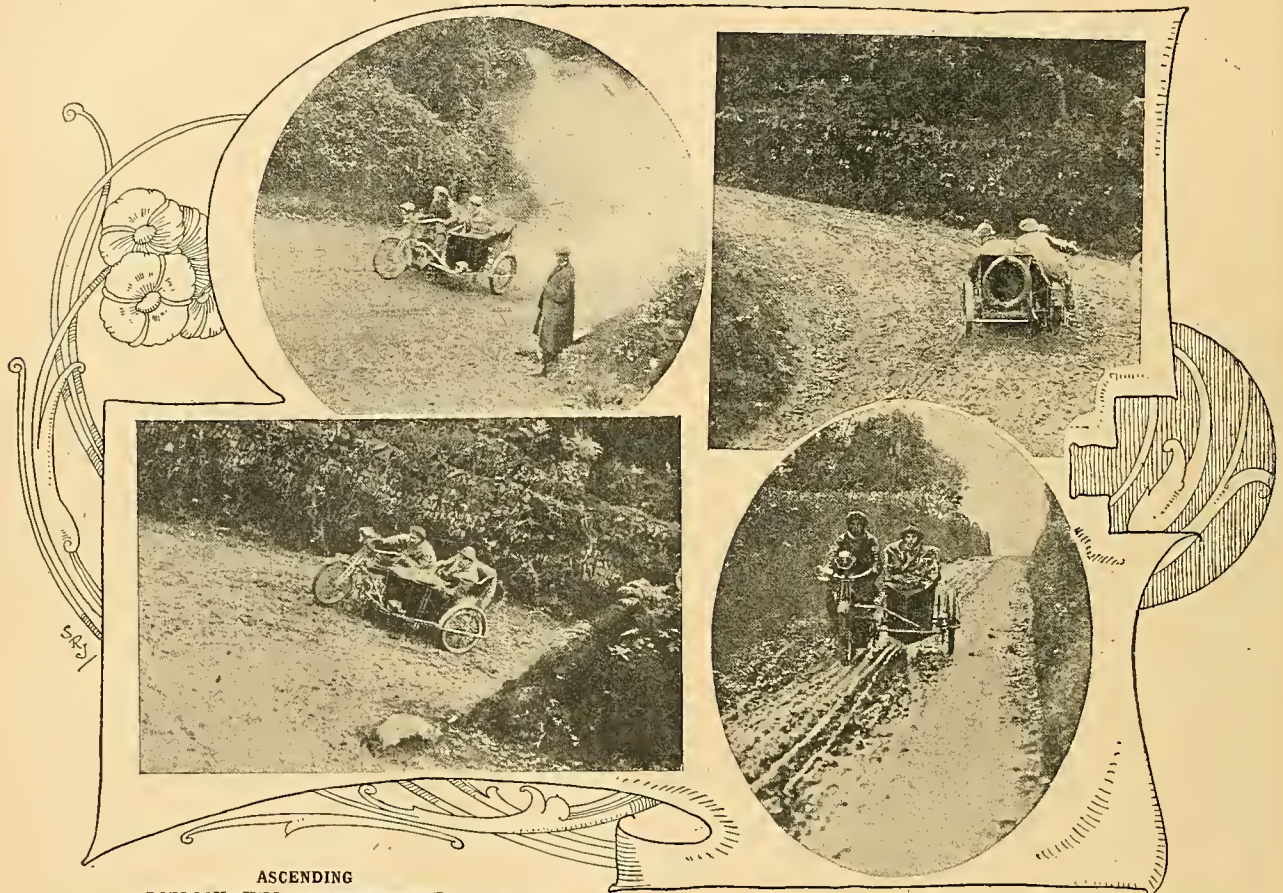
they came out of engagement. The only thing to do was to hold the top speed in by hand. But even steering with one hand in grease is not dangerous with a rigid sidecar; probably there is no safer vehicle on the road. The miles of Bristol tramlines gave us every opportunity of testing the stability of the Clyno.

A Record Hill-climbing Expedition.—

At the Queen's Hotel we were joined by our photographer, F. H. Roper, who had ridden down from town on his two-speed Premier. Our day's mileage on the sidecar was 125.

The next day broke fine, but soon the rain came down with renewed vigour. I had arranged to spend the morning examining the new model Douglas motor cycles at the Kingswood Works.

foot of the Gorge, and then approached the S corner at legal limit speed, changing down on the steep gradient between towering cliffs, and accelerated again in fine style all the way to the summit, never a knock issuing from the engine from start to finish. A notable point in connection with the climbing of the Clyno is its silence. No cut-out is used, or indeed necessary. Separate silencers are fitted, and a long pipe joining the two extends to the rear axle, and the result is a



ASCENDING
PORLOCK HILL, SOMERSETSHIRE.

Which is considered to be the worst main road hill in the country. (1) At the first bend. (2 and 3) The second bend to the left. (4) Descending Countisbury. Observe the winter coating of thick mud.

Westward Ho!

Somehow we missed the way out of Bristol via Clifton, finding ourselves on marsh land, with huge pools of water, into one of which our engine dipped. Eventually we joined the Bedminster Road, and, free-wheeling down Red Hill in the treacherous grease, entered Langford just in time to see Roper perform a magnificent pirouette, finally sitting down with his machine on top of him. Straightening out footrests and pedals occupied some little time, so, as it was impossible to reach Porlock that evening as we had intended, we decided to branch off to the left for Cheddar and climb the gorge, leaving Porlock for the morrow. The gear trouble was still existent, and to relieve his hand, our driver dropped down to the lower gears, but the engine did not seem to mind it in the slightest. As an instance, we made a non-stop run from Langford to the summit of the Mendips, using the third and fourth speeds for six miles to the

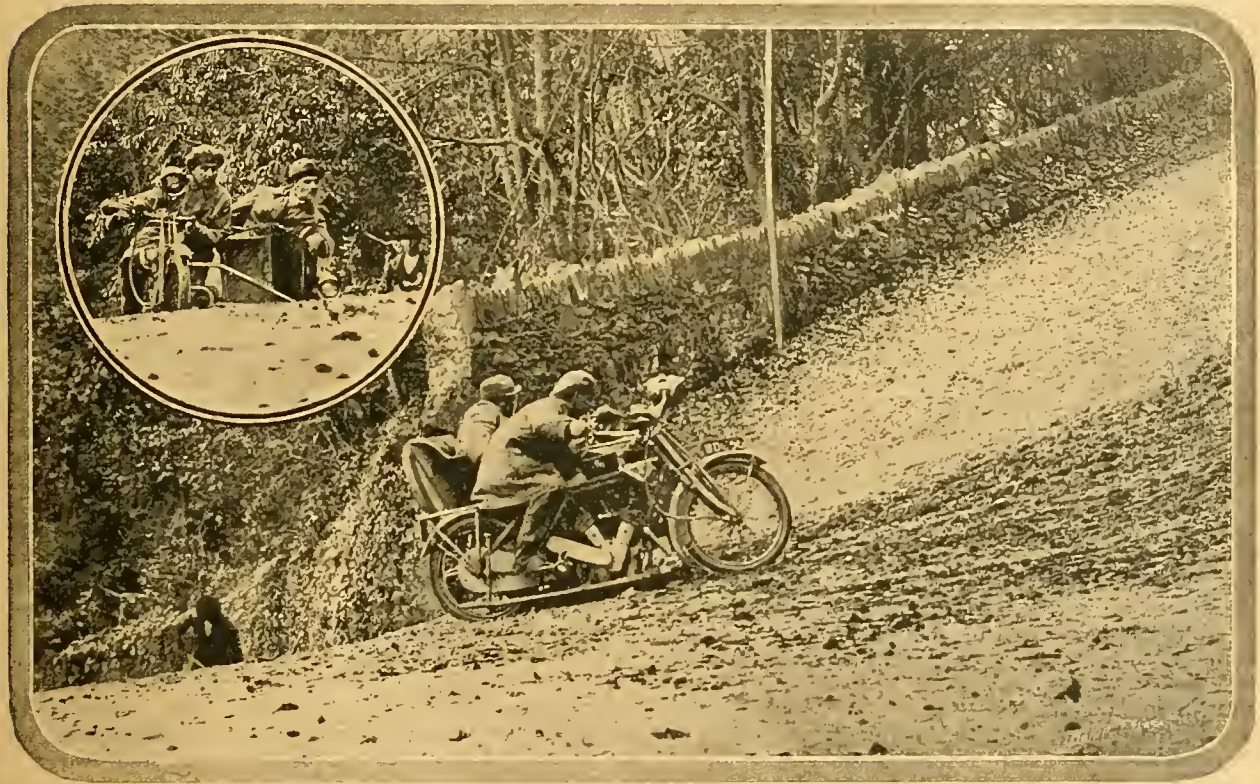
most effective silencing arrangement. Dropping down the Gorge in the gathering gloom, we lit lamps in Cheddar, and winding through Axbridge, pointed for Bridgwater. Next morning we enlisted the services of T. Hamlin and Co. to grind squares on the clutch dogs, and that firm made a quick and excellent repair, and we were on our way again at noon. Crossing the bridge and passing the statue of Robert Blake on our left, we lost no time in reaching Minehead, noticing on our way a signpost to Spaxton and the infamous Agapemone. The occasional glimpses of the Bristol Channel were a foretaste of what we were to see in Devon. Of course it rained at intervals, and it was much too misty to discern the Welsh coastline as we did on the return run, the Bristol Channel at this point being only about twelve miles across.

At Minehead we deemed it advisable to lighten our cargo as much as possible, as we were nearing our objective—Porlock—so we relieved the heavy coach-

A Record Hill-climbing Expedition.—

built sidecar of our baggage. The road to Porlock is narrow and tortuous, and we had perforce to make slow progress. In the village we waited for the photographer to take up his position at the bend. The villagers smiled very knowingly as they ascertained our plans. The news spread quickly, and there were nearly fifty who witnessed our dash heavenwards. A couple of charges of oil, a dig at the kick starter, and with a hint from the driver to be ready to put all my weight on the driving wheel, we commenced the long climb. Let me whisper it—I had heard so much of the impossibility of climbing the hill in winter that I had folded up the sidecar apron and left the door undone ready to do a mighty spring

out of the seats. I hardly dare glance upward, for it seemed to me that there was a danger of the machine toppling over backwards. Every tube of the frame was being strained to the uttermost. We swung bodily from one side of the road to the other; occasionally the machine refused to answer to the direction the front wheel pointed, and we found ourselves slithering along the ditch. What a long hill it seemed! Smith yelled out instructions excitedly as occasionally the back wheel spun round in the thick red mud, hurling a shower of mud and stones down the hill. We had to be quick to act or the machine would have stopped. Now came the second bend to the left, probably on steeper gradient than the first, and certainly of worse surface. Skidding round, we put our combined



LYNTON HILL, LYNMOUTH. The gradient at this hairpin bend is approximately 1 in 4, the hill averaging 1 in 6 for half a mile. Inset, a view of the Clyno approaching the corner.

should the machine commence to run backwards. The Contour Road Book describes this road as the worst in the South of England. The surface is like a river bed. The first stretch is comparatively easy, but by the time the hairpin corner to the right is reached, the gradient is appalling. Frank Smith took the corner close in to avoid the deep mud and ruts churned up by the wheel skids of the carts, but the gradient is much steeper at this point, and I confess to a feeling of fright as the front wheel rose up to a level with my eyes. The back wheel commenced to slip; we were coming to a standstill. "Lean over," yelled the driver, as he stood on the pedal to hold the $1\frac{1}{2}$ to 1 gear in engagement, what time the engine roared round belching clouds of smoke. Keeping the front wheel as best he could in the rain-washed ruts, we progressed upwards, the rough surface bumping us

weights on the back wheel. The machine lurched forward as the wheel gripped for a moment or two, only to slither suddenly to the left. The sidecar wheel mounted the banking, and with the bicycle wheels in a deep rut, we felt the engine bump the ground. But the worst part was nearly over, the gradient eased to 1 in 5 or 6, the engine was still doing its best, and as we once more resumed our ordinary attitudes we felt that our object was achieved. Another mile of constant climbing, rendered more difficult by a gale which blew in our teeth, and we were at the top of Exmoor, 1,378 feet above sea level. Immediately the rain came down in torrents and we had to grin and bear it until the photographer came along the new 6d. toll road which avoids the dreaded ascent of Porlock. We had done as much damage to the driving tyre as if we had used it 1,000 miles. A

A Record Hill-climbing Expedition.—

new $2\frac{1}{2}$ in. Palmer rubber-studded cover was fitted for the trip. It was perfect at the foot of Porlock, but at the top the centre row of studs had disappeared.

The Descent of Countisbury.

Continuing with the rolling hills of Exmoor on our left, we passed the county boundary into Glorious Devonshire, and after several miles of undulating roads, ever twisty, on the one side heather-grown moorland, on the other magnificent seascapes, we came to the summit of Countisbury, and now commenced a thousand feet drop to sea level. Occasionally we paused to admire the magnificent panorama of rugged coastline. The surface of Countisbury was surprisingly good, except near the foot under overhanging trees. Here it was just as bad as it could be. But how we enjoyed the scenery as we descended into Lynmouth! The sea was choppy and the waves dashed high as they lashed themselves into foam on the rocky beach. Using the engine as a brake, we had no difficulty in getting down, but the photographer was not so fortunate. He had broken his footrest, and so used his foot as an extra check. By the time he got to Lynmouth he had no heel on his boot and the sole was worn through, so his first duty was to seek a bootshop. There was time to attempt Lynton Hill before dark, and again, without troubling to inspect the hill, we started our upward flight, and in less than 100 yards struck the steepest and worst corner I have ever seen. It so happens that there is room to swing out, but inside the corner the gradient must be 1 in 2. Lynton proved almost as difficult as Porlock, and we had to adopt the same tactics to get up. The mud here is of a different consistency—white chalky slime, difficult to walk upon; consequently we had still more difficulty in securing a grip for the back wheel, and to make matters worse the machine would go its own way. It was only possible to steer a fairly straight course with the handle-bars pointing sharp to the right. In my acrobatic position, holding all my weight on the carrier, I could smell burning rubber as the wheel spun round on the greasy surface nearly all the way up. Once to ease the strain on my arms I released some of my weight. "We're stopping," the driver yelled out, and I immediately applied all I knew to the carrier, the effect of which was to cause the front wheel to jump a foot in the air, so I am told. When at length we had conquered the half-mile of 1 in 6 (to avoid which there is a lift for cars costing one guinea), the driver's legs were stiff and ached through standing on the gear pedal. *There was not a single stud left on the tyre*, which knocked on the head all idea of attempting Barbrook Mill Hill. Descending the hill at a crawl was almost as exciting as the ascent, for occasionally the squeaking brakes would bring the wheels to a standstill, and the whole machine would slide bodily forward with the wheels locked. That night we spent comfortably at the Lyndale Hotel, the rushing waters of the Lyn under our bedroom windows acting as a lullaby.

Lynmouth is in a dip, and to get out there is Lynton or Countisbury Hills to climb. The latter was to be our last ascent of note, and after 250 yards of severe gradient, our slithering and acrobatic performances on the rear wheel being repeated, the Clyno took the middle gears without complaint, and the rest was plain sailing. The road is very narrow,

and near the top high banks obscure the view of approaching traffic. We nearly collided with a tourist from Uxbridge with a Triumph and sidecar, who was on his wrong side, but we freely forgave him, for we all stopped and had a most interesting chat. We enquired how they got out of Lynmouth on a single-gear sidecar, and learned that there was a roundabout way *via* the Doone Valley.

At Minehead we picked up our baggage, but were constantly delayed by grooms exercising stag hunters and polo ponies on the road. We resolved to miss lunch. Through Bridgwater to Cheddar the going was without incident—we decided to include the Mendip Hills a second time—but at the foot of the gorge the back tyre deflated, which delayed us half an hour. This time we climbed the S corner on the second speed. A weak place in the joint of the back tube caused another halt, and it was dark when we drove into Bristol, so our chances of reaching Coventry *via* Birdlip—109 miles—were becoming remote. We sped silently through the darkness to Gloucester, on three occasions having to apply brakes suddenly—once for a timber lorry which had a great tree trunk projecting rearwards for a dozen yards, another time for a traction engine and trailer without a rear light, and lastly for a patch of unrolled stones without a warning light. It came on to rain again—real rain this time, which made our faces smart—so we elected to put up at the Bell, Gloucester.

Birdlip Climbed in Pouring Rain.

Rising early next morning, we learned that it had been raining all night, and how relieved I was to think that the good Clyno was indifferent to tramlines or grease, and that the luxurious boat-shaped sidecar with its storm apron was practically waterproof. Getting on to the Cirencester road, we took Birdlip on the run, the rain pelting down ceaselessly. It will afford some idea for comparison with the Devonshire hills when I say that on Birdlip as well as Farlow there was no difficulty in the driving wheel securing sufficient adhesion. Frank Smith changed gear quite ordinarily, and I sat comfortably in the sidecar as if we were on level ground. Between the corner and the last section of 1 in 6 the Jones speedometer showed 20 m.p.h. Descending Leckhampton, we ascended Cleeve Hill, Cheltenham, on the two top gears—a sure sign that the engine had lost none of its power. It stopped raining hereabouts. Nearing Evesham the front tube also developed a weak spot, but this was our only involuntary stop during the seventy-five miles run to the City of the Three Spires, where we arrived at midday. Before parting, we weighed the combination with passengers, and it proved to be 7 cwt. 3 qrs. One must allow several pounds of this for the excellent chain guards, upon which the mud of seven counties was piled in thick layers. But what an achievement for a 76×82 mm. twin! A $14\frac{1}{2}$ to 1 gear is certainly low, but how many air-cooled engines would take such a gear? As for the engine, nothing could have given more satisfaction. If any air-cooled engine is proof against overheating, it is the low compression Clyno. We never saw a plug or had occasion to remove the valve covers, and I noticed particularly the cleanliness of the crank case, despite the many miles of gruelling low gear work.

GEOFFREY SMITH.

Occasional Comments

By "Izion"


Rear Springing.

It is a little discouraging to see that in their concentration upon other items of admitted importance the trade is neglecting the question of rear springing. I believe efficient rear springing to be vital to a large trade overseas; this belief is not founded upon any personal fads of my own, but upon the unanimous testimony of a large foreign correspondence. Letter after letter clamours for insulation from rear road wheel shocks. Moreover, an unsuspectedly large proportion of the home riders insist on the same point.

Last week I received several letters from counties credited with quite decent roads, all pressing this same demand. So long as motor cycles were used only for pleasure touring, they did their work on our excellent main roads, and the back wheel slithered fairly evenly over well rolled macadam. But to-day motor cycles are being used for business purposes by all and sundry; herein lies the strength of the demand and the promise of the boom. Some commercial users are long-distance men, and are able, like the tourists, to confine their journeys to main roads; but the majority are compelled to travel along very indifferent byroads, and they all ask for rear springing.

Letters last week from such towns as Carlisle, Torquay, Newbury, Durham, Brecon, and Buxton all enquired whether I knew of any 1912 machine which would be distinctly better sprung than the 1911 standards. I should say all these places were lucky in their roads; but quite youthful commercial riders, after twelve months' riding with a rigid rear frame, make loud complaints. The matter is much more urgent from the standpoint of the overseas trade. Great Britain is the only country producing motor cycles in large quantities and ignoring the point. The last issue of an American journal devotes nearly five pages to drawings and descriptions of an insulated and sprung saddle. The saddle is carried on a tube hinged to a frame clip on the top rail of the frame in front, and working against double springs in the saddle pillar tube behind.

A German firm which makes a speciality of export orders, and has beaten home makers in some British dependencies, has a completely sprung rear frame, and so on. Old England must wake up. First-class workmanship, efficient engines, and reliable gears are well enough, but their excellence makes our callous neglect of staring gaps in our specifications all the less pardonable.

The Springing of Runabouts.

Several overseas correspondents enquire whether the average quadcar is better sprung than the average bicycle. The question is unanswerable in this broad form. Probably the average runabout is less comfortable on bad roads than a good bicycle, especially if it be a three-track vehicle. It is an awkward problem to devise proper springing for the rear wheel of a

tricar—so awkward that I question whether it has ever been solved yet.

The great problem of quadcar design is to keep down the price, so as to avoid competition with the small car, new or second-hand, and this is likely to prevent efficient solution of such a problem as springing, which in a country of good roads like England is frankly regarded as a secondary problem. Moreover, the design of these light passenger vehicles is far from stereotyped at present, and it is impossible to treat of them in general terms. On the whole, few of the present models are as comfortable as a good motor bicycle on any roads.

Farlow Bank.

The wiseacres criticise the A.C.U. for including this freak ascent in a Quarterly Trial. Surely motor cycles are sufficiently established nowadays to stand a little frank criticism. We all know that standard machines are tolerably helpless when faced by such freak ascents; and the go-anywhere business rider is often confronted by miniature Farlows.

If crack experts cannot coax the modern machine up Farlow, the daily traveller along by-roads is certain to meet with many exasperating failures on much less formidable hills, especially in certain districts, among which I may mention the whole of Wales, Scotland, Devon, Cornwall, and Durham.

The sooner the standard types are developed until they are fearless of such hills the better; and the A.C.U. is performing a real public service in continually reminding the trade of the fact that finality is not yet reached. I have spent two days this summer looking for freak hills, with parties of ordinary amateur riders on standard machines. One day our search failed; the worst climb we unearthed was a plain straightforward ascent, including no really bad gradient, yet only seven men out of twenty-six made clean ascents at the first time of asking; at a second attempt, with reduced gears, twenty-one got up.

The other day provided a hill with no outrageous gradient at all; it was a very short ascent with bad surface and bad turns. On this occasion only the variably-gearied brigade were able to get up at all. The 6 to 1 ratios of the ordinary $3\frac{1}{2}$ h.p. adjustable pulleys were useless with timid and inexperienced riders up.

I myself rode this hill on five or six different makes of machine, and it was interesting to notice that the variably-gearied lightweights proved the easiest to handle on such a climb. Much greater effort, courage, and skill were required to make a safe ascent with a variably-gearied $3\frac{1}{2}$ h.p., or with a two-speeded 8 h.p. I suppose my wrists found it easier to steer a lightweight than a heavyweight, when the stones were jerking both wheels in every direction save that whither the strip of granite that posed as a road was tending. The real secret is that skill and intrepidity, or a variable gear with a very low bottom ratio, are required for these freak inclines.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Oil-tight Crank Cases.

[6001.]-I notice that "Ixion" finds difficulty in keeping the joints of his crank case oil-tight. Has he tried asbestos paper jointing? This will keep boiler mountings steam-tight against 200 lbs. per square inch pressure, though the mountings are not so very accurately surfaced, and the parts of the boiler against which they fit are often badly pitted. It is wonderful what a good fitter can accomplish with file and scraper, and the state of the surfaces of his crank case must be bad indeed if it is beyond the power of hand tools to make the joints oil-tight.

D. S. HOLMES.

A "Farlow Bank" in the Manchester District.

[6002.]-I wonder if any of the Manchester motor cyclists are aware of a Farlow Bank in their district, in fact, within twenty miles of the city.

It is called "Buxton Stoupe," and is situated between Bollington and Jenkyn Chapel near Buxton. The road is in fairly decent condition, and the hill commences with a hundred yards or so of 1 in 4 gradient, and has two very nasty corners which I expect causes most single-gear machines to "conk" out.

For the more ambitious riders the best route is to go by way of Whaley Bridge and Long Hill down to Goyt's Bridge, and over Pym Chair to Jenkyn Chapel, and straight on to Buxton House.

I have had two attempts at the hill, mounted on a 2½ h.p. two-speed Douglas, and at the first successfully climbed the hill, but failed at the second, due to the slippery state of the road surface.

GEORGE H. SHAW.

Will the Ultra-Lightweight Return?

[6003.]-In reading through my copy of *The Motor Cycle*, I notice that Mr. D. C. Bolton rides a 1 h.p. bicycle fitted with a J.A.P. engine, and as this seems to me to be a step in the right direction I take this opportunity to state why.

To the army of motor cyclists already existing there could be added a vast number who are most anxious to join in were it not that the price of an up to date machine is prohibitive, and as they are not "mechanically inclined" hesitate to purchase a second-hand machine for the reasons expressed by friends of my own—"I should not know where to look for mechanical faults." Surely such a machine as Mr. Bolton rode at Brooklands could be built to sell at just under £20. Any ordinary good make of heavy push bicycle should be capable of carrying it, and this can now be bought for from £6 to £8. Such a machine should be capable of maintaining an average speed of 12 m.p.h., and I feel positive that that speed would suit a great number. As regards upkeep this will be extremely low.

Let some enterprising maker of good repute come to the rescue with a very light machine (about 50 lbs. and of 1 h.p.) capable of averaging 12 m.p.h., and able to take the ordinary hills found on a give-and-take road with a small amount of pedal assistance. Let him advertise the fact, and I think that the result would be surprising.

I have in my mind at the time of writing the pleasant memory of a short run on a 1½ h.p. Clément-Garrard I once had, and the surprise I had at the manner in which it "romped" up a short stiff hill without being rushed at it. The reason, I presume, it was not taken up more largely by the class I mention was that the pastime had not claimed anything like the position that it holds to-day.

ALEC W. STANBROUGH.

Quality of Modern Tyres.

[6004.]-It certainly appears that some of your correspondents have been extremely unlucky with tyres, and I cannot help thinking that it is, to a certain extent, their own fault, for given fair play, any of the leading makes should give at least 3,000 miles before showing signs of giving in.

I am continually on the road with a 3½ h.p. Singer, and the tyre I have just taken off my back wheel, a Michelin Trident, ran 5,137 miles, and this in Dorset, Somerset, Cornwall, Devon, and the New Forest, over very bad roads, and in this mileage I only had seven punctures. I never failed to examine my covers after a long run, and possibly that, and the fact that all cuts and gashes were promptly attended to, explains my immunity from tyre trouble. I would add that my average speed is twenty miles per hour and weight of driver and luggage over fifteen stones.

A. G. MASON.

Stands as Nail Catchers.

[6005.]-In a recent long distance ride I fitted an ordinary steel burnisher to each cover. In running 2,000 miles I had only one puncture. The burnishers wore out in about this distance, and I did not bother fitting new ones. The consequence was that I had no less than five punctures in a fortnight. I decided to fit burnishers again, and am delighted to say that I have had no punctures since refitting, clearly proving that they are a good preventive.

I might say that I use a ribbed cover. I do not think it possible to use this type of nail catcher with studded covers, as the studs pull the burnishers all to pieces. The method of fitting is simply to drill two small holes through each side of the mudguard and let them hang on to the tyre. They can be secured by ordinary copper wire.

H. V. SWIFT.



THE FASCINATION OF SIDECARING.

Miss Daisy Jerome, the celebrated music hall artiste. Whilst at Bath recently, Miss Jerome tried Eric Longden's 8 h.p. Dot and sidecar, and was so delighted with her experience that she sent her 40 h.n. car to London, empty, in order to have a longer run on the sidecar.

Cold Vulcanising.

[6006.]-"Retread" in his letter [5968] draws attention to a matter which must often puzzle motor cyclists who have tyres retreaded. Cold vulcanising is a definite process, and not another name for solutioning. Within certain limits it is quite successful. As "Retread" has found out, it is not successful on all makes of tyres. I have seen some tyres retreaded by this process in which the new tread came away entirely from the tyre inside 500 miles. On the other hand, I have had retreads adhere perfectly until they were completely worn through and still show no sign of leaving the tyre at the sides or tread up to the time the tyre itself was completely worn out.

One great advantage of retreading is that the band seems to possess at least double the wearing qualities of the original rubber, and also resists puncturing material to a marked degree. Generally speaking, retreads adhere best to tyres of which the rubber is of a soft nature. It naturally follows that retreads cannot be expected to adhere perfectly to perished or hardened tyres. HAROLD KARSLAKE.

A Magneto Experience.

[6007.]-I have just experienced a peculiar case of magneto trouble. Upon approaching a hill I opened the throttle and air sufficiently to take the hill. The engine would pull very feebly, but suddenly, without touching anything, would commence to pull well, and would knock the speedometer up 10 m.p.h. I naturally put this down to a dirty carburetter, but upon taking it down I found it to be perfectly clean. I then tried new valve springs, different plugs, new needle valve, and even after having the engine down there was no improvement. I eventually traced the trouble to the fibre block on the bell crank lever of the contact breaker being loose.

At times it would slip out of place and open the points about double the distance they should be; then it would suddenly slip into place, allow the points to open the correct width, and in this way allow the engine to pull with its usual vim.

As this is the first case of the kind I have heard of, I thought perhaps it would interest your readers.

ARTHUR H. MOYLE.

Formulae for Hill-climbs.

[6008.]-With further reference to the much-debated question of a suitable formula for figure of merit in hill-climbs, it is acknowledged generally that the A.C.U. formula does not give time sufficient value. The time factor is somewhere between T and T^2 .

$\frac{CT^2}{W}$ appears to give a more satisfactory result than $\frac{CT}{W}$ but, in the opinion of many, it gives fast time more than its share. The following formula has been devised, taking into account the several factors and their relative values of weight lifting, road resistance, and air resistance:

$$\text{Figure of merit} = \frac{CT}{W} \left(\frac{T^2}{T^2 + K} \right), \text{ or } \frac{C}{W} \left(\frac{T^3}{T^2 + K} \right)$$

K is a constant to be worked out for each hill, and has the following value:

$$K = \frac{d^2 s}{750(s+30)}$$

d = distance or length of course in yards

s = average length for use of 1; that is, if gradient is 1 in 12, $s = 12$.

As an example: $d = 1,100$, $s = 12$. then

$$K = \frac{1,100 \times 1,100 \times 12}{750 \times 42} = 461.$$

Figure of merit for this hill

$$= \frac{CT}{W} \left(\frac{T^2}{T^2 + 461} \right) \text{ or } \frac{C}{W} \left(\frac{T^3}{T^2 + 461} \right)$$

Many pocket books give tables of squares and cubes of numbers up to 1,000, which may be utilised to simplify calculation. Thus, suppose time in seconds is 46.4, that is 46.8. From tables, square of 46.8 = 2190.24, therefore square of 46.8 = 2190. cube of 46.8 = 102503.232, therefore cube of 46.8 = 102503. The odd fractions may be neglected, as they would not appreciably affect the result.

With regard to all types of multi cylinder engines, they should compete on equal terms with single cylinders, that is, on the basis of total capacity. J.W.

Motor Cycles Booming in Ceylon.

[6009.]-The boom in England is being reflected in Ceylon, where motor cycles are at a premium at present owing to the long time taken to deliver. Standard home machines seem to suit this country and climate very well. The roads are not quite good enough for sidecars, though they are not very bad. I have not heard of any trouble being experienced with modern machines, and I am of opinion that a great deal of the talk about colonial models is bunkum.

This, by the way, is the second motor cycle boom in Ceylon. The first took place in 1904, when there were 122 motor cycles in the island. After that motor cycling dropped off altogether, and did not resuscitate till 1910. The motor cycle is in growing use by European members of the staffs of the large mercantile houses in Colombo who ride to their offices on them daily from the suburbs.



Ceylon motor cyclists about to start for the office in Colombo. The machines are a Bradbury, Premier, Indian, and Douglas.

Enclosed is a photograph of four motor cyclists, who live together in a bungalow at the seaside, just about to start for the office in the morning.

Colombo.

P. JONES.

Twin Engines and Sooted Plugs.

[6010.]-I have had the same trouble with a well-known 5 h.p. sidecar machine. Two months ago I fitted a large silencer and long exhaust pipe to make the machine quieter, and since then I have never had the plugs out. No other alteration has been made, so that I attribute the improvement to the gases not being confined in the cylinder and having more chance to clear the exhaust. My plugs are situated in bad positions, viz., on the side of the piston top. Has any other rider tried this dodge?

WORKING MAN.

[6011.]-I was much interested in "Would-be Twin's" letter in your issue of the 19th ult. re unequal lubrication and the fouling of plugs of twin-cylinder engines, having experienced the same trouble myself. At pottering speeds under average conditions the lubrication was apparently satisfactory, but if a good speed was maintained for some distance and everything thoroughly warmed up, the amount of oil required to ensure the front cylinder getting sufficient was always enough to make the back cylinder dirty and probably foul the plug. I tried several makes of plugs which were advertised not to foul, but I regret to say that none of them made any attempt to keep up their reputations. My plugs are in the position recommended in your editorial note, viz., on top and in the centre of the combustion head. As the machine was in all other respects very satisfactory, I determined to try and improve this unequal lubrication.

My first step was to remove entirely the baffles under the front cylinder and still further baffle the back one. This improved matters slightly, but still the back cylinder was getting too much. The next move was to drill the wall of the front cylinder and fit a union piece to take a branch

from the main oil pipe, which pipe, I may say, feeds as usual into the crank case in front of the front cylinder. This oil hole in the cylinder wall was so arranged that, with the piston at the bottom of the stroke, it came opposite the bottom ring of the three and was, of course, uncovered when the piston was at the top of the stroke. This improved matters considerably, and I have since then taken off the bottom ring so that the groove acts as an oil receiver and distributes it round the piston. Further, I have reduced the hole in the crank case pipe union to $\frac{1}{16}$ in. so that a large proportion of the charge is sent *via* the front cylinder into the crank case, and the lubrication is now about equal in both cylinders. It is some time now since I had a fouled plug, and I examined the plugs after a recent 300 miles week-end run and found both perfectly dry and clean.

I have often compared notes with other riders of twins on this subject, and, although in many cases their report is fairly satisfactory, a great number have trouble with the back cylinder. Strangely enough, some of them seem to get their surplus of oil into the front cylinder. This lubrication question is undoubtedly one which deserves and will receive greater attention, and no doubt before long "Would-be Twin" will need to have no fear to renew acquaintance with the delightful twin. N.F.

Wanted, a Motor Cycle for British East Africa.

[6012.]—I have had a letter from a client in British East Africa asking me to send out to him catalogues of motor cycles, trailers and sidecars which I think would be suitable for such work as native paths and station roads, etc.

My impression is that any of the standard makes of machines would be suitable with practically no alterations. Climatic conditions are not so very unlike those in England, so that carburation troubles from this cause are improbable, while tyre troubles would be no worse than in India; but clearance and general strength is important.

As it is likely that some makers may specialise in this class of work, I should be much obliged if any makers interested would send me their catalogues, with prices and particulars of their colonial and other models, so that I may study them and report. I should be very glad if you, sir, could find a corner in your paper for this query.

O. PAUL MÖNCKTON.

Analysis of Carbon Deposit.

[6013.]—Having occasion to remove the carbon from the inside of the piston of a $2\frac{3}{4}$ h.p. motor cycle engine I thought of collecting same when I, unfortunately, had thrown it nearly all away. Having, however, managed to get together about $1\frac{1}{2}$ grammes, I proceeded (as far as a small amount would allow) to determine the chemical composition of the ash, after ignition of the carbonaceous residue. The result is shown below; while the first two items of carbon and ash may be taken as accurate, the small amount of ash (.23 gramme) at disposal makes the quantities of matter present a little difficult to determine other than approximate.

While examining the ash I noticed the presence of metallic particles, which may possibly account for the disappearance of small pieces of piston ring, which has puzzled some of your readers.

ANALYSIS OF CARBON.—Dried at 100° C. Volatile oils and fixed carbon, 84.7%; residual ash, 15.3%. Composition of ash: Silica 2%; iron, 9%; copper, 0.3%; zinc, 0.2%; magnesia, 0.5%.

AO 302.

[There appears to be an omission in the figures giving the composition of the ash.—Ed.]

Variable Gears for Motor Cycles.

[6014.]—Your contributor "Auriga" who is writing articles on the above subject has omitted an advantage possessed by hub gears, epicyclic or otherwise, with direct belt drive, namely, that the ratio of gear between engine and belt rim can be easily and quickly altered by means of the adjustable pulley.

I should say ninety per cent. of motor cyclists using sidecars do a good deal of solo riding on the same machine, in which case it is desirable to be able to alter the top gear from, say, $5\frac{1}{2}$ to 1 for sidecar use to $4\frac{1}{4}$ to 1 for solo work, with as little trouble as possible. This is a lengthy

and dirty job in the case of counter-shaft gears with chain drive, necessitating in some instances the dismantling of the counter-shaft. The substitution of a pair of sprockets and altering the length of engine chain is the work required to be done even where the final drive is by belt, as from published data it would seem all the combined chain and belt machines have a fixed belt pulley. I presume we shall have to wait patiently until the end of next year when makers will be putting forward adjustable counter-shaft belt pulleys as a 1913 improvement!

The usual disclaimer must be added. H. M. STICH.

[The undoubted advantage mentioned by Mr. H. M. Stich is one which is inherent in the V belt drive, and does not in any way concern the variable gear (properly so called), for it applies equally to a fixed geared machine: hence it was not included.—Ed.]

Cost of Running a $3\frac{1}{2}$ h.p. Motor Cycle.

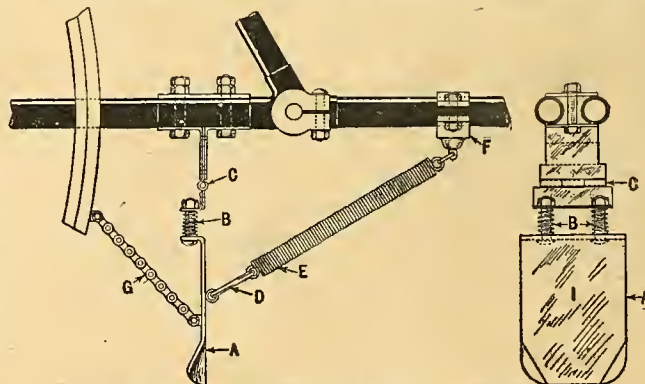
[6015.]—I am thinking of buying a $3\frac{1}{2}$ h.p. single-cylinder motor cycle. Could any of your readers give me the average running cost per mile, including everything?

H.M.

[Although "H.M.'s" query could be answered by references to back numbers of *The Motor Cycle*, many prospective buyers would, no doubt, prefer recent experiences, and we shall, therefore, be glad to publish a few readers' replies to the query.—Ed.]

A Stone Remover and Tyre Protector.

[6016.]—I enclose particulars and drawing of a stone remover and tyre protector which was made and fitted to my Douglas last April, and which has been in use ever since. The machine has done about 5,000 miles, and tyre troubles, so far as the back wheel is concerned, have been non-existent. I use my machine chiefly for business purposes throughout the Midlands, and especially in the colliery districts, where the by-roads and lanes are none too good, and prior to the



The Stone Remover referred to in accompanying letter.

A. Sheet steel protector. B. Springs. C. Hinged plate. D. Swivel hook. E. Coil spring in tension. F. Clips.

protector being fitted I was continually having trouble with my back tyres in the way of cuts and gashes. I am pleased to say that now these troubles are a thing of the past, and a Dunlop rubber-studded cover, which has been in use for over 2,000 miles, is entirely free from scratches or cuts of any kind, although during a recent fortnight's holiday in and around Berkshire I was repeatedly travelling over country roads and lanes which, in places, were plentifully bestrewn with loose flints.

When one meets roads such as I have alluded to it is a pleasure to hear the stone remover at work and to feel that one is practically immune from a serious cut in the back tyre of one's machine.

To prevent small punctures, I have for some considerable time used Firmax, so that with this inside and the stone remover outside, I take my journeys feeling that I am more or less free of the puncture fiend at any rate. Personally, I should be very sorry to take a lengthy journey without the protector, as besides doing what is already claimed for it above, it also has the merit of keeping a good deal of mud away from the back wheel and adjacent parts.

E. J. JEWELL.

Herts County Speed Trials.

[6017].—On page 1123 of your last issue there is a paragraph to the effect that, on the occasion of the recent speed trials promoted by the Herts County A.C. at Luton, the A.C.U. was severely criticised owing to Mr. W. H. Bashall being disqualified for only having one brake fitted to his machine. I quite fail to understand why the A.C.U. should be criticised at all in this matter; the only connection it had with these trials was to grant the permit, and if the officials of the club choose, rightly or wrongly, to disqualify a competitor, it is no fault of the Auto Cycle Union.

F. STRAIGHT, Secretary.

A Plea from Colombo.

[6018].—May I be permitted to make use of your columns to suggest the advisability of your advertisers making a habit of inserting prices in their advertisements, the omission of which often necessitates the colonial rider writing to England for a catalogue and waiting possibly six weeks or more for its arrival. "Priceless" advertisements are constantly ignored by those in search of some accessory or other, while those makers who are more explicit get the order.

The pastime is distinctly on the boom here just now, and the local agents have got their deliveries booked up for some time to come.

Colombo, Ceylon.

L4.

**3,000 MILES IN THREE WEEKS.**

F. E. Pither, who has commenced an attempt to cover 3,000 miles on the road in three weeks on a $3\frac{1}{2}$ h.p. Rudge and Portland sidecar. Extremely bad weather has been encountered.

The A.C.U. and the Liverpool A.C.C.

[6019].—My letter *re* the above has apparently brought about a flood of correspondence that shows there is disaffection in all parts of the country on the point.

To my mind, the A.C.U. organisation is all right so far as it goes, but it appears to foster trade matters too much, and forgets that it is the amateur who wins competitions who gives the manufacturer the best advertisement. What clubman or amateur cares a rap about results of Quarterly Trials, or such events, when the trade riders form the principal entrants. If a trade rider cannot pull his up-to-date machine through such events as the trials, what chance does the amateur stand who rides a similar mount?

The A.C.U. competitions are no earthly use to provincial clubs, as the latter can only hold competitions at week-ends, and so cannot travel from one end of the country to another to enter such events, so provincial clubs must organise open competitions in their own districts, to be controlled by the new organisation that is now suggested by your correspondents.

It appears to me that three centres will be required—Northern, Midland, and Southern.

Of course, it must be understood that the competitions to be held must be "open" in the true sense of the word, and

that the trade be given every facility to enter, so that we can see in our own districts the exploits of the various machines in the hands of trade men.

Club reliability trials are very enjoyable competitions, but unless there are a large number of entries they lose their interest, and these events should be open to all and sundry, but they must be divided into classes.

E. W. KURKOPP.

The Track at New Brighton.

[6020].—I note with much amusement Mr. Baxter's remarks *re* the above track. Is Mr. Baxter aware that this track is the finest three-lap track in England, and suitable for speeds higher than Mr. Baxter has attained? Judging from his letter, the impossible has been accomplished when he did five miles in six and a half minutes. I would refer him to the Continental (three-lap) and American tracks, where higher speeds are obtained on machines with engines of far less cubical capacity than he owns. I would suggest that Mr. Baxter should try his luck on Brooklands. I am of the opinion there are plenty of motor cyclists in Liverpool who could equal if not beat Mr. Baxter's times on New Brighton track if they chose to try.

LIMELIGHT.

Counter-shaft Position.

[6021].—I notice several makers are designing and putting on the market for 1912 counter-shaft gears with combined chain and belt or gear and belt transmissions. Nearly all the new ones which I have seen described in your paper show the counter-shaft at the rear of the engine, and in the position usually occupied by the bottom bracket. With large belt pulleys the short belt drive may be fairly successful in dry weather, but as most of these gears are being marketed for passenger work I have doubts concerning the transmission efficiency in the wet, partly owing to the heavy torque passing through the belt on low gear, and also to the shortness of the belt centres requiring the belt to be unduly tight. Personally I cannot see any objection to placing the counter-shaft in front of the engine and the magneto behind, thereby obtaining longer centres for the belt and a smoother and more efficient transmission. The counter-shaft pulley if fitted in front can be equal in diameter to the rear counter-shaft pulley, when the results must be superior. Now that the date of the Show is so close a discussion on the subject would interest all motor cyclists.

LONG BELT DRIVE.

Wear of Big End Bearings.

[6022].—Referring to Mr. John Kennedy's letter dealing with the big ends of motor bicycle engines, I have seen a good deal of the same sort of thing, but he can rest assured that it will not be long before the fault which he is suffering from is remedied. The wonder is that the big ends last as long as they do under the conditions in which they work. The reason they wear out is not because of the speed they go at, but because they are not oiled. How anyone could expect oil to get properly into the big ends of a crankshaft revolving at three or four thousand revolutions per minute just because it happens to dip in a pool of oil at the bottom is difficult to understand. No doubt this oil soon gets churned up into a sort of oily fog, but I say it is impossible for this oil to get through a small hole and lubricate the crank pin properly, not merely grease it. The obvious and only proper remedy for this trouble is to have the oil pumped into the crankshaft with a small force pump working, say, at 60 to 100 lbs. pressure. The crank bearing can then be a loose fit, and the pressure will keep a volume of oil between the metallic surfaces and prevent practically any wear or noise. No doubt it costs a good deal more to produce an engine with this oiling system, but it will come sooner or later. In the few motor cycles I made years ago with four cylinders, I found this was a perfect cure.

C. BINKS.

MOTOR CYCLE

Show Numbers.

Thursday, Nov. 9th.—Forecast of 1912 Models.

" " 16th.—Annual Buyers' Guide, and continuation of Forecast.

" " 23rd.—COMPLETE SHOW REPORT.

WRITTEN BY MOTOR CYCLISTS FOR MOTOR CYCLISTS.

MIDLAND INTER-CLUB RELIABILITY TRIAL.

56 Competitors in the Birmingham and Sutton Coldfield Club's Joint Event.



Scene at the start of the Birmingham M.C.C. and Sutton Coldfield A.C. Joint Reliability Trial for the P. J. Evans Trophy.

ON Saturday last a reliability trial open to members of the Birmingham M.C.C. and the Sutton Coldfield A.C. was held in the Midlands for a trophy presented by Mr. P. J. Evans, the Junior Tourist Trophy winner. Six other prizes were offered.

The start was from the Stratford Road tram terminus, Birmingham, at 2.30 p.m., and at that time fifty-six of the sixty-five entrants responded to the roll call. The competitors were despatched in pairs at half-minute intervals over the following route: Stratford-on-Avon, Sunrising Hill, down Edge Hill, Kineton, Wellesbourne Hastings (one hour stop for tea and to light lamps), Eatington, Sunrising Hill, Wellesbourne Hastings, and Stratford back to the starting point.

A non-stop run had to be made. Each competitor was awarded 1,000 marks at the start, from which marks were deducted as follows:

Failure to climb a hill	50
Peddalling or foot assistance on hills	25
Stop due to puncture	5
Any other involuntary stop	20
For each full minute early or late at controls	3

The above system of marking is a very sensible one, and proved popular. In many competitions—those organised by the A.C.U. in particular—a competitor who is unfortunate enough to puncture (which is a circumstance over which he has little or no control) is penalised as heavily as if he failed on a hill, which is certainly not as it should be.

All went merrily to Stratford, except that H. Goldman (Quadrant) and S. Smith (Norton) punctured, and E. A. Power (Forward) also stopped. A few miles out of Shakespeare's birthplace we came upon Messrs. R. V. C. Brook and P. J. Evans timing the secret check to decide the winner in case of a tie. Miss Hough and F. S. Whitworth, on Douglas machines, rode through together almost dead to time, as also the next couple, Miss Berend—who was mounted temporarily on a diamond frame three-speed Dene-

Precision—and J. Woodhouse (Dene-Precision). The day was fine and bright—particularly so for the time of year—and the run was much enjoyed. Nearing Sunrising, F. S. Whitworth dropped a glove, and John Gibson, who was riding with the competitors on his $3\frac{1}{2}$ h.p. three-speed Martin-Jap, dropped back and then scurried after Whitworth to restore his property. Reliability trials nowadays are uninteresting and valueless unless a severe hill is included, and on the occasion of this inter-club run Sunrising Hill was ascended—in more ways than one—and quite a new departure in connection with the rules which we have had in mind for some time was a night climb. After tea, by which time it was quite dark, competitors had once more to ascend Sunrising, with its difficult corner. This test proved most instructive; that is, to the fixed gear fraternity. We all know that a 1 in 6 gradient in daylight is nothing nowadays to a $3\frac{1}{2}$ h.p. mount provided it is allowed a clear path, but demand that the same engine shall climb the same gradient slowly with the same gear, and it will fail hopelessly.

The Ascent of Sunrising in Daylight.

To return to the first section of the journey, we noticed among others going particularly well F. A. McNab on a new model Trump-Jap, which looked very spick and span in its grey finish; H. V. Colver on the new 6 h.p. Enfield-Jap sidecar combination; J. Dudley on a three-speed Hobart, whose stand was trailing along the ground; James St. John on a 1912 three-speed New Hudson; and Bert Yates on a 1912 two-speed Eumber. Manning-Lomax, who was driving a sidecar propelled by a $3\frac{1}{2}$ h.p. B.S.A. with that company's new two-speed gear, unfortunately suffered a broken belt. On arrival at Sunrising there was the usual crop of failures, so many, in fact, that it became quite a task to note all the numbers as they came to a standstill at different points. Sunrising is five-eighths of a mile long, commences with a stretch of 1 in 8, then an easier stretch, a gradual turn to

Midland Inter-club Reliability Trial.



Miss L. Berend (3½ h.p. Dene-Precision) starting from the tram terminus.

the left, then a sudden twist to the right, the gradient steepening to 1 in 7, and culminating 200 yards higher up with a section of 1 in 6. Nearly every rider got round the bend, but the hot engines refused to pick up again. Miss Hough had not so much in hand on Sunrising as F. S. Whitworth, who switched off his Douglas occasionally to keep pace with her. Miss Berend went up splendidly on the Dene, and though she witnessed her companion Woodhouse on a single-gear machine forge ahead at the hill foot, she passed him later, as his engine pounded itself to a standstill. Among the best ascents, we noticed Seymour Smith (Norton), who picked up splendidly round the bend and finished at over legal limit; S. B. Mayell and T. Baxter (Triumphs); and F. Southam (Zenith). Others who made slow but sure climbs on their low gears were B. Yates and S. Wright on 3½ h.p. Humbers, R. H. Viggers (Enfield), W. B. Gibb (Douglas), H. J. Cox (Forward), R. W. Duke (Zenith), T. Hampson (Matchless and sidecar), and Colver on the New Enfield. J. Dudley (Hobart) indulged in light pedalling. In all there were eighteen failures, including some real surprises.

After the competitors had passed, a non-competitor on a T.T. Triumph made a splendid ascent with a passenger seated on his carrier. The new twenty-speed Rudge with Mr. V. A. Holroyd, a sixteen stone rider, up, also made a creditable ascent.

The Night Ride.

It was a fine night but extremely cold, a new moon doing its best to brighten the outlook as competitors were despatched from Wellesbourne on the last stage. We can imagine the surprise of the villagers to see sixty bright lamps file past their cottages, to the tune of half-silenced Gathings guns. By the way, we thought several of the competitors' machines unduly noisy, and it would have done some good if the officials had noted the worst offenders and disqualified them.

It proved most difficult to observe the competitors on Sunrising in the dark, but the sight was a weird one ever to be remembered. We are inclined to think that some indulged in some useful digging with their feet which passed unnoticed. The stationary lights showed up the fallen ones; it was too steep for a competitor to push his machine single-handed to the top. Unfortunately, only one observer was on the hill at the proper time, though he got the names of several who failed, whilst others reported the stops themselves. Of course, so many types of lamps and generators being concerned, lamp troubles were not infrequent.

The night climb brought the number of failures on Sun rising to twenty-five, and in addition to these at least six managed to get up by pedalling or running a few yards alongside their machines. Passing the round tower at the summit of Edge Hills competitors again descended to Kineton, this time continuing to the finishing point. A number of competitors ran off the route, which counts as a stop. Miss Berend and Miss Hough had involuntary stops in the

darkness. J. Pollock (James) experienced a traffic stop in Stratford. McNah (Trump) had the high tension wire come off the plug. H. Sheldon (Regal) broke a valve. H. J. Cox (Forward) sooted plug, and H. V. Colver (Enfield) retired.

The Results.

Non-stops were credited to the following:

Dr. B. Fawssett (8 Chater-Lea-Jap and sc.).	V. Busby (2½ h.p. Humber).
R. H. Edwards (Triumph).	H. J. Woodgate (3½ Singer).
T. Hampson (Matchless and sc.).	V. Underhill (3½ Norton).
R. H. Viggers (2½ Enfield).	W. B. Gibb (2½ Douglas).
K. Holden (3½ B.S.A.).	J. H. Percox (3½ Alldays).
N. G. Blackwell (6 Zenith-Gradua).	E. Smith (4½ Regal-Precision and sc.).
S. A. Rowlandson (3½ Rudge).	R. W. Duke (3½ Zenith-Gradua).
F. P. Mayell (3½ Triumph).	S. Wright (3½ Humber).
F. H. Southam (6 Zenith-Gradua).	B. Yates (3½ Humber).
	A. Ryland (7 Matchless-Jap).
	J. Dudley (2½ h.p. Hobart).

Four of the above competitors were in the controls exactly to time, therefore the secret check had to be taken into account in order to determine the winner. The first five are as follows:

1. F. H. Southam (6 h.p. Zenith-Gradua), winner of the P. J. Evans trophy.
2. J. J. Woodgate (3½ h.p. two-speed Singer), Humber gold medal.
3. J. H. Percox (3½ h.p. two speed Alldays), Triumph gold medal.
4. N. G. Blackwell (6 h.p. Zenith-Gradua), C.A.P. carburetter.

Six competitors tied for the fifth place, each making non stops, with a time error of one minute. The secret check revealed that

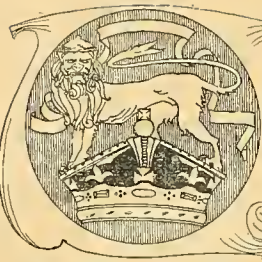
5. W. B. Gibb (2½ h.p. Douglas), Lycett belt, was nearest with only 19s. error, the remaining five erring as under-noted:

R. W. Duke (3½ h.p. Zenith) ...	52s.
F. P. Mayell (3½ h.p. Triumph) ...	64s.
Dr. Fawssett (8 h.p. Chater-Lea and sidecar)...	82s.
K. Holden (3½ h.p. B.S.A.) ...	92s.
V. Busby (2½ h.p. Humber) ...	92s.

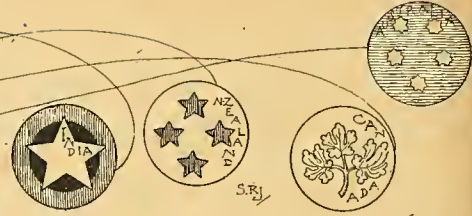
R. W. Duke takes the prize of a Lucas lamp, offered for the best performance by a member of the Birmingham Motor Cycle Club, and F. P. Mayell the Powell and Hammer lamp, for the best performance by a member of the Sutton Coldfield A.C.



The leaders—Miss N. Hough (2½ h.p. Douglas), F. S. Whitworth (2½ Douglas), and J. W. Woodhouse (3½ h.p. Dene-Precision)—passing over the river bridge at Stratford-on-Avon



CURRENT CHAT



TIME TO LIGHT LAMPS.

Nov. 2nd	...	5.29 p.m.
" 4th	...	5.25 p.m.
" 6th	...	5.22 p.m.
" 8th	...	5.19 p.m.

Belgian Automobile Show.

The following foreign firms will exhibit motor cycles at the 11th annual Belgian Automobile Show: Durkopp, Sarolea, and F.N.

Motor Cycle in the Jungle.

The Rev. A. M. Jenkin stated at Bangor that he was greatly assisted in his missionary work in Central Africa by a motor cycle. One night he almost ran into two lions, which were so frightened by the glare of the acetylene lamp that they "slithered off."

A Novel Exchange.

Among the replies to an advertisement by Mr. H. Fram hon. secretary of the Scarborough and District M.C., was the following tit-bit:

"Dear Sir,—I am in want of a good motor bike and could give you in exchange a good barrel organ, all the latest tunes, twenty-eight in all. If you will come over to York and give me a trial run to Wetherby and back, you can have a grind on my organ.—Yours truly, HENRY STEPHENSON, York."

A.C.U. Notes.

SIX DAYS TRIAL CLUB TEAM PRIZE.—Previous to the Six Days' Trials it was decided to award a club team prize to the best team provided a minimum of five entered. Only four clubs—Yeovil and District, N.W. London, Herts County, and Sheffield—sent teams, and the Union was therefore not bound to make any award. It has been nevertheless decided to present a silver cup to the Yeovil and District M.C.C. team, which made the best performance of the four entered. The team was composed as follows: P. W. Moffatt (2½ h.p. Douglas), J. Baker (3½ h.p. clutch Triumph), and C. Williams (3½ h.p. T.T. Triumph).

PERMIT.—The North-West London M.C.C. has applied for a permit to hold an open trial on December 30th, but as the A.C.U. has at present decided not to grant permits for open reliability trials run by clubs, the request was not granted. We are able to state, however, that this question is engaging the fullest attention of the Union.

NOISY EXHAUSTS.—It has been decided to empower acting judges to disqualify noisy touring machines in open competition.

RECORDS PASSED.—The records gained by S. Wright on a 2½ h.p. twin Humber, described on page 1160 of this issue, have been duly passed.

"The Motor Cycle" Show Numbers.

The *Motor Cycle* series of special show issues will commence next Thursday, and will be as follows:

November 9th. **FORECAST** of new models and designs to be seen at Olympia.

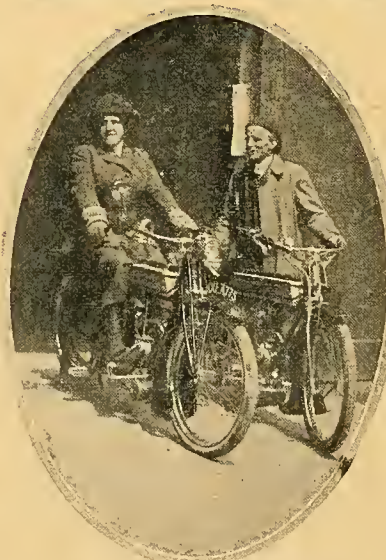
November 16th. **THE BUYERS' GUIDE**, being a complete list of motor cycles on the British market, with a specification of each. Also a continuation of the forecast and guide.

November 23rd. **OLYMPIA SHOW REPORT.** A profusely illustrated description of all new model motor cycles, written by our own staff of experienced motor cyclists after a stand to stand inspection of the exhibits.

Motor Cycle First Aid at Fires.

The Beckenham Council has decided to purchase a motor fire engine. The substation on the Birkbeck estate along with the horsed escape and hand truck are to be discarded, but the useful first-aid N.S.U. tricar is to be retained. The report of the fire brigade committee states that the tricar has showed that it is more effective and can reach the scene of a fire quicker than the hand truck, whilst the firemen arrive in better condition. The tricar is regularly tested and cleaned each morning and is kept in spotless trim. Recently it was called out to help extinguish a motor car and a motor bicycle which caught fire.

MARRIED COUPLES WHO MOTOR CYCLE.



Mr. and Mrs. Simpson, of Leicester, riders of Rudge machines.

SPECIAL FEATURES.

UP PORLOCK AND LYNTON HILLS ON A SIDECAR.

1912 MODELS.

A.C.U. AND PROVINCIAL CLUBS.

Stolen Machines.

A 2½ h.p. three-speed New Hudson was stolen by burglars from the premises of Mr. Frank Dunderdale, 61, Lower Mosley Street, Manchester, on the night of Friday last. The frame number is 877, registration number EN 87. Mr. Dunderdale offers £5 for its recovery.

A 3½ h.p. T.T. roadster Triumph has disappeared from 5-6, Coventry Street, W. It was purloined between the hours of 8 p.m. Saturday and 11.30 Sunday morning, October 21st-22nd. The number on the engine is 13,636 I.E. The machine is the property of Mr. Louis C. Cuffe, 5, Coventry Street, W., who will be glad of information respecting its whereabouts.

Freight Charges and Duties.

In the article published October 12th, page 1078-1079, the duty on motor cycles into Japan was given at 40% *ad valorem*. We find that this is incorrect, as the rate was changed recently, and now is Yen 93.60—about £9 11s. 1d.—for each motor cycle.

Gritting of Metropolitan Streets.

The R.I.A. has issued a memorandum to all street authorities in the Metropolitan area calling attention to a much needed reform in the gritting of streets. The memorandum points out that large grit is of little use as a preventive of slipping until crushed, and recommends the use of ¾ in. grit. Let us hope for the sake of all motorists and cyclists using pneumatic-tyred vehicles that this circular letter will have some effect.

British Success in Italy.

The famous Brescia circuit in Italy was the scene of a conspicuous British victory in the Italian motor cycle club's race for the President's cup held last week. Heavy rain fell and the course, distance about 173 miles, was in terrible condition owing to the chalky nature of the subsoil. Although there were many powerful twins competing, the first two machines home were British single-cylinders, the result being: 1, E. Vailati (3½ h.p. Triumph), 5h. 54m.; 2, C. Pusterla (3½ h.p. Triumph), 6h. 10m.

Accident to a Well-known Rider.

We are pleased to be able to state that Mr. O. C. Godfrey, who, we reported in last week's issue was suffering from a severe accident, is making excellent recovery in the Hampstead Hospital. Mr. Steedman, the driver of the taxi, denies that he was to blame for the accident.

Lightweight Records at Brooklands.

N. D. Slatter, riding an Alcyon light-weight, beat the six hours' Class A record on Tuesday afternoon last, covering 223 miles 1,494 yards. His time for 100 miles was 2h. 21m. 45½s. Other records he captured were:

Two hours ...	84 miles 1,575 yards
Three hours ...	127 " 126 "
Four hours ...	163 " 1,622 "
Five hours ...	196 " 1,011 "
200 miles ...	5h. 5m. 12½s.

A New Motive Power.

We hear, but it sounds too good to be true, that a new motive power has been discovered by a Scotsman which will drive a motor for 5½d. as far as can be done on 5s. worth of petrol. This is said to be derived from the smoke of coal, which, when refined, leaves a pure nitrogen gas; it is non-explosive, but more powerful than steam.

Motor Cyclist's Successful Defence.

Fred Dover, well-known for his ride round the coast on a Premier, was sued for £5 damages at Sheffield on the 13th ult. He was riding slowly uphill and overtook some cyclists pushing their machines and occupying the whole roadway. He sounded his horn and one of them moved slightly to the left, but then he seemed to lose his head and ran to the right, and thus caused the collision. Judgment was given for the defendant, as negligence had not been proved.

Death of a Well-known Rider.

We regret to have to announce that F. C. Wood, at the early age of 23 years, passed away in the Warneford Hospital, Leamington, on Friday afternoon, the 20th ult., after eight weeks' suffering caused by a collision in the night with the gates at Victoria Park, Leamington. At the inquest on Saturday a verdict of "Accidental death" was returned, and he was buried on the following Monday at Leamington. Of a delightfully cheerful nature, he will long be remembered by his numerous friends for his unflinching good nature and manly excellent qualities. Absolutely fearless and a magnificent rider, he got out of many a tight corner which would have brought disaster to anyone else. He rode twice in the Tourist Trophy Race in the 1st of Man, both times on N.S.U. machines. He also competed successfully in the last A.C.U. twenty-four hours' trial to Plymouth and back in 1909, and in a number of other road events. We extend our sympathies to his family, and especially to his father, Mr. W. H. Wood, who accompanied him on many of his rides.

Public Subscription to Purchase a Tricar.

A public subscription has just closed at Beckenham, Kent, in aid of a retired sergeant named Parker of that place, who received rather severe injuries in a motor collision. Over £400 have been subscribed, and it has been decided to purchase an A.C. Sociable with part of the proceeds. Sergeant Parker, who has already made himself familiar with the steering and control of one of these machines, has sufficiently recovered to be able to resume his business duties, and the A.C. should prove of great assistance to him in travelling about.

A Suggestion.

Why not a ladies' day at the Olympia Motor Cycle Show? We commend this suggestion to the show management, who might well set aside a special day for ladies as in the case of the car show.

The "O.T." Club.

A new club has been formed by members of the North-west London M.C.C. called the O.T. club. The members must own machines for which they have paid not more than £7. The name of the club is derived from the words "Old Tank." Hal Hill has joined, and is the proud possessor of an ancient Centaur.

FUTURE EVENTS

Nov. 3-11.—Olympia Motor Show (see "The Autocar").

.. 20-25.—Motor Cycle and Cycle Exhibition at Olympia.

Dec. 9.—M.C.C. Annual Dinner at the Café Monico.

.. 26-27.—M.C.C. Winter Reliability Run to Exeter and back.

.. 27.—Dublin and District M.C.C. Open Reliability Trial to Waterford and back.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.

He is having quite an exciting time wrestling with accumulator ignition, this being his first experience of it. H. J. Pooley, the trials honorary secretary, has a 1½ h.p. Minerva with inclined engine, but as he is a very old-timer, the accumulator ignition does not trouble him. The first event is proposed to be a "race" from Hampstead to Hatfield, "fastest" time to win.

Police Traps.

A trap is being worked in Leeds practically every day. A prosecution for any speed over twenty-two miles an hour means, so we are informed, an inevitable conviction.

Touring Abroad

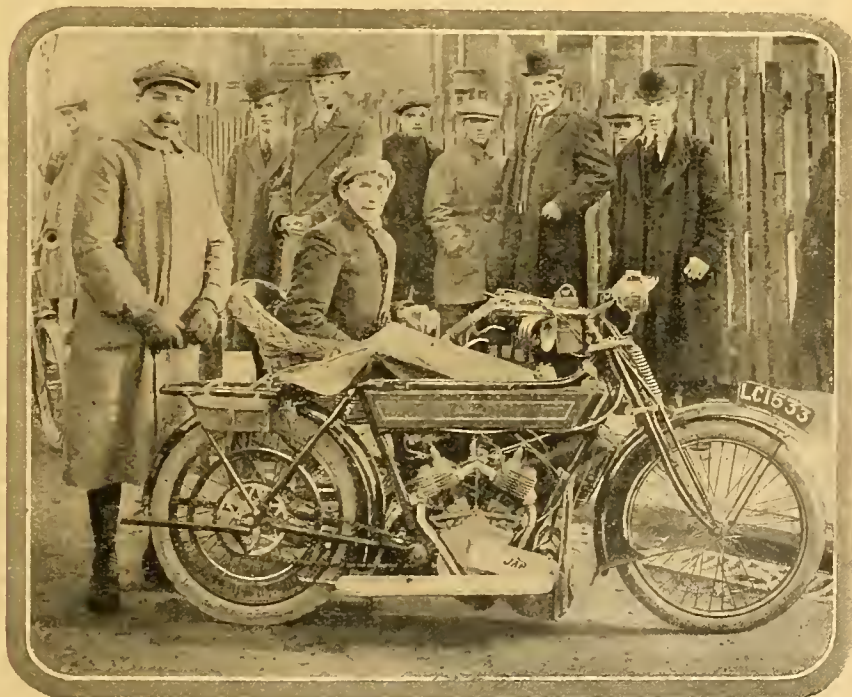
Owing to great pressure on our space we are obliged to hold over until next week the concluding instalment of the Rev. R. M. Bankes-Jones's article "From the Channel to the Adriatic and Mediterranean and Back by Motor Cycle."

Warwickshire Potholes to be Filled.

We are pleased to hear from a reliable source that the Coventry-Warwick Stratford Road potholes are to be filled up systematically. This may or may not be the result of hints thrown out in these columns, but Midland motorists will be delighted to read the good news.

Four-wheeled Runabouts at Olympia.

The Committee of Management for the Olympia Motor Cycle Show have decided that no vehicle with four wheels and subject to the motor car tax of £2 2s. can be exhibited at the Motor Cycle Show. If four-wheeled runabouts were allowed in the Motor Cycle Show big cars would also have to be admitted, and it is the desire of the promoters not to permit this. It is a matter of regret that four-wheeled runabouts built on motor cycle lines cannot be exhibited this year, as they are so interesting to motor cyclists, but, doubtless, before November, 1912, arrangements will be modified to enable runabouts not exceeding a certain fixed weight—say 6 cwt.—to be placed on view at the motor cycle exhibition.

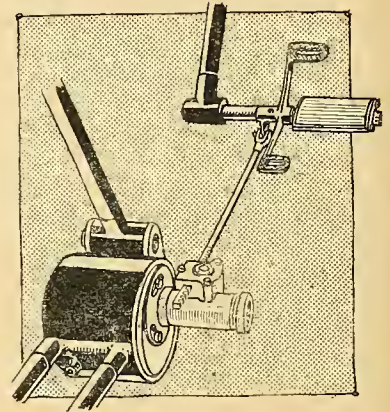


Valve side of the new two-speed 6 h.p. Enfield-Jap sidecar combination which was described in our last issue, page 1124. It was driven by H. V. Colver in the Midland Inter-club Reliability Trial last Saturday.

THE TRIUMPH TWO-SPEEDER.

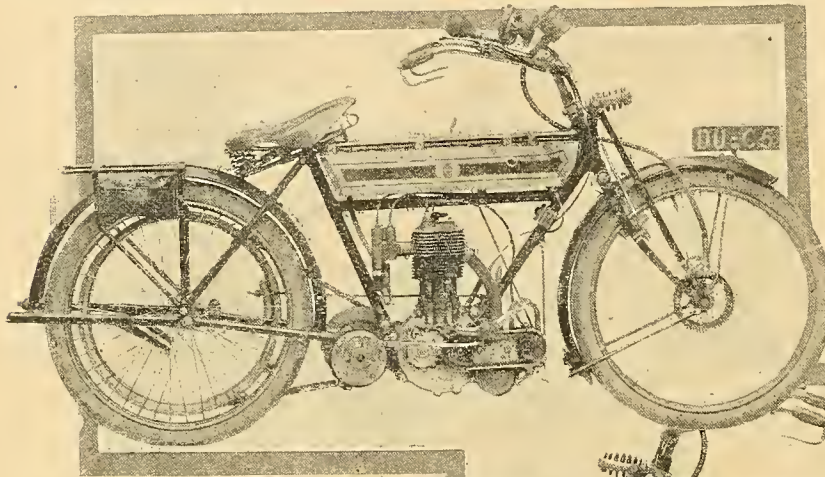
The accompanying illustrations are of the new Triumph two-speed gear, which has now undergone several thousand miles testing. From the engine to the counter-shaft drive is by chain, the adjustment being effected by rotating the whole gear casing, the centre of the chain sprocket being eccentric to the centre of the gear casing. It will be noticed that the gear is carried in a tunnel formed on

at a walking pace. One of the gear box shafts can be fitted with a starting handle if desired, enabling the engine to be started with the machine stationary. It is not expected that the two-speed machine will be listed or shown at Olympia. The Triumph Co. have always pinned their faith to the single-gear mount, and their confidence is not by any means shaken yet. We reproduce the illustra-



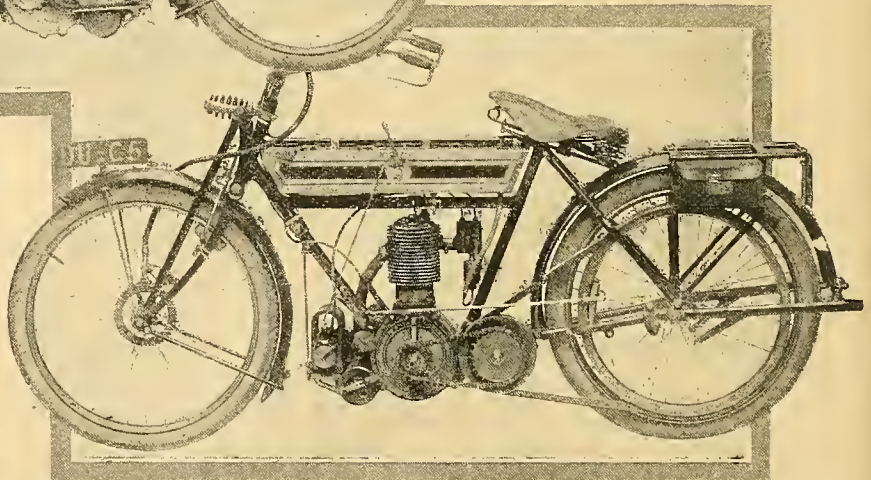
The toe and heel pedal controlling the new Triumph two-speed counter-shaft gear.

tions as an indication of the trend of design, and to show how neat and workmanlike a counter-shaft gear may be made to appear.



The 3 1/2 h.p. two-speed Triumph, the appearance of which has been anxiously awaited for months. See accompanying description.

the chain stays, which ensures a secure and permanent fixing. Another excellent point is the single lever control. On the footrest is mounted a toe and heel pedal actuating a ratchet-ended rod working a pinion carried inside an extension of the gear box. Pressing the heel portion of the pedal engages the low gear, the mid-way position gives a free engine, and pressing the forward part of the pedal engages the high gear clutch. The clutches are of the expanding type, and the whole of the working parts are self-contained and enclosed inside the gear box housing. To start, the low gear clutch is engaged and the machine pushed along



Showing the short chain drive from engine to counter-shaft, also the large diameter belt pulley. There are a number of detail alterations on the above experimental machine (under test for 1912) which will be apparent to the observant reader.

THE 1912 MOTOSACOCHE ON THE ROAD.

Mr. de Lissa, the manager of the Motosacoché Co., recently placed one of the 1912 models at our disposal for a run down to our Coventry office. Needless to say, as it was a particularly fine day, we were not loth to take advantage of this opportunity to try one of the new lightweight models. Starting from town about 2.30 p.m., we found the free engine device fitted to the Motosacoché a matter of great convenience in traffic; a slight movement of the Bowden-loc lever on the handle-bar slackened the speed of the machine by lowering the jockey pulley, and also brought it to a standstill when necessary without stopping the engine. Restarting was extremely simple with the aid of the same lever. The 5in. Whittle belt took up the drive quite smoothly, and we were soon in the Edgware Road, threading our way in and out of the somewhat congested traffic.

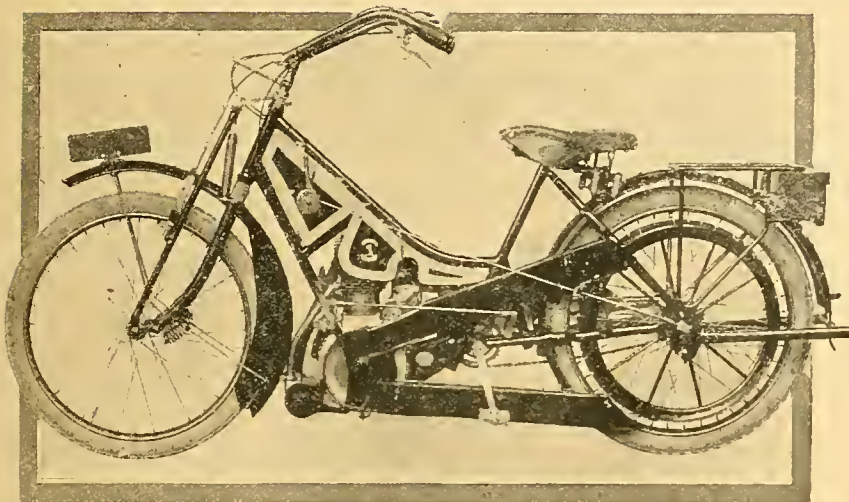
On the way to St. Albans the first hill met with is Brockley, but a full throttle opening and a slight retardation of the spark took the little 2 1/2 h.p. engine up this quite respectable gradient at a good speed. Continuing to St. Albans, the steep incline of Holywell Hill was taken practically without alteration of throttle or spark, which shows the amount of reserve power possessed by this new engine. Once St. Albans was passed, the legal limit of speed could be slightly exceeded, and we found the machine capable of an average of 25 m.p.h. Nothing eventful occurred until Stony Stratford was reached, when unfortunately the temporary phosphor bronze exhaust pipe union came adrift. This was probably due to the fact that we were forcing the engine along as fast as ever we could with a view to finding out a fault if it were possible; future models

will, of course, have malleable iron unions, the phosphor bronze one being fitted for the sake of quickness. However, one of Mr. Negus's mechanics soon inserted a liner in the pipe, and we were quickly on our way again, Coventry being reached about 7.30 p.m. The 2 1/2 h.p. 1912 Motosacoché possesses a fine turn of speed for such a small engine. Since the day we rode the machine it has been fitted with an infinitely variable pulley gear, which is possible in the case of the Motosacoché, owing to the jockey pulley already provided to take up the slackness of the belt when the low gears are in use.

Mr. De Lissa recently showed us one of these variable pulley gears, which is noticeable for its unobtrusiveness; it provides an infinitely variable gear between 5 and 8 1/2 to 1, and with its aid Mr. De Lissa climbed Sunrising on Saturday last without pedal assistance.

1912 MODELS.

Advance Details of New Pattern Motor Cycles.



A new introduction for 1912. $3\frac{1}{2}$ h.p. Premier ladies' model, which will be supplied with a free engine clutch as standard, or three-speed gear as illustrated.

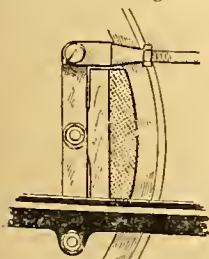
A New $3\frac{1}{2}$ h.p. Ladies' Model Premier.

This is quite a new departure for the Premier Co., but the machine has a neat and pleasing appearance, and as the top tube is low and ample dressguarding is provided, it should prove a very serviceable mount.

A standard $3\frac{1}{2}$ h.p. engine unit is placed vertically in the frame, and is held in position by a forked down tube in front (through which fork the auxiliary exhaust pipe passes) and two substantial engine plates at the rear.

The open frame gives a low riding position, and has a curved top tube, the lower end of which is only 19 in. from the ground. This tube is stayed at the rear end to the chain stay bridge, and above the engine to the front down tube. The combined petrol and oil tank is situated behind the head, while the engine unit is surrounded by a neat metal cover in which a gauze-covered window is

formed directly behind the carburettor intake. The belt is protected both above and below the pulleys, and the top half of the pedalling chain and sprocket is enclosed. Foot-rests are fitted at a comfortable position, and the brake and clutch pedals are brought conveniently near



Premier rear brake mechanism.

to them, the brake pedal being on the left side, and the clutch pedal on the right. Clutch, spring forks, stand, and carrier are all fitted as to the standard $3\frac{1}{2}$ h.p. model, the rear mudguard being detachable behind the back stays. A free engine hnb clutch is fitted as standard, completing a very sound ladies' heavyweight machine.

Kerry-Abingdon.

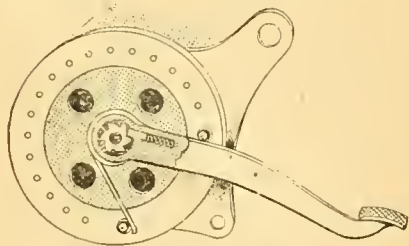
Thanks to the courtesy of Mr. Llewellyn Jones, we are enabled to give a few preliminary details of the 1912 Kerry-Abingdon motor cycles.

The chief novelty for 1912 will be a 5-6 h.p. twin-cylinder, fitted with side by side mechanically operated valves, bore and stroke 67×95 mm. The engine will have a ball-bearing crankshaft and a special lubrication system. The piston is liberally grooved so that the oil can have access to it, and a duplex priming device is fitted. A dropped frame will be used for this and one of the $3\frac{1}{2}$ h.p. models.

The $3\frac{1}{2}$ h.p. type will have a new engine, and will be sold with clutch or with two-speed gear and clutch, the two-speed gear being the Kerry-Abingdon

type of change speed mechanism, which was described in *The Motor Cycle* this year, but which has been slightly improved in detail. Yet another model will be shown fitted with an Armstrong three-speed gear.

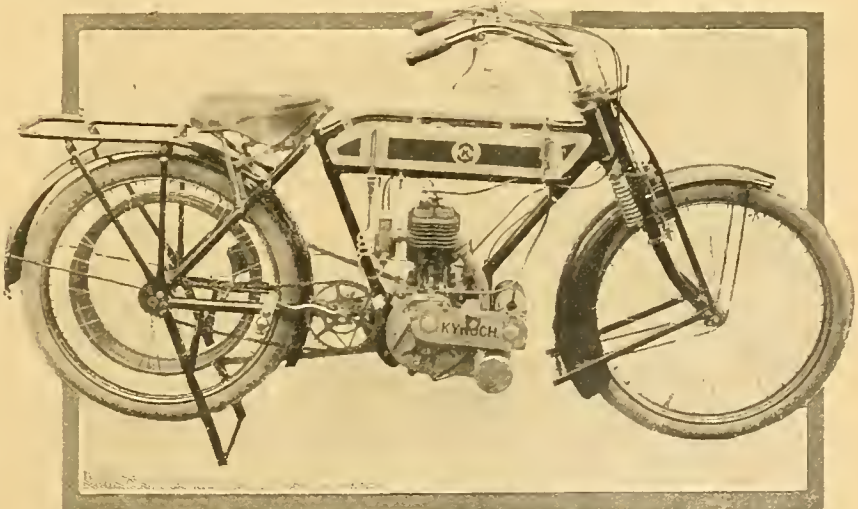
A novelty fitted to all 1912 Kerry machines will be a new kick-up stand, and another innovation shown by the firm will be a plate clutch specially designed for lightweights, the most interesting portion of which is the adjustable pulley. The movable flange has four sets of holes of different depths, which engage with four pins on the outer shell of the clutch, thus giving very easy adjustment without the necessity of using any tool.



New ratchet cut-out on the 1912 pattern $3\frac{1}{2}$ h.p. Rover.

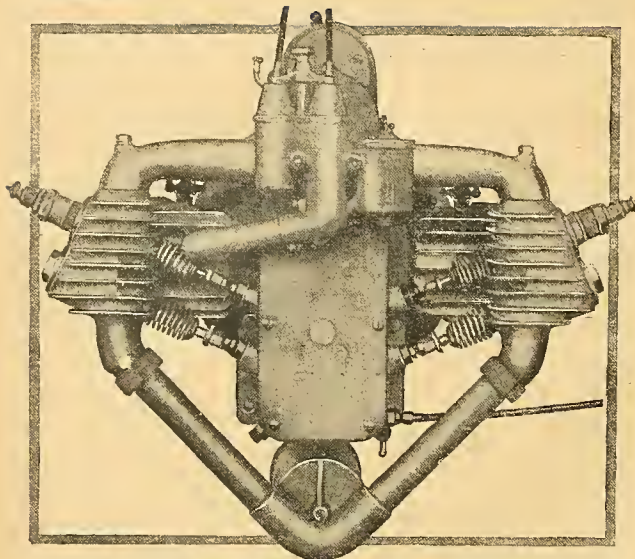
Kynoch—A New Make.

We recently had an opportunity of gathering further details of the new Kynoch models. Either a $3\frac{1}{2}$ h.p. J.A.P. or Precision engine is fitted to a frame on standard lines with a dropped top tube. The new type Bosch magneto is fitted in front of the engine and is controlled from the handle-bar. A B. and L. semi-automatic lubricating pump is used, and a variable jet B. and B. carburettor will be standard. Druid spring forks are employed, and half the rear mudguard is detachable to facilitate tyre repair. Both these models can be supplied with the B.S.A. two-speed gear.



An entirely new model—the $3\frac{1}{2}$ h.p. single geared Kynoch.

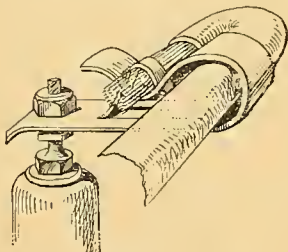
1912 Models.—



1912 Douglas power unit showing the inclined mechanically-operated valves, adjustable tappets, accessible sparking plugs, and single silencer. (See our last issue, page 1129).

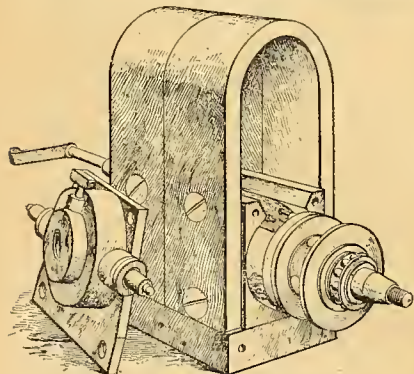
A Detachable Terminal.

The Efandem Co., 246a, Corporation Street, Birmingham, have placed on the market a simple and effective terminal which is highly suitable for motor cycle work. From the illustration it will be seen that the terminal is stamped out of one piece of metal. At one end there is a hole through which the central wire of the sparking plug passes. The other end is slotted, and through it projects a



The Efandem terminal.

hook stamped out of the metal strip of which the terminal is made. To attach the terminal it is only necessary to press down the end and slip the wire through



The new Bosch two-spark magneto, showing armature partially withdrawn.

the hook when the end springs up and locks it against the hook. It is impossible for the connection to shake loose.

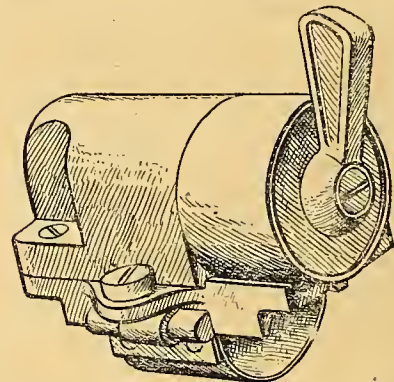
The Efandem Co. have also introduced a well-made motor cycle lamp, which was exhibited at the recent Olympia Electrical Exhibition. It appears to give an exceedingly good light. It is mounted on a strong bracket and is capable of being tilted at any angle, while the bulb can be focussed to suit the rider's requirements. The Efandem Co. recommend their own unspillable accumulator to be used in conjunction with this lamp. It is fitted with Tec terminals.

The Bosch Two-spark Magneto.

Some correspondence recently appeared on the "Question and Replies" pages respecting the use of two plugs in one cylinder. The Bosch Magneto Company has now given us the opportunity of publishing a description of the Bosch two-spark motor cycle magneto, which has been introduced to give two simultaneous sparks at two ordinary plugs. This device will be shown at the coming Olympia Show.

The instrument is larger than that usually fitted to a motor cycle. The illustration shows the armature withdrawn about half an inch from the pole pieces. This armature is not of the normal type, and it will be seen on referring to the drawing that, instead of one end of the secondary winding being earthed, both ends are brought indepen-

dently to two segments in the slip ring. These two segments, which are 180° apart, come in contact simultaneously with the two carbon brushes which carry the current to the plugs, and conse-



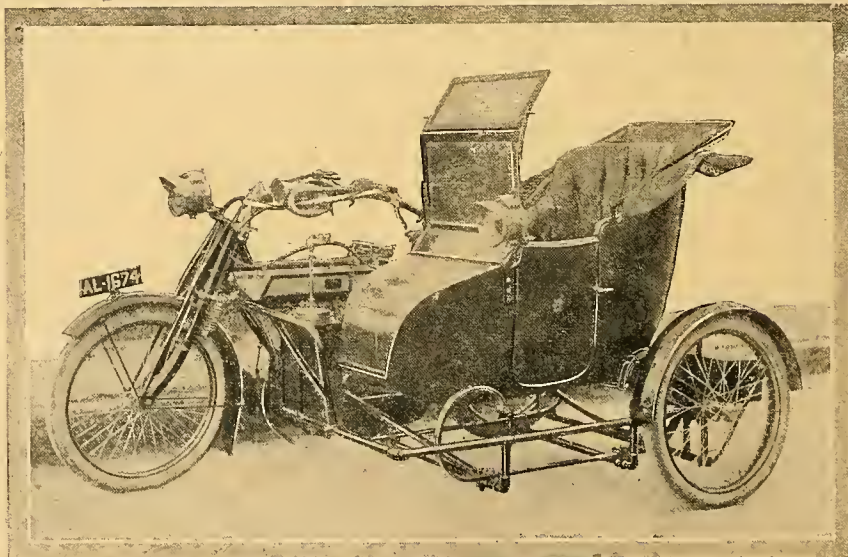
The Bosch magneto switch.

quently two sparks occur at the moment when the points of the contact breaker open.

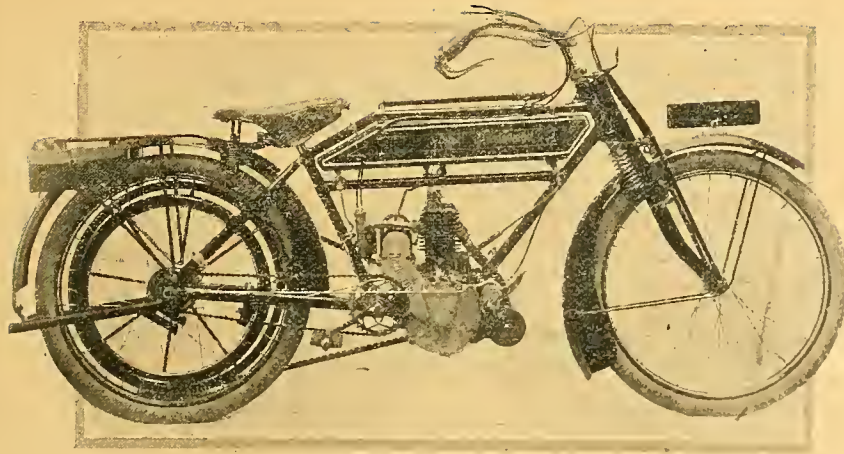
The high-tension switch which is also illustrated is designed to fit on to the top tube of a motor bicycle. With this high-tension switch, when the lever is upright both plugs are working simultaneously; when it is moved to the left or right one or other of the plugs is cut out, and the magneto gives a single spark only.

C.C.R.-J.A.P.

The other day one of the partners of the firm of Smith Bros., Nottingham, called upon us with the luxurious sidecar which we illustrate, with the object of giving us a short spin. We found the sidecar most comfortable riding, the double C springs forming an ideal suspension. The 6 h.p. side by side valve J.A.P. is most effectively silenced, and the machine purred along on its top gear at well up to legal limit with an entire absence of vibration. The sidecar hood and screen are standard fittings on the C.C.R.



6 h.p. C.C.R.-J.A.P. three-speed sidecar combination



Another new make of motor cycle—the 2½ h.p. three-speed Hazlewood-Jap.

Hazlewood.

A new make of motor cycle for 1912 is the Hazlewood. It is a 2½ h.p. medium weight. A J.A.P. engine with side by side valves is employed in conjunction with the Armstrong three-speed hub, giving gears of 5, 7, and 10 to 1. A dropped top tube, substantial stand and carrier, Druid spring forks, and eccentric bottom bracket are standard fittings. Brakes and mudguarding have received special attention, and this machine should help to meet the increasing demand for a light machine which will go anywhere. We hear that Hazlewoods, Ltd., are one of a few firms who have between them booked up all next year's output of the well-known Armstrong gear.



Showing screw adjustment of the foot-brake on the new Calcott described in our last issue.

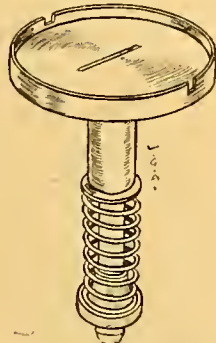
Alldays Improvements.

Since we last described the Alldays motor cycle several improvements have been made, with the object of producing a more handy and comfortable machine. A domed top piston is now used, and slippers have been interposed between the cams and tappets. Narrower piston rings are fitted, as it was found that the wide ones used previously had a tendency to bind in the cylinder. In all other respects the engine remains the same. It will be remembered that the Alldays machines are fitted with aluminium footboards. In future these will be sprung from the front end instead of the back, as it is found that this gives a more comfortable riding position. The new frame has a dropped top tube, improved handle-bars, and carrier, while both single and two-speed types now have a kick-up stand. Cleanliness has been carefully studied. The combination of footboards, efficient mudguards, and an aluminium trouser guard covering the valve mechanism, should keep the rider reasonably clean.

The Roc hub two-speed gear is employed, and customers have the choice of B. and B. or Amac carburetters, and Bosch or E.I.C. magnetos. Best and Lloyd semi-automatic lubrication is fitted as standard.

Rudge.

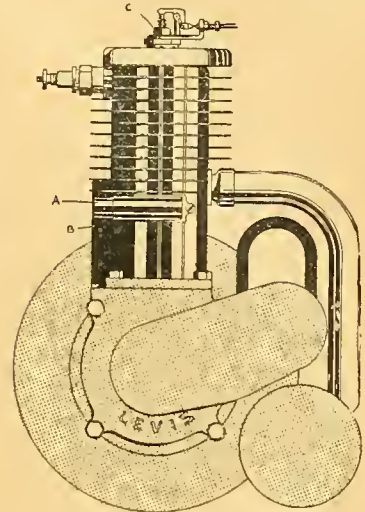
A small point, illustrative of Rudge thoroughness, is found in the manner in which spare valves are protected by neat metal shields as shown in the accompanying sketch. Not only is the working face of the valve completely prevented from suffering damage by being put loosely into the tool bag with other hard objects, but the spring and cotter are also kept in position by a small tubular distance piece which also protects the valve stem from injury. The drawing shows the idea as applied to the inlet, that for the exhaust valve being similar, but, of course, larger.



The Rudge spare valve protector.

The Two-stroke Levis.

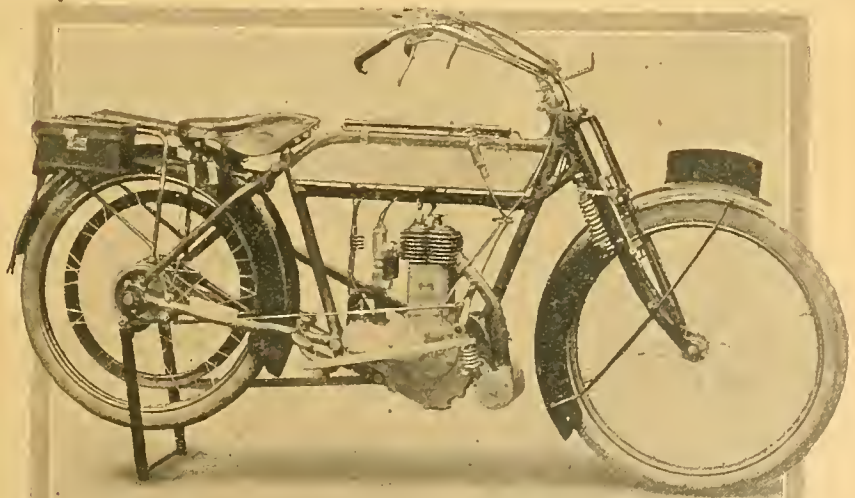
This interesting little machine is propelled by a three port two-cycle engine, and has been slightly redesigned for 1912. The new piston is designed with a partially domed head, giving a sharp uprush to the inlet gases, and a very clean sweep for the exhaust. There are only three moving parts—the piston, connecting rod, and crankshaft. The crankshaft is a solid forging, carefully hardened and ground, the big end bearing being split. The lubrication is interesting, as the usual form of splash is not relied on. Oil is led to the piston through the cylinder wall, and thence *via* holes in the hollow gudgeon pin to the small end bearing. Another pipe is led to the main crank-



The 1912 Levis two-stroke engine.

A. Inlet pipe. B. Transfer passage.
C. Compression release valve.

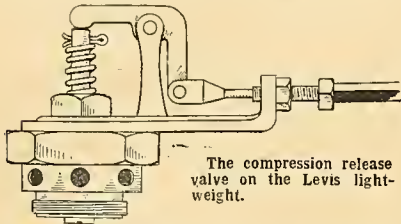
shaft bearing, which has a retaining groove cut near the outer end. From this groove the oil is led through a hole in the crankshaft into the shaft itself, which is drilled for the purpose, thence by centrifugal force to the big end, the



Next year's model 3½ h.p. two-speed Alldays. Note the covered-in valves.

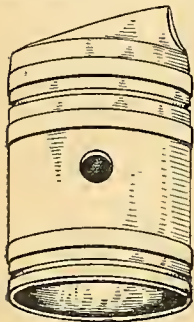
1912 Models.—

excess oil from the cylinder being led through a duct to the other crank bearing. A Bosch magneto is fitted in front of the engine and driven through an enclosed chain. The carburetter can be



The compression release valve on the Levis light-weight.

either B. and B. or Amac at option. An outside flywheel with the weight well in the rim is employed. An improved compression release valve is fitted in the head. We had a run on one of the smaller types, and although the particular machine is only



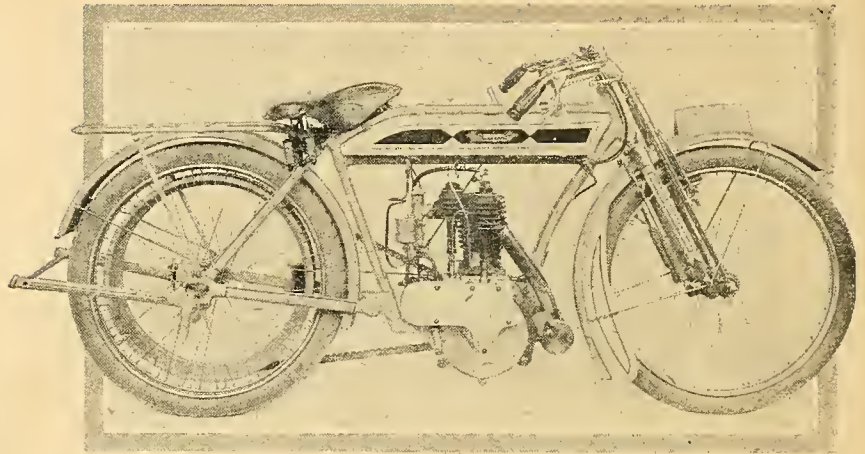
Levis piston showing position of rings and deflector.

device. The weight of the 2½ h.p. complete is 85 lbs., the 2½ h.p. 93 lbs., and the 2½ h.p. T.T. 90 lbs.

Puch.

We have already referred to the new arrival in this country—the Austrian Puch. The machine has been amended in design to conform to English ideas, and at the Show will have B. and B. carburetter, footrests, pedal-applied foot brakes, Bowden operated hand brakes, and a lower saddle position.

His Highness Prince Alexander Lubomirski is an enthusiastic owner of a 6-7 h.p. twin Puch and sidecar.

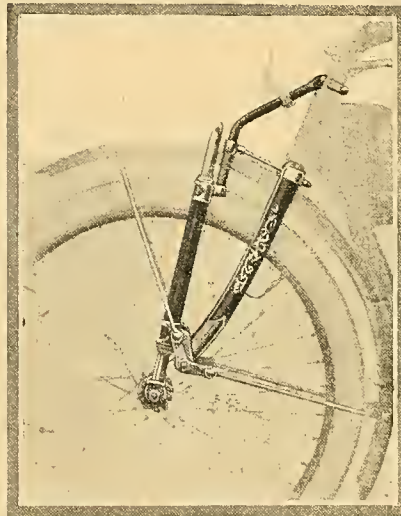


The Tourist Trophy Quadrant. This machine differs from the standard mount in that it has a shorter wheelbase, and special cams and valve setting.

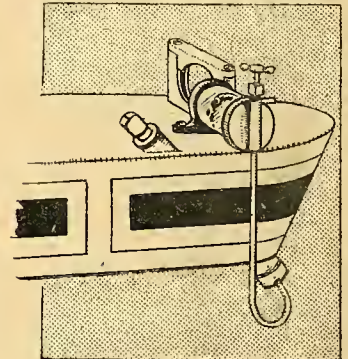
Rex.

The Rex Motor Mfg. Co. will market the following models in 1912: 3½ h.p. Speed King or Tourist; 6 h.p. twin Speed King or Tourist; 4 h.p. Tourist single

cylinder, air or water-cooled; 4 h.p. De Luxe, single cylinder, air or water-cooled; 6 h.p. De Luxe twin-cylinder; 4 h.p. Sidette De Luxe, air or water-cooled;

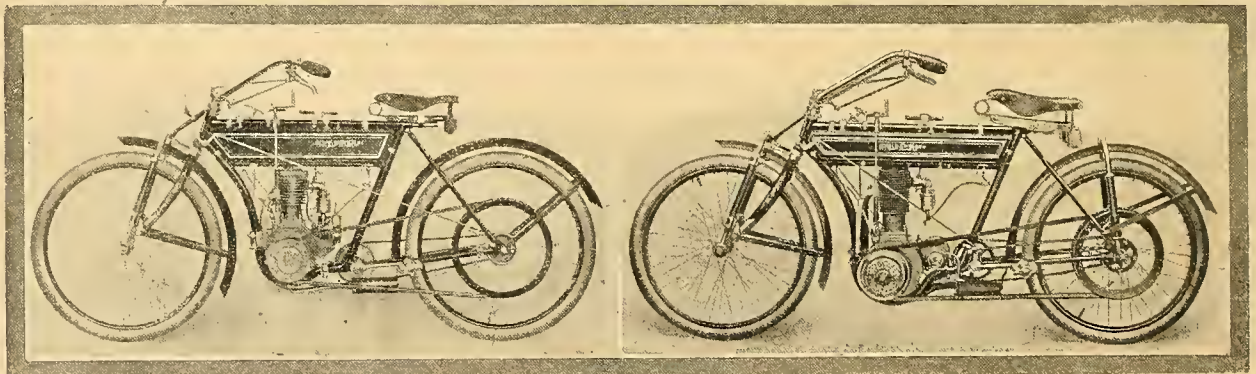


The spring fork of the Puch.



1912 Douglas lubrication system. There is a glass barrel on the tank showing rate of feed of the engine oil.

6 h.p. twin Sidette De Luxe. The 4 h.p. is a new model introduced for next year's market, and has a larger bore than the 1911 3½ h.p. of 499 c.c. capacity. It will be dealt with in detail in our Show issues.



Two Puch single-cylinder mounts.

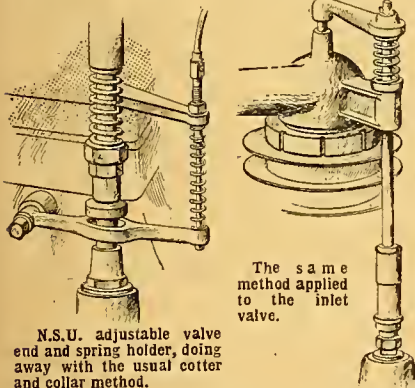
(1) The 2 h.p. 68×70 mm. model.

(2) The 3½ h.p. 76×100 mm. machine with spring frame

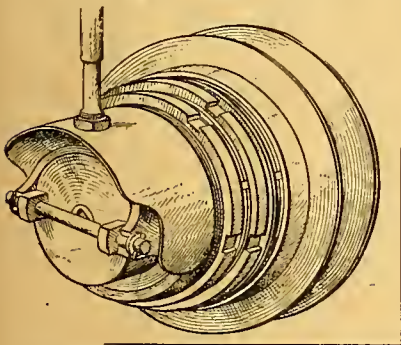
1912 Models.—

N.S.U.

The most radical alterations in the N.S.U. designs will be found in the $3\frac{1}{2}$ h.p. engine, 85 by 88 mm., 499 c.c. The prototype of this engine was first seen in England at the Tourist Trophy Race. The magneto is placed behind the cylinder, is of the latest Bosch enclosed type, and is gear driven. On the gear wheel nearest the engine-shaft is a cam operating the exhaust valve, and on the next



gear wheel to it is that working the overhead inlet valve. Both tappets are adjustable, but the exhaust valve has an adjuster on the valve itself; this consists of a foot screwed on to the bottom of the valve stem and secured by a lock nut. To adjust it two spanners are used. If the adjuster be unscrewed the foot is forced against the tappet and lifts up the valve stem, thus enabling the valve to be easily extracted. To replace the valve it is only necessary to hold the adjuster



in position, to insert a screwdriver in the valve head, and force the valve down against the spring on to the adjuster. This is a process which is far simpler and easier than compressing the spring and inserting a cotter pin through the slot in the valve stem.

The latest type of N.S.U. automatic single lever carburettor will be fitted. Riders, so Mr. Schink, the manager of the company, informs us, are not quite used to controlling this carburettor, since they try and use it as an ordinary non-automatic carburettor by throwing the throttle full open. Like all carburettors of this type, the throttle cannot be fully opened until a high speed is attained,

and when the lever passes a position over 45° from the handle-bar any further opening means a weaker mixture, which will not give increased speed unless the engine is turning over at a large number of revolutions.

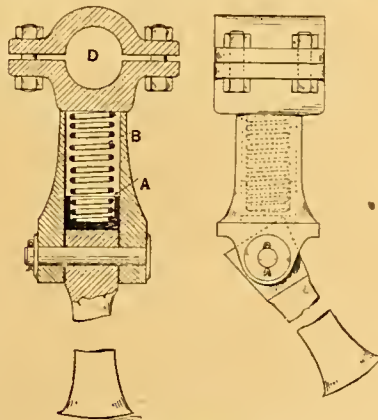
The engine pulley is fitted with an oil-retaining ring, any waste oil being carried away through a drain pipe. The $3\frac{1}{2}$ h.p. model will be fitted with a drop frame.

For 1912 the N.S.U. spring fork has been simplified and made more efficient, and in every model the rear portion of the frame will be sprung.

On the 3 h.p. twin the under-gear pulley is adjustable. The 6 h.p. twin, 75 by 90 mm., 796 c.c., is built up on the same lines as the 3 h.p., but the engine is now placed vertically in the frame, and not with the rear cylinder vertical, as was the case in former models. For this machine a new two-speed gear has been designed on the same lines as the smaller gear, but it is larger and stronger, and improved in detail. In this and the smaller two-speed gear the pulley flanges are adjustable, which is a decided improvement. Both flanges may be moved at will, but the inner flange need only be altered in cases of emergency. The outer flange is secured by a locking ring, and between it and the movable flange is a loose ring which has a projection in it engaging in a slot, the object of which is to allow the adjusting ring to be turned without revolving the movable flange. As soon as the correct adjustment is obtained it is not necessary to secure the locking ring, as the pressure of the belt is sufficient for this purpose. The gear is also fitted with a large metal cone clutch provided with oil grooves and three extra plates for the engagement of the low gear. The planet wheels are carried in a cage and are supported at both ends, and an oil-retaining ring is provided. The 3 h.p. twin, 58 by 75 mm., and the 2 h.p. single cylinder machine, will be the same as last year's models, except for the improvements above referred to in the spring fork design, which is common to all models.

A New Sidecar Stand.

M. J. Varley, 57, Stoney Lane, Sparkbrook, Birmingham, has sent us particulars of a sidecar stand which we illustrate. The stand is clipped to the sidecar axle and is put into operation by placing one

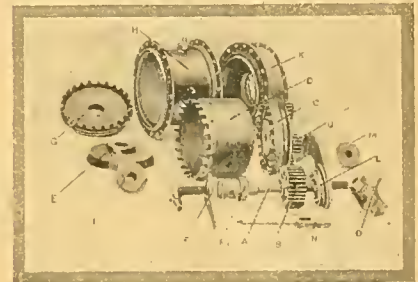


Varley's sidecar stand.

foot against the leg of the stand at the same time pulling the sidecar back. It will be noticed on reference to the illustration that the top of the stand is provided with a spring and plunger. When the sidecar is supported by the leg it inclines at an angle of seven degrees, thus making a support, and when out of use the spring prevents any possible chance of the leg falling. It will be exhibited on the Calthorpe stand at Olympia, as will the Forward sidecar which will be fitted with a canopy hood, luggage carrier, tyre carrier, petrol carrier, and refinements in the way of toolboxes, etc.

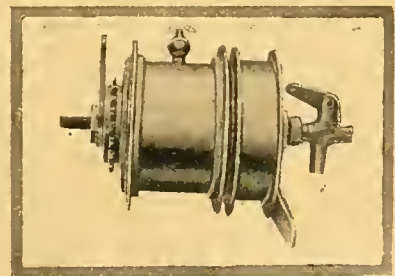
Another Two-speed Hub Gear.

The broad principle claimed for the Thornton two-speed hub is that a free



The Thornton two-speed hub gear showing the parts dismantled.

engine can be obtained without disturbing the mechanism which operates the high or low gear. The clutch consists of a phosphor bronze ring D which is split and engages the hub shell H by means of cone E, pinion carrier C and lever F2 working on spiral F1. The normal ratio is obtained by locking gear wheel B to the belt hub K through the intermediary of clutch D and pinion carrier C, the gear wheel B being locked to the carrier by four pegs or keys. The low gear position is arrived at by sliding B along the shaft until it engages with pegs or keys



A complete hub with Thornton gear.

L. the reduction in gear being effected through pinions J. On the underside of G is attached the free engine mechanism. This consists of teeth cut on plate G engaging with corresponding indentations on D and C; when the clutch ring is contracted the engine can be pedalled with rear wheel resting on the ground with either high or low gear engaged. The makers, W. J. Glover and Co., 32 King Street, Leicester, claim that the gear is absolutely proof against damage through bad handling.

CLUB NEWS.

A New Club for Blackpool.

A meeting of motor cyclists was held at Blackpool on October 26th, under the chairmanship of Mr. T. Sharples, when it was decided to form a Blackpool motor cycle club. A further meeting for the adoption of rules and election of officers will probably be held this week.

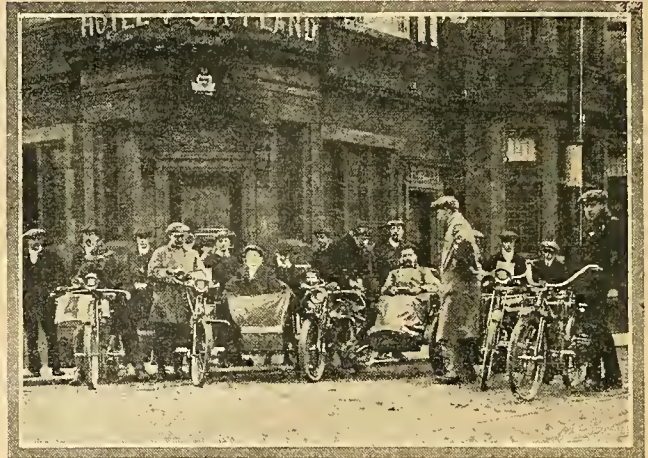
Mersey M.C.

This club held a flexibility hill-climb on the 29th ult., the prizes being awarded for the greatest difference between a fast and slow ascent. It was intended to run this event, the last of the season, on Cilcain Hill, but the police appeared on the scene and prevented it. Accordingly the intending competitors had to start off in a drizzling rain and search for another hill. The winner proved to be Noel Brown (Rudge); second, Jack Fox (Triumph); third, V. E. Horsman (Bradbury). After this event the postponed hill-climb of July 23rd was run, with the following result—Singles: 1, V. E. Horsman (Bradbury); 2, F. C. Jones (Bradbury). Fastest time of the day: Horsman (Bradbury). The sidecar class was abandoned, as the machines used by the competitors failed to climb the hill.

Harrogate and District M.C.C.

On Thursday evening, October 26th, a breakdown competition was held. There was a good gathering of members, but only ten endeavoured to find the faults, which were the high-tension brush not touching the slip ring, and the throttle slide of the carburettor having slipped off the wire. The competitors were first regaled with light refreshments, and were then allowed seven minutes in which to put the machine in running order. Only four succeeded in the time fixed, and they were: B. Tindall (winner Bosch plug), 1m. 31s.; H. W. Fortune (winner tyre levers), 2m. 9s.; W. E. Grange, 3m. 1s.; W. B. Atkinson, 6m. 28s. T. C. Atkinson kindly presented the prizes and set the task to be done, his assistant being H. Ballance. The machine used was a 1906 Triumph.

To-day (Thursday, November 2nd), the annual general meeting is to be held at headquarters.



Start of the Chesterfield Club's Reliability Trial from the club's headquarters. The winner of the passenger class, J. Haslam (6 h.p. Zenith), with F. Dover in the sidecar, are seen in the centre of the group.

Sheffield and Hallamshire M.C.C.

The annual dinner and prize distribution will be held at Davy's Victoria Café, Fargate, on Thursday next, the 9th inst. The dinner will be followed by a dance.

Derby and District M.C.C.

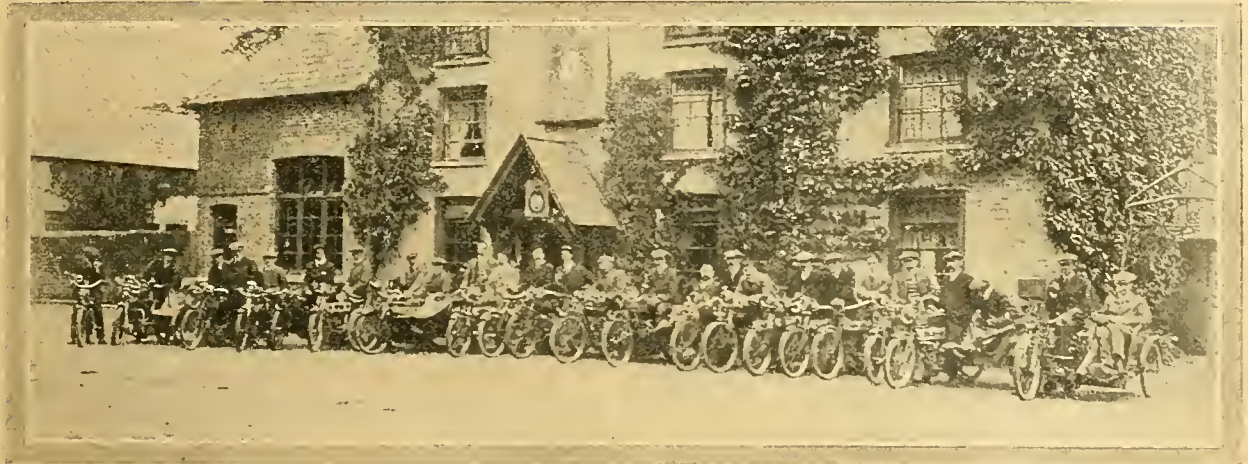
The committee have made arrangements for the annual dinner to be held at headquarters, St. James's Hotel, on Wednesday, December 13th, at 7.30 p.m. The dinner will be followed by a smoking concert and presentation of prizes. Tickets, 3s. 6d. each, may be obtained from the hon. secretary, A. B. Bennett, 13, Wilson Street Derby.



ON SUNRISING IN SATURDAY'S MIDLAND INTER-CLUB RELIABILITY TRIAL.

R. H. Edwards (Triumph) who made a non-stop run but was six minutes too early at the secret check.

Club News.—



Members of the M.C.C. who took part in the closing run to the Bridgwater Arms, Little Gaddesdon.

Westmorland M.C.C.

The annual dinner and prize distribution, followed by a concert, will be held on Thursday, November 9th, at the Commercial Hotel, Kendal, at 8 p.m. The prizes will be distributed by Mr. H. Goodwin, jun., of Orton Hall.

Sutton Coldfield A.C.

This club has given notice of its desire to sever its connection with the Auto Cycle Union on December 31st. It has been thought advisable to take this step as a matter of form, and it does not necessarily follow that the club will not re-affiliate next year.

Leicester and District M.C.C.

Result of reliability trial for the Edwards Cup, third round, held on October 19th: 1, E. Folwell ($3\frac{1}{2}$ h.p. Bradbury); 2, E. Goodin ($3\frac{1}{2}$ h.p. Bradbury); 3, C. Bailey ($3\frac{1}{2}$ h.p. Rudge).

Coming Events. November 3rd.—General meeting at headquarters, 8.30 p.m. December 7th.—Fourth and final round for the Edwards Cup, 2.30 p.m. December 15th.—Annual dinner and prize distribution at headquarters, 7 p.m.

North Middlesex M.C.C.

A whist drive will be held about the middle of November, followed by lectures, discussions, etc., on the use and construction of the motor cycle. The club is making up a party for a special visit to the Show, and all who intend joining should communicate immediately with the hon. sec., Mr. D. G. Blakey. Mr. A. Deacock will afterwards read a paper entitled "Impressions of the Show."

Cornwall M.C.C.

Extremely bad weather rather diminished the number of starters in the eighty miles reliability non-stop run held on the 14th ult., and also made the road very greasy and the hills difficult to negotiate. The run had to be completed at 20 m.p.h., there being one known and three secret controls. In spite of the adverse conditions, there were only three failures all on single geared machines, whilst the best performance, for which a gold medal was specially given by the club, was that of Meek ($3\frac{1}{2}$ h.p. Triumph and sidecar), who covered the whole distance without a single stop or even dropping his passenger, and arrived home exactly on time. The results on time were: 1, W. Tressider ($3\frac{1}{2}$ Triumph); 2, Simms ($3\frac{1}{2}$ Triumph); 3, G. S. Collings ($2\frac{3}{4}$ Enfield).

Bristol B. and M.C.

A non-stop speed-judging competition, open only to those members who had never won a first prize in a motor event, was the club's last trial of the year on Saturday, 21st ult. The course was a secret one of twelve miles, to be covered three times at 20 m.p.h. Out of an entry of fourteen, only four competitors made non-stops, the very greasy state of the hill leading out of Over Lane on to the steepest part of Black Horse Hill (near Westbury) causing many falls through side-slips. The following was the result:

1, B. Adams ($2\frac{1}{2}$ A.J.S.), total error 3m. 52s.; 2, P. F. Davies ($3\frac{1}{2}$ Rudge), total error 11m. 17s.; 3, F. C. Wasley ($2\frac{3}{4}$ Douglas), total error 15m. 11s.

The late Hon. Sec. of the M.C.C.

As already announced in these columns, Mr. Arthur Candler has been compelled to resign the M.C.C. secretaryship owing to very great pressure of business. He has held the post for nearly eight years, and to him the club owes the inception of the London to Edinburgh Run, which has done so much to popularise the M.C.C. When Mr. Candler joined the membership numbered 100, now it is nearly 400. Recognition of his valuable services is to be made, and it has occurred to the committee that past members who would like to be associated in this laudable object, should communicate with the hon. treasurer of the fund, Mr. F. J. Jenkins, 35 Loveday Road, Ealing, W. Individual subscriptions are limited to 5s., and the list closes on the 18th inst.



Miss C. C. Page of Enfield, on her $3\frac{1}{2}$ h.p. two-speed Hummer and sidecar. Miss Page took to sidecar driving last May, and is now capable of driving the machine anywhere. She frequently covers fifty miles without the least fatigue and thinks it fine sport.

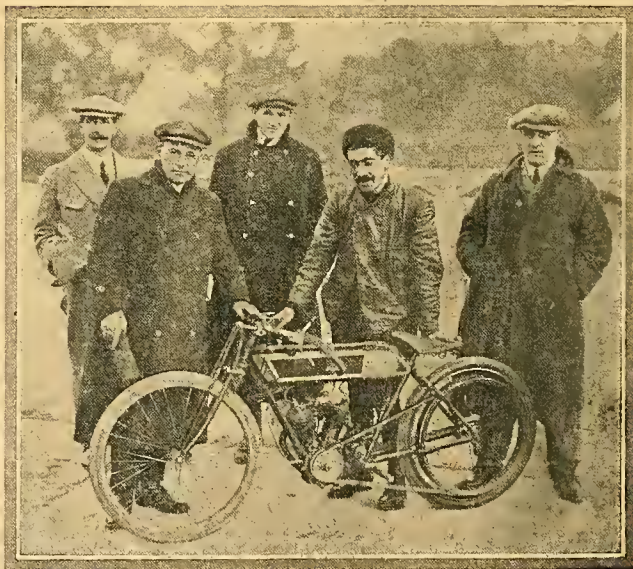
HUMBER ACTIVITY AT BROOKLANDS.

Fifty Miles, Hundred Miles, One Hour, and Two Hour Class B Records Broken.



S. Wright and P. J. Evans mounted on 2½ h.p. twin-cylinder Humbers at the start of the successful attempt on record.

ON Wednesday afternoon last week, Sam Wright, the Humber veteran, and P. J. Evans, the Junior Tourist Trophy winner, both under the parental protection of Bert Yates, another Humber veteran record breaker, set out to lower all the Class B record times they could in the space of two hours. Wright rode the 2¾ 60 by 60 mm. 340 c.c. twin which had competed both in the T.T. and the Six Days' Trials; Evans was similarly mounted, but on a newer machine.



At the end of two hours in which time 109 miles 980 yards were covered. Standing beside Wright are B. Yates and the brothers Bashall.

been doing so well his machine, owing to misfiring, slowed down at the thirty-sixth lap to 3m. 24s. per lap. At the fortieth lap he had to stop and replace a plug, and when this was done he found he had only sufficient time left to cover one lap. The record, however, was his, as in the two hours he covered 109 miles 980 yards. Previous best, 95 miles 1,230 yards, by H. J. Cox (2¾ h.p. Forward, 56.75 by 68 mm., 344 c.c., September 11th, 1911). Wright's time for the 100 miles was 1h. 45m. 31¼s., that of Cox 2h. 5m. 37¼s.

This performance is interesting, as it is the first record attained under the new Brooklands silencer regulations. Wright's machine had a standard T.T. exhaust pipe extending to the rear of the machine, with the end of the pipe flattened and holes bored ¼in. from the extremity.



S. Wright stops to have a plug changed.

TWO NOVEL THREE-WHEELERS.

A "WELL-TIMED" A.C.

THE accompanying illustration shows an A.C. passenger carrier that is attracting a good deal of attention in South London. It is owned by a firm of clock makers and repairers, and in front and on each side is fitted a large clock with circular dial—each clock being set to Greenwich time.

The body has been adapted to carry a passenger on a seat at the right-hand side, and a clock repairer and winder, as seen in the photograph, invariably travels with the machine. In addition to the three clocks, others which have received repair are carried in the delivery box insulated by means of soft matting.

The illuminated glass signs on each side that also serve as side lamps are another novelty. Both are lit by twin burners, and a car-sized head lamp is fitted, the whole being supplied by a large generator of six hours capacity.



An A.C. owned by a firm of clock makers.

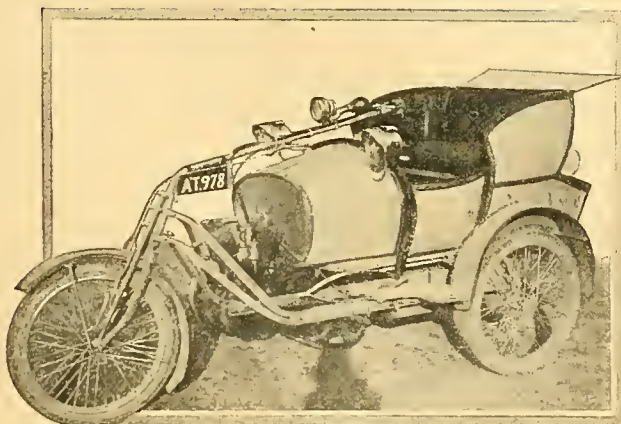
Although this must be one of the heaviest loaded A.C.'s in use, it is quite satisfactory, and the air-cooled engine performs its work in first-rate style. In course of business, the machine runs about fifty miles daily.

So far the clocks have not been affected by the vibration.

With a chronometer or two fitted it would be a useful machine at trials and competitions, especially with the travelling expert.

A HOME-MADE SOCIABLE.

THE novel three-wheeled runabout illustrated herewith has been built and designed by Mr. Calvert, of Swandon, near Hull, with the assistance of a local engineer. The seats are arranged sociable fashion, the body being called a torpedo pattern. The engine, which is a twin-cylinder 6 h.p. Sarolea, transmits the power *via* a two-speed gear box, and we are told that the machine will attain a speed of 30 m.p.h. on the road, and that its consumption is

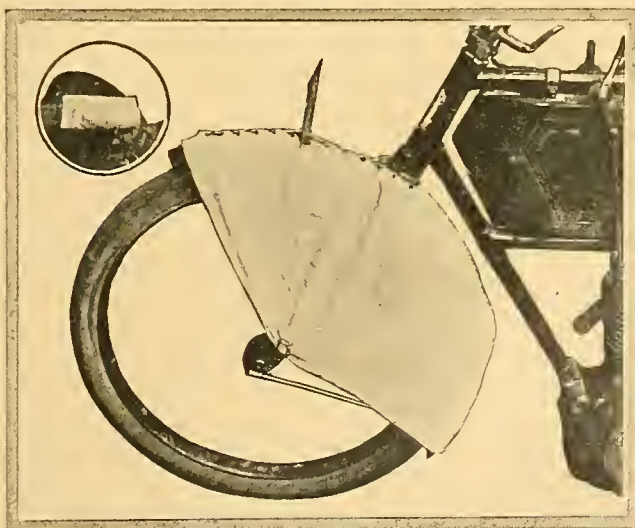


A locally-built twin-cylinder sociable, with tiller steering, some details of which are given in a paragraph on this page.

fifty miles to the gallon. The petrol tank will be noticed at the rear of the seats. There is no tendency for this three-wheeled machine to overturn at corners, we are assured by the owner, and the tiller steering answers all requirements.

A DETACHABLE FRONT WHEEL MUDGUARD.

WITH the advent of autumn, the mud problem again demands attention. We have received from Mr. W. F. S. Harding, of Frensham, Farnham, Surrey, a sample of his front wheel cover shield, which may be attached or detached in a few minutes. When not in use, the cover may be folded up into a small space to occupy a corner of the toolbag. It only weighs three ounces. The method of securing the cover is by eyelet holes and a leather lace. At the extreme lower end of the mudguard a small stud is fitted, which passes through an eyelet in the shield, thus securing the cover at this point.



A detachable front wheel covering for use on muddy roads. Inset the cover folded up and laid on the saddle.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

No Power on Hills.

? I have a $3\frac{1}{2}$ h.p. 1905 Rex with accumulator ignition and cannot get power. It fairly lies on level, but when it comes to a hill it won't go at all. The compression is excellent. Do you think a larger jet would be an advantage?—W.E.S.

You might try a larger jet with advantage, and also try a slightly lower gear.

Magneto Point Burning.

? Will you kindly suggest a possible cause and remedy for the platinum point on the bell crank lever of contact breaker on Bosch magneto burning out after about 1,000 miles running? The fibre on the lever doesn't bear on the steel segment the full arc, therefore the points close before the full distance of segment is traversed. Would this have any effect on them? Point on contact piece is still good, whilst two on the breaker have burned out.—W.R.C.

The trouble is due to a bad electrical connection to the condenser, that is, the steel strip leading from the condenser to the central contact screw inside the contact breaker case. See that these points are clean, and that a firm contact is made.

$3\frac{1}{2}$ h.p. or 5 h.p. for Sidecar.

? I have a 1911 f.e. Rudge which I use with a Herald rigid wheel sidecar. The combined weight of passenger and myself is twenty-one stones. I have the offer of a 5 h.p. f.e. twin Indian in exchange for my Rudge with a few pounds cash adjustment. Do you consider it advisable for me to accept this offer, taking into account (1) that I intend to keep whichever machine I decide on for several years. (2) Keeping two cylinders in order against one. (3) Chain drive compared with belt drive. (4) More expense in petrol, tyres, etc. (5) Would engine and frame of twin withstand the strain of sidecar work better? (6) Would it be necessary to change sidecar wheel to 28in. to match bicycle wheel. I should be glad if you could also tell me if you think a Jones three guinea speedometer would be a satisfactory investment, and if the three guinea variety can be reset after 10,000 miles.—W.C.A.

(1-2) There is no doubt that for sidecar work the larger twin-cylinder machine is

the better. Of course, it takes slightly more keeping in order than a single. (3) We prefer chain drive for passenger work. (4) On the other hand, there is slightly more expense as regards petrol and tyres. (5) The frame should be quite satisfactory. (6) It will not be necessary to change the sidecar wheel to 28in. We have no hesitation in recommending the speedometer mentioned, it is quite good. The speedometer in question resets itself automatically after 10,000 miles.

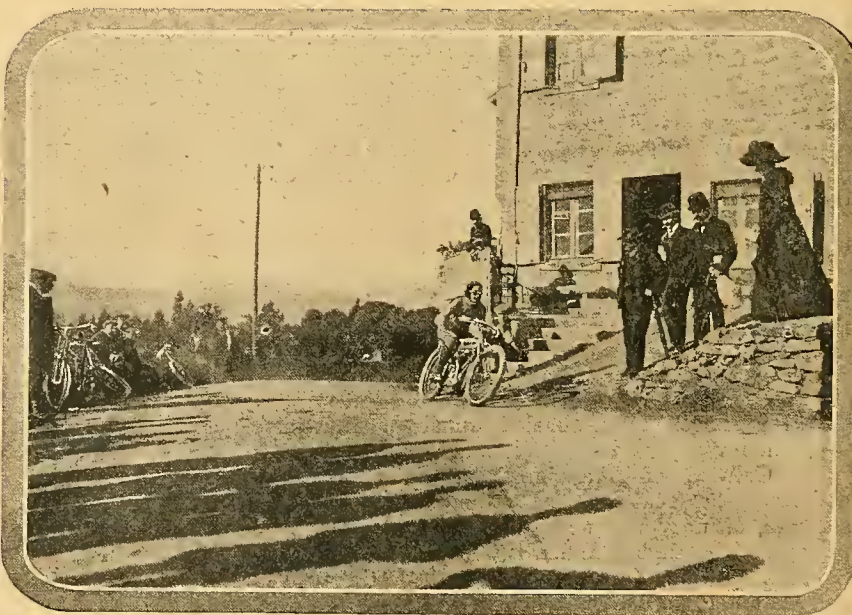
Respecting a Sidecar.

? I desire to get a passenger machine, but a perusal of your columns has not cleared away my doubts about what to get. The main consideration is economy of running, but the machine would be required to negotiate main road hills (e.g., between Manchester and Sheffield) with sidecar, and not more than 20 stones up. (1) I have a fancy for a N.S.U. $3\frac{1}{4}$ h.p., with two speeds and clutch. Do you consider this would be a suitable investment and meet my re-

quirements? As the undertaking is in the nature of an experiment (my intended passenger being excessively nervous), I don't want to lay down more than £30 or £35 at first. (2) Should you recommend a competition-used but otherwise new N.S.U., or advise a privately-owned second-hand? (3) What mileage could I expect to the gallon? (4) Would a twin-cylinder greatly increase running costs? (5) Would attaching and detaching the sidecar with every run, for storage, be liable to injure couplings, or should they be disturbed as rarely as possible?—J.W.

(1) The machine about which you enquire would suit your purpose admirably. (2) We should recommend the machine which has been slightly used, if it is for sale by the N.S.U. Company, as it would be overhauled before being sent out. (3) Between seventy and eighty miles to the gallon. (4) No, the increase in the cost of running would not be very great—say 15%. (5) No, with a modern sidecar, attaching and detaching does no harm, the couplings are too strong for that.

A FRENCH MOUNTAIN CLIMB.



Gabriel (T.T. Triumph) second in Class III, for 500 c.c. machines in the Mont Verdun (Lyons M.C.C.) hill-climb. His time was 4m. 0½s., that of the winner Escoffier (Magnat-Debon) 3m. 33½s.

Forced Induction.

?

I have a 1911 $3\frac{1}{2}$ h.p. Premier, fixed engine. I should be obliged if you would tell me if it is advisable to fit an extra air inlet pipe? What does this pipe actually do practically and theoretically? What should it be like, i.e., straight to the rear, or what? I must add that I have had no trouble with my machine, and only desire to add to its efficiency if possible.—O.H.S.

We should hardly think it would be worth while fitting an extra inlet pipe for ordinary touring purposes. The pipe in question should be about 4in. long, extending directly behind the carburetter. This is said to induce an extra flow of air, which carries with it an increased quantity of spirit, thus producing a slight increase of power and greater economy. The theoretical effect is that of forced induction.

Newark to Hastings and Brighton.

?

Can you tell me the best way from Newark to Hastings? (1.) To miss London. (2.) To go through a part of London. Also from Newark to Brighton.—J.A.C.

To go through London your best route would be as follows: Newark, Grant-ham, Stamford, Stilton, Eaton Socon, Biggleswade, Baldock, Stevenage, Hatfield, North Barnet, Regent's Park, London, cross Westminster Bridge, and after passing the railway bridge keep to the left. This will bring you eventually to Old Kent Road, which follow through Lewisham and Bromley. Continue through Sevenoaks, Tonbridge, Lambethurst, Robertsbridge, Battle, to Hastings. It would be infinitely preferable, however, to miss London altogether and to leave the Great North Road after Stamford, going through Hertford, Ware, Harlow, Chipping Ongar, Brentwood, Tilbury, by ferry to Gravesend, and go through Meopham, Wrotham, Tonbridge, where you join the Hastings Road. To reach Brighton from Newark follow the Great North Road to Hatfield, and then go through St. Albans, Watford, Rickmansworth, Denham, Uxbridge, Colnbrook, Staines, Chertsey, Woking, Guildford, Cranleigh, Horsham, Cowfold, Henfield, Piecombe, Brighton.

Sidecar and Speedometer Wanted.

?

As a constant reader of your valuable paper may I ask you a few queries? (1.) Will a sidecar with 26in. wheel fit an Indian twin which has 28in. wheels, or should I have to get a 28in. wheel fitted (most or all sidecars advertised have 26in. wheels)? (2.) When ordering a speedometer for an Indian cycle, must I specify for a 28in. wheel, or does it suit both 26in. and 28in.? (3.) Can a free engine clutch be fitted to a 5 h.p. fixed engine Indian, and about what is the cost? (4.) On what part of an Indian engine must one look for the date of manufacture? (5.) Where can I get a long registration number?—TROUBLESOME.

(1.) A 26in. wheel sidecar would fit. To 1911 models a 28in. wheel sidecar cannot be fitted. (2.) You must order the speedometer for a 28in. wheel. (3.) A free engine clutch could be fitted at a cost of

£4 10s. plus 10s. extra for the cost of fitting. (4.) The engine number is on the crank case. If you let the Hendee Mfg. Co. have this number they will tell you the date of manufacture. (5.) We should advise you to apply to the London County Council, Spring Gardens, S.W. (Motor Car Registration Department).

Two or Four-stroke?

?

I am getting either a P. and M. or Scott 1912 machine. Can you tell me which would be the most valuable after, say, five years, used carefully of course?

Could you tell me which would be likely to be the most lasting machine in wear? There seems to be nothing to get out of order on a Scott which a person of average mechanical intelligence could not attend to. I do not mind the extra petrol and oil consumption, provided it has the equivalent extra efficiency over the P. and M. It would be used mostly solo—sidecar work only occasionally. I know the P. and M. to be good, as I have one. But I have an inclination for a Scott owing to the various good ideas incorporated in it, but would like some information as to the wearing qualities of the engine, and how frequently the engine requires overhauling. Is the frame quite safe for sidecar work?—R.H.B.

It is impossible to say which will be the most valuable machine at the end of five years, as one does not know what improvements either of the two firms will bring out. We do not think there will be any difference with either as regards wear; both are first-class makes. We do not think you would find the two-stroke engine to be superior to the other as regards efficiency, but as regards even turning effort it is necessarily superior. There is no reason whatever why the engine should not wear extremely well. The frame is entirely satisfactory for sidecar work.

Knocking after being Rebushed.

?

Can you give me any information on the following? 1908 $3\frac{1}{2}$ h.p. just rebushed, new piston rings and gudgeon pin. Since this has been done the engine continually knocks. It never did so before. The magneto has been so timed that the engine can be made to roar, and also nearly to stop. When travelling I can retard until it will no longer pull, and it still knocks. If advanced it will knock louder. The piston is a good fit. Since the renewal of these parts the machine has run about 200 miles. It knocked from the first and is still doing so.—C.R.H.

We should say that the piston ring and gudgeon pin are rather too tight a fit in the engine. What we should recommend you to do is to take the machine to the works and let the manufacturers examine it.

EXPERIENCES WANTED.

"C.N." (Harrow). A.S.L. 1910 or 1911 model; reliability of air springs.
 "G.W." (Surrey). Rex 5 and 7 h.p. engines with overhead inlet valves.
 "R.O." (Chippenham). $2\frac{3}{4}$ h.p. Douglas and $2\frac{3}{4}$ h.p. Enfield.
 "H.C.W." (Chalfont St. Peter). $2\frac{1}{2}$ h.p. F.N. and $2\frac{3}{4}$ h.p. Moto-Rève.
 "A.M.S." (Cheltenham). $2\frac{1}{2}$ h.p. two-speed A.J.S.
 "G.H." (Torquay). 4 h.p. Scott.
 "W.B.D." (Derby). Four - cylinder F.N., two-speed gear model.
 "A.H.L." (Ramsgate). Douglas or Enfield lightweight.
 "H.A.C." (Cambridge). $2\frac{3}{4}$ Enfield.
 "R.L." (Anerley). $4\frac{1}{2}$ h.p. Precision and 4-5 h.p. Norton.
 "Camlin" (Croxeth). 7 h.p. T.A.C.
 "R.D." (Whyteleafe). $3\frac{1}{2}$ h.p. Rudge, fixed and free engine models, particularly with regard to adjustable pulley.
 "J.A.D." (Woodford). Clutch and free engine for a twin Bat.

NEW SOUTH WALES SIDECARISTS.



Left—Mr. and Mrs. J. Elliott; right, Mr. and Mrs. E. Cooper of Sydney, whose mounts are respectively a locally-built 5 h.p. Elliott-Jap, and a $3\frac{1}{2}$ h.p. L.M.C.

ELECTRICAL TIMING.

K NOWING that readers of *The Motor Cycle* are interested in the above subject, I give a short description of an apparatus which has been devised for the Canterbury and District M.C.C., specially for such events as hill-climbing, short speed trials against the clock, etc.

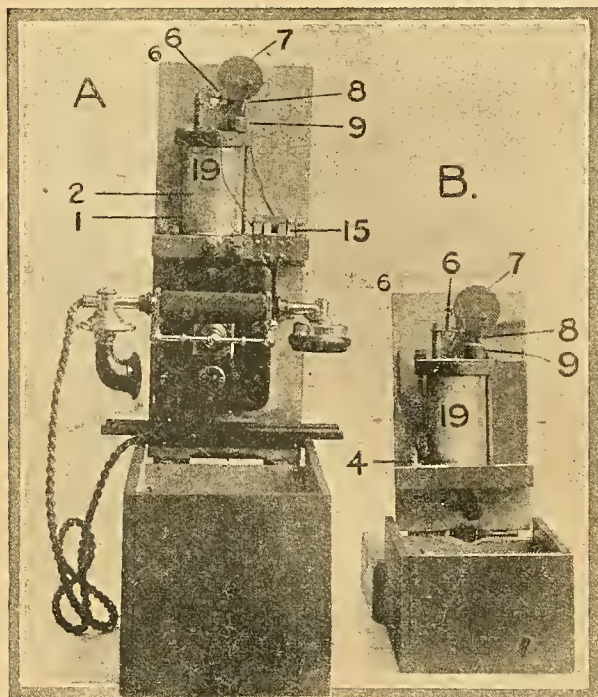
In the first place, I must acknowledge my indebtedness to the designer of a similar apparatus which won *The Motor Cycle* prize. (See page 666, issue of June 29th.)

Referring to the photographs, the interrupter and telephone A are fixed at the starting point, while the recorder C and second interrupter B are at the finish.

The communication wires are led up the side of the hill by means of a large drum mounted on a road wheel which is fitted with a simple automatic re-winding gear. The ends of the wires are connected to the terminals 1, 2, on A, and at the finish to the terminals 3 on C.

As it is not always convenient to have the recording apparatus set up exactly at the finishing point, provision is made for connecting the interrupter B to the recorder by means of a short length of flexible wire from the terminals 4 on B to those marked 5 on C.

It should be noted that the communication wires up the hill are not used in recording the finish; consequently, as will be shown later, full telephonic communication is available at all times except during the actual starting moment.

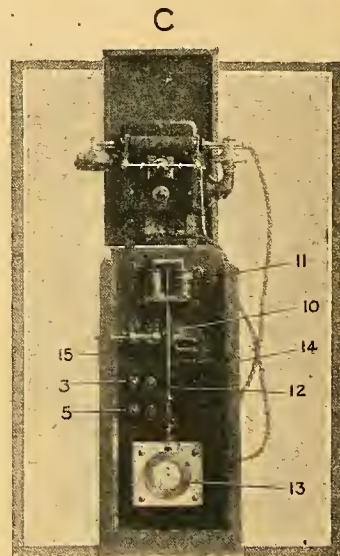


The apparatus A is used at the start and B at the finish.

The starting and finishing lines are cotton threads stretched lightly across the road and fixed at one end to a suitable post, while the other ends are hooked over levers 6, just visible on both A and B. The lever 6, when pushed against the disc 7, engages with

a small stop pin on the face of the disc, the latter being caused partially to rotate under the action of a weight in the cylinder 19, acting on the periphery of 7 by means of a fine cord. On touching the cotton, lever 6 clears the stop pin and the disc rotates partially, causing the crank-driven plunger 8 to dip into and withdraw from the mercury in cup 9, thus making and breaking the recording contact. During transport, a small cork inserted into the mouth of the mercury cup prevents spilling.

To obtain a definite duration of contact, the weight is made in the form of a light piston nearly fitting the cylinder 19 and forming an air dashpot of slight retarding effect. Contact is established immediately, but the fall of the piston is somewhat checked as it nears the end of its stroke.



The recorder containing the watch.

The Method of Working.

Coming now to the action of the recording apparatus, the necessary dry cells (four in number) are carried in case C, and suitably connected up permanently. The feeble current received from A through the relatively high resistance of the line wires actuates a magnetic relay 10 on C, which closes the circuit of the main electro-magnet 11 and starts the watch 13 through the brass plunger 12. On release of contact this plunger is returned by a spring shown in the photograph. The interrupter at the finish connects direct to 11 without the use of the relay, and thus the watch is stopped at the finish in a similar manner to that in which it is started. The time being observed, the watch is returned to zero by touching the button 14.

Telephonic communication is established by means of the change-over switch 15 seen on A and C. In actual practice these switches are both kept on "telephone" until a competitor is ready to start; the operator at the start then warns the one at the finish and both switches are reversed. The competitor having crossed the starting line (which is known at the finish by the watch having started), both switches are again placed on "telephone" and kept there until the next competitor is ready.

I found the apparatus to work very satisfactorily at its first trial, and a number of events were run off in very short time, results being recorded to one-tenth of a second with ease. The watch has a thirty seconds dial, consequently readings are made more easily than when the usual sixty seconds dial is employed.

H.A.D.

HOW TO BUY AND SELL MOTOR CYCLES.

It is an almost impossible thing to sell a motor cycle for cash to-day. We are now speaking from experience. We have sold over 1,000 Motor Cycles in the last eighteen months, and we consider that the number of cash deals that we have had will not be twenty-five. Every month will find it more difficult to dispose of machines for cash. When the cash buyer does arrive, he wants so much taken off for his cash that, as a rule, he is not worth bothering about.

We have found an enormous success from our system of selling other people's machines on commission. The following is an example: You send us along your machine, for which you want £30. We sell you this machine for £30, less five per cent. (our commission), and send you a cheque for £28 10s. Our customer may probably give us an accumulator machine for this, together with some cash, and pay the remainder at so much per week; or he may exchange with us a magneto machine and the balance in cash. Or, again, he may pay one-third down, and enter into an arrangement to pay the balance by monthly instalments. All these are chances which you (a private seller) never have. You have to wait until some Sunny Jim comes along with thirty golden sovereigns. These boys are bad to get hold of, and, when you get them, they are the worst possible people to deal with, as they in almost all cases don't want to part with their money, and yet want the machine, so that we don't envy the private seller when he has to sell for cash. Besides these examples you will be deluged with letters from people wanting to exchange bull pups, fancy canaries, prize poultry, pianos, sideboards, typewriters, and other luxuries; also probably the man with a lot of money to dispose of, and the man who is in the farming line with a lot of cheese on hand, which he thinks you ought to accept in part payment for a motor cycle. They all write to the man who advertises. If you answer them all you will want a staff of typewriters, and if you don't answer them they will feel highly indignant. On the top of this, they may drop in on a Sunday afternoon, when you are having a siesta, and perhaps bring a sample of their wares with them. Then, again, there is the amusing gentleman, who has exceptional ideas of his credit, and who writes and tells you that he will send £10 and the balance in a month. This is all right if you happen to be able to persuade him to let you keep the machine while you get the second instalment; but if you don't, in nine cases out of ten you will get no more than the £10.

If you are busy in your own profession or business it means that you have to give a great amount of attention to this matter, which would be utilised to greater advantage in your own particular line. Taking one thing with another, it never pays the private seller to advertise his goods. Note the numerous gentry who lose their machines when they are tempted to go in for amateur motor cycle dealing. At the same time we have great sympathy with them in their losses, but would remind them that Hitchen's, of Morecambe, are still prepared to sell on commission, so that when they buy another machine, they will not repeat the mistake of indulging in the motor cycle trade without experience and the facilities for successfully carrying through this intricate business.

The fact that we get so many machines through daily to sell on these terms proves conclusively to us that the five per cent. charged is acceptable to our clients, who prefer to let Hitchen's put the deal through, and pay him his commission in preference to being bothered with these messing jobs themselves.

The above shows you how to sell motor cycles. Now for the man who wants to buy one. If you can drop across someone who has one to sell at a very cut price, and who will let you pay, say, £10 down, and the remaining £20 some time else, you cannot do better than purchase from him; but if you ask us, there are not many of this sort about. If you want to do a deal in a straightforward manner, without any bunkum and coddery, you cannot do better than write to us. Tell us what you want to buy, what you want to pay for it, and how you want to pay; and, if we cannot fix you up, no one else can. Of course, we are now talking of the man who wants to buy a machine, and not the chap who expects to get a present, such as a 1911 Triumph for £11. These we cannot entertain, nor yet shall we be able to accommodate the bloke who thinks that he should come across a nice motor cycle, with two-speed gear and sidecar, for about £12 or £15, because the season is

over. To such like we would casually mention that we never find the season to be over to this extent, as there is always someone wanting motor cycles, and our mail-bag is always full of enquiries, presumably because we always answer every letter—even from the funny man.

By the by, a most important reason why you should let us have your order is because we are the only firm in the whole world who send you goods on approval, and if they don't suit you, you are at liberty to return them and have your money back within three days and an exchange any time. Or, if it is a swap, have your goods back in the same way. We make no charge for these favours. There is one thing that we do want, and that is to give satisfaction. We have written week after week that if you are not satisfied with our treatment, write and let us know what is the matter. If you are not satisfied, and you don't write, it is your own fault, and you must grin and bear it. If you have a machine that does not suit you, there is no need to keep it. We are always prepared to exchange it for another one. If you ever hear a man say that he is dissatisfied with a deal from Hitchen's, of Morecambe, tell him from us that he must be a fool, otherwise he would get into communication with the firm, and have his dissatisfaction turned into satisfaction. What more can we do than this? There are some people who never are pleased. However, this sort we can do without. If you are open to be satisfied, we are always pleased to hear from you, and our motto is on each billhead, as follows: "Anything you buy from us which suits you, tell your friends; if not, tell us."

Until next week so long, bloys!

1911 MODELS.

ZENITH-GRADUA, 3½ h.p.	£55 0
P. and M., 1911, two-speed, just in.	£58 10
BRADBURY	£48 0
BAT J.A.P., 5 h.p.	£58 0
BRADBURY, two-speed	£55 0
SCOTT, 1911, two-speed, just come in	£60 0
BAT J.A.P., 8 h.p.	£60 0
HUMBER, two-speed	£50 0
ZENITH-GRADUA, 5 h.p.	£65 0
TRIUMPH, free engine, just in	£55 0
HUMBER, 1½ h.p., single-cyl., three-speed	£39 0
TRIUMPH, standard, 21 stock	£48 15
RUDGE, 1911, free engine	£55 0
DOUGLAS, Model D	£40 0
DOUGLAS, two-speed, Model E	£48 0
ENFIELD, chain drive, 1911	£39 0

All above and any other new machine can be bought on the deferred terms, with one quarter down and balance in twelve monthly payments. We are now booking orders for 1912 machines on same terms.

GOOD S.H. MACHINES.

All guaranteed running order before leaving

Morecambe.	
ENFIELD, 1910, splendid order	£27 10
MOTO-REVE, 1911 twin	£30 0
DOUGLAS, 1910, grand	£31 0
DOUGLAS, 1910	£29 0
MOTO-REVE, twin, 1910½, new	£27 0
MOTO-REVE, 1910½, twin, fine order	£23 0
MOTOSACOCHE, free engine	£20 0
SIMMS, 1½ h.p.	£10 10
F.N., 1½ h.p.	£15 0
DOUGLAS, 1910, fine order	£29 0
Lady's HOBART, as new, three-speed	£39 10
ENFIELD, 1910, fine order	£28 10
MOTO-REVE, 1910, single-cyl., as new	£22 0
HUMBER, two-speed, 1911	£32 10
HUMBER, two-speed, 1910	£39 0
N.S.U., 3 h.p.	£16 10
BROWN, 1909, 3½ h.p., free engine	£25 0
BROWN, 1909, twin 5 h.p.	£21 0
HUMBER, 1911, two-speed	£37 10
BRADBURY, 1910, fine order	£35 0
SINGER, 3 h.p., magneto	£12 10
N.S.U., 3½ h.p., M.O.V.	£15 0
REX, Twin, 2 h.p., four-speed	£23 0
J.A.P. CHATER-LEA, 2 h.p.	£22 10
BRADBURY, two-speed, as new	£45 0
BRAITHWAITE, 1909, 3½ h.p., two-sp'd	£29 0
N.S.U., two-speed, 5 h.p., twin, 1910½	£39 0
N.S.U., 4 h.p., twin, two-speed	£29 0
J.A.P. CHATER-LEA, 10 h.p., racer	£40 0
F.N., 4-cyl., 4½ h.p.	£22 10
ZENITH, 6 h.p., late 1909, Gradua gear	£40 0
J.A.P. CHATER-LEA, 4 h.p., free engine	£26 0
P. and M., 1910, perfect order	£45 0
BAT J.A.P., 5 h.p.	£32 10
REX 5 h.p., fine order	£27 10
BAT J.A.P., two-speed, 1910	£48 0
REX de luxe, two-speed	£35 0
P. and M., 1910, splendid order	£50 0

REX, 3½ h.p., M.O.V.	£15 0
KEX, 1910, 3½ h.p., splendid order	£28 0
SIMMS, 2½ h.p., magneto ignition	£12 0
REX de Luxe, 5 h.p. twin, 1911	£45 0

Many of the above machines can be purchased on the deferred terms, with one-third down and the balance in twelve monthly instalments.

Sold out of accumulator machines at the moment, but more coming in. Therefore state your wants, and let us fix you up.

SEASONABLE LINES.

Special Separate Generator Lamp	12/6
Special Bracket ditto Lamp	22/6
1911 F.R.S. Latest	58/6
1911 Lucas Latest	55/- and 50/-
1911 Lucas Lightweight	35/-
State wants, as we have largest stock in the world, and make good allowance for old Lucas and F.R.S. lamps. Silver or ebony finish.	
S.H. Leather Coats	13/6
New Leather Coats	£2
Long Waterproof Umbrella Coats	5/11½
Oil-skin Breeches	2/11½
100 Motor Cycle Saddles (new)	8/11½
1000 Brand New Inner Tubes, all sizes	4/11½
Waterproof Suits complete	12/11½
Cowey 1911 Speedometer, new	£3 10
Jones 1911 Speedometer, new	£2 15
Ajax Heavy Tyre	35/-
MORECAMBE Studded, new pattern	19/11½
Heavy MORECAMBE Studded, new pat.	23/11½
50 Odd Tyres from 13/6 to 17/6 to clear.	
Mabon 1911 Free Engine	£2 5
Large Side Bags	5/11½
Swan-neck Seat-pillar	2/9
Special Strong Carrier	4/5½
E.I.C. Plugs, 2/6 size	each 1/1
Magnetos, S.H., all sizes	£3, £3 5s., and £4
Parker Self-contained Lamp	15/11½
Special Bracket Separate Generator Lamp	23/6
F.I.E.N. Magnetos	£3 4 11½
Sidecar Aprons, ready to fit	6/11½
Special Twist Horn	3/11½
New F.R.S. Generators	7/-
Exhaust Cut-outs	2/11½
Handle-bar Mirrors	2/9 and 4/6
Tube and Belt Cases	5/11½
Rubber Belts, 7½ ft. x 1 in.	5/11½
Special H.B. Watch Holders	10/1d. and 1/11½
New Self-contained Lamp, large size	13/11½
Tubes, all sizes, brand new	6/11½ and 8/11½
Leather and Steel-studded Bands	19/9
S.H. Lucas Lamps, complete	30/-
B. and B. Carburettors, h.b. control, 1911	23/-
Trembler Coils	6/11½
No-trembler Coils	6/9
S.H. N.A.B. Seat-pillar	7/6
Carbide Carriers, post free	1/10½
Rubber Goggles	1/5½
Brass Exhaust Whistles	2/11½
T.B. Hand Starter	10/6
Garner's Whistles, post free	12/6
Lamp Brackets, all patterns	1/11½
Horn Grips	1/11½
Assorted S.H. Carburettors, h.b. control	12/6
S.H. P. and H. Generators, complete	7/8
S.H. Parker's Generators, complete	6/9
New Generators	4/11½
Tan Gauntlet Gloves, 4/5; lined	4/11½
S.H. Whistle Belts from 1/- to 2/9 per foot	
Triumph Combination Domes	2/2
Hellesen Dry Cells	4/6 and 6/6
Large Triumph Pattern Horn	4/11½
Waterproof Leggings	4/11½
Ditto ditto with fronts, 8/11½ add.	9/11½
Ditto Suits	19/11½
Handle-bar Watch and Holder	3/11½
Butted Tubes, all sizes, brand new	12/6
Triumph Pattern Handle-bars	5/8
Long Handle-bars	4/11½
Lots of Engines and Parts of Motor Cycles, cheap	
Mudguards, enamelled, 3½ and 4½, pair	3/11½
Leather Gauntlet Gloves	2/11½

New Green Specification List now ready, free.

THIS WEEK'S WANTS.

S.H. Speedometers, Whistle Belts, N.A.B. Seat-pillars, Saddles, Lamps, Horns, Leather Suits, and anything motor cyclist. Cash or Exchange. State what you have. No rubbish, please.

HITCHEN'S MOTOR EXCHANGE CO., LTD.,

Euston Road, MORECAMBE.

Telephone 112. Wires: Motor, Morecambe.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



Northumberland, Cumberland, Durham, and Westmoreland.

York and Lancashire.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

Nottingham, Lincoln, Leicester, Rutland, Northampton, and Warwick.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants.

Channel Islands.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

Somerset, Devon, Dorset, and Cornwall.

Scotland.

Ireland and Isle of Man.



**FOR BIG
SELECTION
AT SMALL
COST**

Call and see our great show of over 200 up-to-date Motor Cycles, including latest new models at lowest prices; and genuine second-hand bargains of all makes, including—

4277.	1½ h.p. 1910	SINGER Moto-Velo	£22 10
4393.	3½ h.p. 1911	CHASE, Peugeot eng.	30 Gns.
4420.	3½ h.p. 1911	F.E. PREMIER	40 Gns.
3894.	1½ h.p. 1910	F.E. MOTOSACOCHE	£22 10
4308.	7 h.p. 1910 2-sp.	V.S. and sidecar	40 Gns.
4546.	3½ h.p. 1911	KERRY-ABINGDON	£33 10
4369.	5 h.p. 1911	F.E. INDIAN	£45 0
4475.	3½ h.p. 1911	Standard BRADBURY	£40 0
4312.	3½ h.p. 1910	Standard TRIUMPH	£37 10
4229.	8 h.p. 1910	Standard BAT	£40 0
4526.	3½ h.p. 1909	Standard TRIUMPH	£28 0
4564.	3½ h.p. 1911	F.E. TRIUMPH	£45 0
4448.	3½ h.p. 1911	Standard BRADBURY	£37 10
4539.	2½ h.p. 1910 2-speed	F.N.	£26 10
4562.	3½ h.p. 1908	Tourist REX	18 Gns.
4511.	3½ h.p. 1909	Standard TRIUMPH	£30 0
4566.	3½ h.p. 1910	P. & M.	£43 10
4527.	3½ h.p. 1911	KERRY ABINGDON	£33 0
4533.	2 h.p. 1911	HUMBER, Armstrong 3-speed gear	£35 0
4298.	7 h.p. 1910	Twin REX DE LUXE and sidecar	£45 0
4361.	3½ h.p. 1911	F.E. BRADBURY	40 Gns.
4474.	3½ h.p. 1910	Standard PREMIER	£30 0
4370.	2½ h.p. 1911	Standard DOUGLAS	£32 10
4322.	3½ h.p. 1911	2-speed N.S.U.	£37 10
4425.	3½ h.p. 1911	F.E. PREMIER	40 Gns.
4552.	3½ h.p. 1907	TRIUMPH	£23 10
4571.	3½ h.p. 1911	BAT and sidecar	£40 0
4287.	3½ h.p. 1909	TRIUMPH	£32 10
4481.	5-6 h.p. 1911	4-cyl. F.N.	£28 0
4542.	3½ h.p. 1910	Standard PREMIER	£30 0
4432.	5 h.p. 1909	Twin REX DE LUXE	£32 10
3410.	3½ h.p. 1908	N.S.U.	£18 10
4346.	3 h.p. 1909	FAFNIR	£20 0
4492.	2½ h.p. 1910	DOUGLAS	£26 10
4447.	2½ h.p. 1910	ROYAL ENFIELD	£22 10
4537.	3½ h.p. 1910	CENTAUR	£28 0
4308.	7-9 h.p. 1910	2-speed V.S.	£36 10
4431.	5-6 h.p. 1911	T.T. BAT	£45 0
4569.	5-6 h.p. 1910	4-cyl. F.N.	£22 10
4573.	2½ h.p. 1908	DOUGLAS	£15 0
4160.	2 h.p. 1908	MOTO-REVE	£15 0
2818.	3½ h.p.	ANTOINE	£15 0
4479.	2½ h.p.	MINERVA	£6 10
4260.	2½ h.p.	BRADBURY	£10 10
3295.	1½ h.p.	MOTOSACOCHE	£17 10
4404.	3½ h.p. 1908	WANDERER and sidecar	£25 0
4444.	1½ h.p. 1909	WOLF	£12 10
2965.	2 h.p. 1909	MOTO-REVE	20 Gns.
4146.	3 h.p.	N.S.U.	£15 0
3803.	2½ h.p.	ARIEL Minerva	£6 10

WRITE FOR LISTS.

WAUCHOPES

THE CITY HEADQUARTERS
FOR ALL BEST MAKES,
**9, SNOW HILL,
FLEET ST., LONDON, E.C.**
Telegrams: "Opifcer, London."
Telephone: 5777 Holborn.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 20, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o 'The Motor Cycle,' 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Hille and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

2 h.p. Wolf-Minerva, 26x2; also Wolf engine, less cylinder, £4/10.—14, Norfolk St., Stockton.

HUMBER, 1911 lightweight, 2½ h.p., with accessories, perfect condition; £27.—Carnforth Cycle and Motor Co., Carnforth.

ARIEL, 3½ h.p., June, 1910, free engine, White and Poppe decompressor, spring saddle-pillar, Whittle; £32.—Decker, 5, North Terrace, Darlington.

TRIUMPH, 1909, F.R.S. lamp, horn, spares, and all accessories, with rigid sidecar; a bargain, £32 ruineas.—Clark, 5, Gordon Terrace, Oxbridge, Stockton-on-Tees.

N.S.U., 3½ h.p., 1908, magneto, spring forks, adjustable pulley, 1911 B. and B., perfect running order £18/10.—Clement, Romney Rd., Kendal. Exchange higher power considered.

LIGHTWEIGHT, almost new, 1½ h.p. Clement engine 26in.x2in. Simplex headed tyres, plated wheels accumulator, in perfect going order; first £10.—White head, Home Farm, Gallowhill, Morpeth.

7 h.p. Indian, 1911 2-speed model, blue finish, Jones speedometer, spare chain, valves, tyre, etc., complete with 217 Mills-Fulford rigid sidecar, child's seat side door; cost £100, accept £75.—Hamilton, Blackhill Rd., Horden, via Sunderland.

SECTION II.

York and Lancashire.

ZENITH Gradua, 6 h.p., and sidecar; see Sidecar Columnations.

1911 Brand New P. and M., 3½ h.p., in stock; £56/10.—Ewbank, Castleford.

3 h.p. Excelsior, footboards, h.b.; £10.—Atkinson Summerbridge, Leeds.

REX, 2½ h.p., £3/10 to clear; slight repairs wanted.—Duggleby Sherburn, York.

1910 3½ h.p. Rex, with P. and M. 2-speed; a bargain £42.—A. H. Barnett, Ferrybridge.

BARGAIN.—3 h.p. Quadrant, climb anything, variable Amac; £7.—10, back Apple St., Bolton.

4 h.p. Twin N.S.U., good condition; £25, or offer.—7 Northfield Rd., New Moston, Manchester.

3½ h.p. Rex, B. and B., just overhauled; £11; aft 32 7 p.m.—W. Tuson, 72, Westcliff, Preston.

MINERVA, 2½ h.p., h.b.c., tyres perfect, condition excellent.—20, Osmondthorpe Lane, Leeds.

F.N., 4-cyl., late 1910, perfect condition, central intake; £35.—Evans, Little Houghton, near Barnsley.

1911 Scott, done 1,000 miles, new condition, perfect owner buying car; £51.—Cross, agent, Rotherham.

CROSS for Triumph and Matchless motors in Rotherham; new standard Triumph to clear, £46; 1911 Bradbury, £37.

The Halifax Motor Exchange

LARGEST REX DEALERS,
16, Westgate,
HALIFAX.

Phone: 766.

Telegrams: "Perfection."

NEW 1910 MACHINES. REDUCED PRICES.

910 3 1/2 h.p. Magneto Rex	28 Gns.
910 3 1/2 h.p. Magneto Rex, Cantilever seat	34 Gns.
910 5 h.p. Twin Rex, grand sidecar mount	36 Gns.
910 5 h.p. Rex de Luxe, 1911 forks and fittings	49 Gns.

These machines all bear makers' guarantee.

1911 SECOND-HAND MACHINES.

911 3 1/2 h.p. Tourist Rex, done 750 miles	£32 10
911 5 h.p. Rex, clutch model	£39 10
911 3 1/2 h.p. Rex, clutch model	£36 10
911 5 h.p. Two-speed Rex de Luxe	£46 10

THESE ARE ALMOST EQUAL TO NEW.

GUARANTEED IN RUNNING ORDER.

910 3 1/2 h.p. T.T. Triumph, grand machine	£38 10
910 7 h.p. Rex de Luxe, two speeds	£48 0
910 7 h.p. Twin Rex. HOT STUFF	£37 10
910 5 h.p. Twin Rex, very fast	£29 10
910 5 h.p. Rex de Luxe, new sidecar machine	£42 10
910 3 1/2 h.p. Rex, very fast, special machine	£27 10
909 Twin ex-de-Luxe, two speeds	£34 10
Twin Rex de Luxe, Roc clutch, wants attention	£16 10
910 Tourist Rex, smart and good	£24 10
908 3 1/2 h.p. Magneto Rex, very fast	£24 10
907 3 1/2 h.p. Magneto Rex, spring forks	£19 1s
1 h.p. Twin N.S.U., free engine	£23 0
1 h.p. Twin Rex de Luxe, Roc clutch, spring forks	£24 10
Grand New 3 1/2 h.p. Rex, spring forks and pedals	£31 0
Grand New Twin Magneto Rex	£38 0
Magneto Triumph, spring forks, specially low	£25 0
1 h.p. Rex, very good order	£8 10
1 h.p. Rex, very fine condition	£15 10
Four-cylinder F.N., magneto, spring forks	£18 1s
Magneto Lightweight	£18 10
1 h.p. Magneto Quadrant, spring forks	£20 0
Wolf, Stevens engine, h.b. control	£12 10
Twin Magneto Moto-Reve	£17 10

16 GUINEAS DEPOSIT,
 and 6 monthly pay-
 ments of 3 Guineas,
 purchases brand
 new 3 1/2 h.p. Tourist REX.
 Makers' price, £48.

1 h.p. W.C. Three-wheel Runabout, trembler coil,
 open frame, wheel steering, two speeds, chain
 drive, bucket seat, very smart £16 10

**6 SIX GUINEA DE LUXE
 SIDECARS,** merely
 very slightly soiled, &
 bearing usual guaran-
 tee. Clearance price £4 19 6

TO CALLERS ONLY.

WE have a few 1911 New and Unused Machines at
 big reductions from makers' prices for spot cash.

6 x 2 Continental and Clipper-Reflex Covers, beaded
 edge, 12/6.

Exchanges quoted for 1912 Bradbury and
 Rudge Models.

MOTOR BICYCLES FOR SALE.

F.N., 1909, 5-6h.p., 4-cyl., magneto, perfect order;
 cash £25, or exchange car.—E. Smith, Rutland
 Sq., Bakewell.

1911 3 1/2 h.p. Singer, absolutely as new, beautifully
 tuned, used Sundays only; £38.—19, Ivor Rd.,
 Egremont, Cheshire.

TRIUMPH, 1911 clutch, new belt, tyre, spares, enamel
 and plating perfect; any trial; £47.—Dr. Allan
 Miller, Foregate, Stafford

1911 Free Engine Bradbury, with lamp and horn,
 etc., only ridden 200 miles; £45/10. — Smith,
 Upper Grove Rd., Chesterfield.

DON'T Miss This.—3 1/2 h.p. Lincoln Elk. brand new
 May, 1911, beautiful condition, fully guaranteed;
 £22 spot.—Sandon, Chesterfield.

MATCHLESS, 1910, 6h.p., double lubrication, new
 belt and tyre, just overhauled; £36. — James
 Poole, Crown St., Wellington, Salop.

1911 2h.p. Moto-Reve, cost 32 guineas, not been
 ridden; offers; will take new Sunbeam cycle in
 part.—Fox, Lichfield Golf Club, Staffs.

1910 T.T. Triumph Racer, thoroughly overhauled
 spares, £40; 1911 3 1/2 h.p. Premier, £30; stamp,
 reply.—Minshall, Stoneway, Bridgnorth.

LATEST Bradbury, £42, shop-soiled; one ditto, in
 crate, £45; A.J.S., 2 1/2 h.p., 2-speed, £43, quite
 new; one ditto, £35; ideal winter mounts.

8 h.p. Chater-Lea and Sidecar, all spares, car tyres, 3-
 speed; cost £115 June, £80.—Below.

DOUGLAS Twin, perfect, £26; Clyno twin, 6h.p.,
 £35; accumulator models from £5.

ORDER Now for Triumph Bradbury Rudge, Douglas,
 A.J.S., and all the leading makes; delivery guaran-
 teed.—Marston's, 26, Bridge St., Chester.

1910 Speed Model Rex, 5h.p., in best of tune and
 condition; £25; now you speed merchants call
 and try.—Apply, Smith's Motor House, Chesterfield.

TRIUMPH, free engine (October, 1910), new condi-
 tion, carefully used, guaranteed, all spares;
 £36/10.—134, London Rd., Hazel Grove, near Stockport.

TWIN Rex, magneto, free engine, Cantilever seat,
 Whittle belt, adjustable pulley, spring forks, lamp,
 horn, spare valves, overalls; £14.—Walters, Stonebroom,
 Alfreton.

3 1/2 h.p. Triumph Motor Cycle, Bosch magneto, guar-
 anteed, spent £5/10 in renewals and overhaul;
 perfect running order; accept £23, no offers.—Millard,
 Chesterfield.

3 1/2 h.p. Rex, 1909-10, B and B. carburetter, new Lyso
 3 1/2 belt, Continentals, plating and enamel splendid
 condition; accept £24.—Leadbeater, 105, Sydney St.,
 Burton-on-Trent.

ARIEL 2 1/2 h.p., Amal, h.b.c., large tanks, low posi-
 tion, tyres good, new spare belt, spring stand,
 etc., fast, good climber; £11, or offer.—J. Harris,
 architect, Wrexham.

1911 Rudge, 2-speed gear, cost over £56 3 weeks ago,
 ridden under 200 miles; cash offers, or take
 Douglas or Triumph in part.—Box No. 8,825, The Motor
 Cycle Office, Coventry.

T.T. Bradbury, special engine, very fast, just been
 repaired after accident at cost of over £20, every-
 thing just as new, all spares; £39. — Apply, Smith's
 Motor House, Chesterfield.

1911 Bat-Jap, 5-6h.p., heavy non-kid Kempshalls,
 with coach-built Millford spring wheel sidecar,
 all in perfect condition; £52.—Lord, Highfield Villas,
 Woodford Rd., Bromhall, Cheshire.

TRIUMPH, 1910, fitted with Zenith Gradua gear,
 absolutely as new, with rigid sidecar, Jones speed-
 ometer, lamp, horn, mirror, and watch, spare bottled
 tube and case, Whittle, and spare, etc.; £50, bargain.—
 E. Morgan, Village Inn, Wednesbury.

1911 3 1/2 h.p. Rover, free engine, not run 200 miles,
 in perfect condition, £45; 1911 Douglas light-
 weight, run 500 miles, perfect order, £32. Orders for
 1912 Bradbury, New Hudson, Douglas, and Enfield
 motor cycles booked now for early deliveries. — Thos.
 Booth, Frodsham, Cheshire

ONE Triumph, free engine, new iron works Sept.
 13th, 1911, £50; Singer, 3h.p., magneto, belt
 drive, in perfect running order, £15; one Humber,
 2 1/2 h.p., chain drive, accumulator and coil, in perfect
 running order, £6; 2 1/2 h.p. Werner, very low, magneto,
 what offer?—T. Davenport, 56, High St., Torporley
 Cheshire

THE North Wales Motor Exchange, Rhosddu, Wrex-
 ham, Tel.: 283.—Just what you are looking for.—
 6h.p. twin J.A.P., extremely low built, Chater-Lea
 throughout, Bosch gear-driven magneto, J.A.P. auto-
 matic carburetter, 2 1/2 Palmers all round, spring forks,
 genuine Chater-Lea sidecar to match, Whittle belt,
 finished in green and gold, £35, your single taken in
 part; Centaur, 3 1/2 h.p., Bosch magneto, rubber-covered
 footboards, B.B. carburetter, just been thoroughly over-
 hauled and re-enamelled, very smart, low built, new non-
 skid tyres, splendid mount, bargain, £22; N.S.U. light-
 weight, like new, Bosch magneto, Whittle belt, bargain,
 £20; Rex, 3 1/2 h.p., Bosch magneto, 1910 Amal car-
 buretter, footboards, adjustable pulley, cut-out, £15;
 A.J.S. lightweight, in stock, £38/17; free engine Rudge,
 £55; let us quote you for your 1912 model, taking
 your present mount in part payment; our representative
 will be at the Show, make an appointment, prompt
 attention.

REY, 5, HEATH ST., HAMPSTEAD.

Close to Hampstead Tube Station,
 Telegrams: "Rey, Hampstead." Tel. 2678 P.O., Hampstead.

EXTENDED PAYMENTS Taken on any Machine or Runabout.

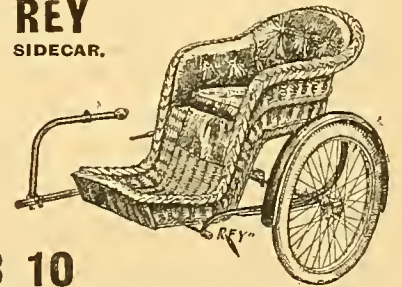
NO EXTRA CHARGE

on the following 1911 Machines in Stock:
 TERMS: QUARTER DOWN, BALANCE IN TWELVE
 EQUAL MONTHLY PAYMENTS.

BRADBURY, standard	No extra E.P.	£48 0
BRADBURY, T.T.	"	£48 0
BRADBURY, free engine	"	£54 10
BRADBURY, two-speed gear	"	£55 0
RUDGE, standard model	"	£43 15
RUDGE, T.T.	"	£48 15
RUDGE, free engine	"	£55 0
B.S.A., standard model	"	£50 0
B.S.A., free engine	"	£56 10
HUMBER, standard	"	£45 0
HUMBER, two-speed gear	"	£50 0
ZENITH, 3 1/2 h.p.	"	£2 Gns
ZENITH, 6 h.p.	"	66 Gns
ZENITH, 8 h.p.	"	68 Gns
PREMIER, standard	"	£47 10
PREMIER, free engine	"	£54 10
PREMIER, two-speed gear	"	£58 0
BAT, 6 h.p.	"	£58 0
BAT, 7-8 h.p.	"	£60 0
F.N., 2 1/2 h.p., two-speed gear	"	47 Gns
F.N., 5-6 h.p.	"	50 Gns
HOBBART, 2 1/2 h.p.	"	£38 0
HOBBART, 3 1/2 h.p., twin	"	47 Gns
SINGER, 3 1/2 h.p., 1912	"	£48 15
SINGER, 3 1/2 h.p., free engine	"	£55 0
LINCOLN ELK, 3 h.p.	5% extra E.P.	£30 10
LINCOLN ELK, 3 1/2 h.p.	"	£34 0
DOUGLAS, all models	"	"
TRIUMPH, all models	"	"
P. and M., two-speed gear	15%	£56 10
SCOTT, 3 1/2 h.p., two-speed gear	"	£60 0
BEDELIA Cars	7 1/2%	59 Gns
G. & N. Runabouts, 8 h.p. (in 6 weeks)	"	70 Gns
A.C.'s, any model	"	75 Gns

Any other makes on application.
 LINCOLN ELK, 1911, 3 1/2 h.p., Roc two-speed gear £29 0
 MOTO-REVE, 1911 model, 2 h.p., fine order .. £19 0

THE REY SIDECAR.



£3 10

The Rey Sidecar is light, strong, well sprung, and fitted
 with good wicker chair, well upholstered, 26in. wheel, and
 adjustable clips to suit any machine. It is guaranteed for
 twelve months. Kindly state make and age of machine
 when ordering.

CASH PRICES.

No. 1.—Sidecar only, as above	£3 10 0
No. 2.—Ditto, with quick detachable joints	£3 17 6
No. 3.—Sidecar as above, fitted with Hutchinson tyre and tube	£5 0 0
No. 4.—Ditto, with quick detachable joints	£5 7 6
Apron	7 6
Better Quality Wicker, Upholstered in Red Pegamoid—	
No. 1	£4 0 0
No. 2	£4 7 6
No. 3	£5 10 0
No. 4	£5 17 6
Apron	10 0

EXTENDED TERMS ON REQUEST.

REY

Manufacturers of the Rey Exhaust Whistle and Sidecar.
 Repairs of every description at lowest prices.
 All Motor Cycle Accessories in stock.
 BOOK your 1912 Mount NOW.
 Send for Exchange Form, and get best price
BEST HOUSE IN ENGLAND FOR QUICK DELIVERY
HAMPSTEAD.

In answering these advertisements, it is desirable to mention "The Motor Cycle."

ONE ONLY!!!**1911 2½ h.p. NEW HUDSON****M.O.V. 3 speeds.****Done 400 miles.****Guaranteed perfect.****Guineas 39 Guineas****MOTO-REVES.**

Handy in grease, free from vibration, splendid hill-climbers.

1911 Single-cylinder, record machine	£22 0
1911 Single, special machine, done 200 miles	£22 0
1910 2½ h.p. Twin, very fine order	£23 0
1910 2½ h.p. Twin, with 1911 fittings	£24 0
1909 2½ h.p. Twin, 50 x 70 mm.	£20 0

All have magneto, h.b. control, Druid forks, tool-bag, tools, and inflator.

1910 3½ h.p. REXES.

We have seven of these, price £27 each.

REXES. REXES. REXES.

3½ h.p. 1909 Tourist, fine goer	£24 0
3½ h.p. 1909 Speed King, extra fine	£23 0
3 h.p. 1908 Featherweight Rex, Bosch mag.	£17 0

TWIN-CYLINDER REXES.

7 h.p. de Luxe, two speeds, M.O.V.	£48 0
5-6 h.p. 1908, two-speed, and sidecar	£32 0
5-6 h.p. de Luxe, clutch model	£24 0
5-6 h.p. de Luxe, 1908, two-speed model	£28 0
5-6 h.p. de Luxe, 1908, two speeds, special	£29 10
5-6 h.p. 1908, two-speed de Luxe, 1909 engine	£32 0

N.S.U.'s N.S.U.'s N.S.U.'s.

5½ h.p., two speeds, Bosch, B. & B. carb.	£25 0
Or with sidecar complete	£28 0
5 h.p. Twin, Bosch magneto	£19 0

OTHER MAKES. OTHER MAKES.

3 h.p. Triumph, M.O.V., very good	£18 0
3 h.p. Singer, Bosch, V belt drive, B. & B.	£16 0
3 h.p. Quadrant, Bosch, B&B., spring forks	£18 0
3½ h.p. Quadrant, h.b. control, spring forks	£16 0
2½ h.p. Humber, chain drive	£7 0
1½ h.p. Minerva, V belt	£4 10
2½ h.p. King, wants attention	£3 10
3½ h.p. Minerva, Bosch magneto, Amac	£22 0

SIDECAR COMBINATIONS.

5-6 h.p. Clutch Model Rex and new Sidecar	£29 0
5-6 h.p. Two-speed 1908 Rex and Sidecar	£33 0
7-9 h.p. Two-speed Rex and Sidecar	£53 0

All fitted with Magneto and Spring Forks.

£4 DOWN SECURES ANY OF THESE.**BALANCE 6/- WEEKLY.**

3½ h.p. Brown Bicar, 26in. wheels	£12 0
3½ h.p. Fairnir, M.O.V.	£12 0

£6 DOWN SECURES ANY OF THESE.**BALANCE 7/6 WEEKLY.**

3½ h.p. Quadrant, h.b. control, spring forks	£16 0
3 h.p. Quadrant, Bosch magneto	£16 0
5-6 h.p. Twin Rex, H.B. control, variable	£16 10
3 h.p. Singer, Bosch magneto, h.b. control	£16 0
4½-5½ h.p. N.S.U., Bosch	£19 0
3 h.p. Triumph, M.O.V., 26in. wheels	£18 0
5-6 h.p. Twin Rex, Bosch magneto	£21 0

CARS AND TRICARS.

5 h.p. Humber Car, two-seater, good goer	£22 0
5½ h.p. Peugeot Car, two-seater	£35 0
Ducar, Bosch magneto	£45 0

MISCELLANEOUS BARGAINS.

Montgomery Sidecar, 26in. wheel	£2 10
Portland Sidecar, 26in. wheel	£3 10
Fulford Castor Wheel Sidecar	£5 0
Big Stock of Quadrant Parts, state wants.	
Rigid Sidecar, 26in. wheel	50/-
F.R.S. Lamp, mirror back	12/6
Bosch Magneto for V twin	£3 15
Vertical Frame, with 26in. back wheel, etc.	£1 15
Prested Accumulators, new, 15 amp.	9/6
Tricar Frame, suit 6 h.p. engine	35/-

Farrar's Motor Exchange**19, 21, 23, 25, Hopwood Lane,**Telephone 919. **HALIFAX** (Two minutes from G.P.O.)**MOTOR BICYCLES FOR SALE.**

INDIAN. 5h.p., 1910, with 1911 improvements, excellent condition, tyres practically new, Jones speedometer, Autochipse lamp, horn, and many spares; can be subjected to minutest examination; £36; selling for higher power.—W. Clark, White Lion Hotel, Northwich.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

2½ h.p. Moto-Reve, 1911. very little used; a bargain, £436.—Dawson, Waverley Av., Gedling, Notts.

REX Lightweight, 2½ h.p., magneto, h.b.c., spares; trial; £15.—Smith, 69, Court Lane, Eddington.

TRIUMPH, June, 1910, clutch; appointment arranged; £40.—P. W. Johnson, 22, St. George's Rd., Coventry.

REX de Luxe, 1911, 6h.p. twin, 2 speeds, splendid running order; £40.—Lloyd, Victoria Terrace, Leamington.

6 h.p. Twin, 2-speed N.S.U., in first-class condition; cheap for cash; seen any time, or write, 111a, London Rd., Leicester.

ZENITH-GRADUAS, 3½ h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester

DOUGLAS, Model D, in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St., Leicester.

3½ h.p. Rex de Luxe, 2 speeds; £29; quantity spares, 32 tyres, engine, plating good as new.—Copley, St. Catherine's, Lincoln.

TRIUMPH, 1911½, magneto, free engine; £48/10; purchaser's railway paid; a sidecar, £5.—25, Lamartine St., Nottingham.

£37.—Lightweight Humber, just as received from makers, not unpacked; £33/10; cash wanted.—14, Newland, Northampton.

MOTOR Cycle, 3½ h.p., magneto ignition, B. and B. carburettor, h.b.c., spring forks; sell bargain, £10/10.—12, Bull Ring, Birmingham.

N.S.U., 1910 model, lightweight, 2½ h.p., spring forks, magneto ignition, undergeared pulley, condition as new; exceptional bargain, £19/10.—Brown's, 12, Bull Ring, Birmingham.

F.N. Lightweight, 2½ h.p., magneto ignition, spring forks, undergeared pulley. Continental tyres; sell bargain, £14/10.—Brown's, 12, Bull Ring, Birmingham.

REX, twin-cyl., 5-6h.p. Roc, 2-speed gear and free engine, Bosch magneto, h.b.c. carburettor, spring forks and seat-pillar; sell £19/10; also sidecar to suit, £4/5, only used twice.—Brown's, 12, Bull Ring, Birmingham.

1911 3½ h.p. Bradbury, Powell and Hammer head lamp, accessories; any expert examination.—Apply, Clarke's Garage, Leamington. £36 cash.

1911 Triumph, free engine, Kempshall lamp, Lucas lamp, Brooks seat, spare cover, overalls, etc.—Waterloo, 7, Rotheay Terrace, Coventry.

3½ h.p. 1910 Minerva, £21; 2½ h.p. 1910 Wolf, £15; 32 2½ h.p. Fairy, £12/10; 3½ h.p. Chase, £13/10; 3½ h.p. Minerva, £10/10.—Plastow, Motors, Grimsby.

TRIUMPH, 1910, free engine model, in exceptional condition, usual spares, £39; also nearly new sidecar to fit above.—Kay, 49, Bridge St., Gainsborough.

TRIUMPH, 1910, standard, excellent condition, new Dunlop on back, V belt, horn, and spares; £33.—A. Seymour, 145, Golden Hillock Rd., Birmingham.

1911 Humber Lightweight, adjustable ignition, complete tool kit, two new belts and spare inner tube; £30, or near offer.—8,624, The Motor Cycle Offices, Coventry.

1911 Scott, only been 2,157 miles, Jones trip speedometer, Trioto horn, complete set of tools, spares; £50.—Colmore Depot, 35, Colmore Row, Birmingham.

TRIUMPH, clutch model, September, 1910, lamp, horn, spare valve, plug, fitted Miller mudshields, new tyre; 38 guineas; guaranteed perfect.—Robertson, Qadby, Leicestershire.

HUMBER Depot, 78, New St., Birmingham.—We are now booking orders for 1912 models, delivery guaranteed; let us quote you for your present machine, liberal allowances made.

HUMBER Depot.—No reasonable offer refused for demonstration machines; 3½ h.p. 2-speed and 2½ h.p. lightweight.

HUMBER Depot.—We have a few good second-hand machines for disposal, taken in part exchange, at reasonable prices.—78, New St., Birmingham.

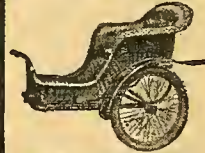
1907 Triumph, just been overhauled by Triumph Co., re-enamelled and plated, h.b.c., new Kempshall cover on back, tools and horn; £30, or offer.—Whipple, Griffith St., Rushden, Northants.

3½ h.p. Rex, B.B. carburettor, h.b.c., Mabon clutch, 32 spring forks, special saddle, long footboards, new Palmer tyres, new Dermatine belt, perfect condition, most reliable; photo; £25.—Basher, Retford.

TRIUMPH, 1910, 3½ h.p. standard, condition absolutely perfect, Kempshall tyre on back, only done 260 miles, spare belt, complete kit of tools, belt punch, horn, etc.; expert examination invited; £34/10.—Johnson, Arden Villa, Berkswell.

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THE MOTOR CYCLE

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The 1912 Tourist Trophy Races.

WE announce elsewhere in these columns that the Auto Cycle Union has again decided to hold the Tourist Trophy Race in the Isle of Man, subject to the permission of the island authorities being granted. That this permission will be given there is no reason to doubt, as the hospitable little island is only too glad to welcome the A.C.U. and the attendant crowd of motor cyclists which follows. The Motor Cycle Manufacturers' Union thinks otherwise, and many prominent makers are prepared to sign a bond not to support the race if it be held in the island and under existing rules, being of opinion that the expense of sending machines to the Isle of Man and of keeping the riders and their attendants there for a fortnight is too great, and that the other reasons given on page 1132 of our issue of October 26th justify their action.

Hardly a motor cyclist sportsman in the country will approve of this decision, and we feel sure that the majority will applaud the Auto Cycle Union for the attitude it has taken. The ruling body fulfils a two-fold purpose. Being a society of encouragement, it exists to develop the machine and to look after the sporting side of the movement, as well as to serve the interests of the motor cyclist by looking after his wants, by carefully fostering the touring side, by helping him legally, and in other ways. Consequently the Union would not be fulfilling its duty if it allowed such a magnificent event as the Tourist Trophy to sink into oblivion. This event, which is looked forward to with the greatest interest by practically every motor cyclist in the United Kingdom and the British dominions beyond the seas, is the only road race we

are allowed to have. It is a test for man and machine which can be obtained in no other way, and beside it a long-distance race on Brooklands is dreary, tame, and boring to a degree.

At Brooklands we see the men rush past the fork, see them tear beneath the members' bridge, look at them speeding down the railway straight—the same scene is witnessed from every point of view. Let our readers carry their imagination to the Snaefell course and compare this dreary procession with the corner work at the Ramsey hairpin and Devil's Elbow, the rush down the mountain road, the exciting anticipation of the arrival of the leading man at Woodlands, the thrills to be witnessed at every turn. The element of danger appeals to every true sportsman; the nature of the course tests every minute detail in the machine—particularly variable gears.

Is all this to pass away, and is the movement so soon to lead the humdrum existence to which the Society of Motor Manufacturers and Traders has brought automobilism? We hope not, and trust that every man will subscribe his mite to help the A.C.U. to run the race. Only think of it! If 60,000 motor cyclists subscribed a shilling the amount subscribed would be £3,000, which proves that if motor cyclists will only combine and each man send his little amount, and merely sacrifice 1s. worth of petrol in the year, this splendid event will be saved for some years to come at any rate.

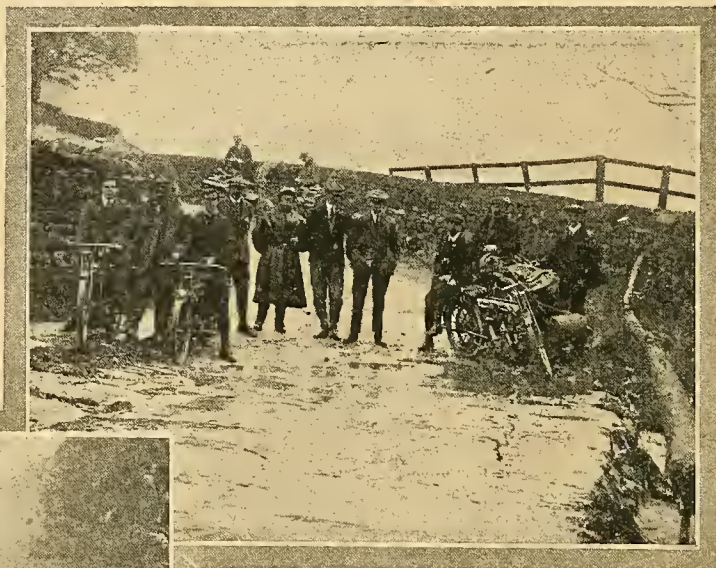
Taking the manufacturers' objections to the race as a whole, we do not see why they should not be remedied, and having given the manufacturers' reasons for withholding their support and the views of the motor cyclist sportsmen, we wish success to the 1912 T.T. Race in whatever form it is run.

IN SEARCH OF STEEP HILLS.

AT the beginning of last week a small party of motor cyclists left Harrogate with the intention of conquering a couple of hills which were said to have never been climbed by any motor cycle. The first call was at Darley, where the party was augmented to the number of twelve. The objective was now Middle Tongue Hill, one and a half miles from Pateley Bridge, which the competitors in the last Six Days' Trial will remember as lying between Greenhow Hill and Brownstay Ridge.

The hill in question runs up the same side of the valley as Greenhow. It starts with a watersplash, is then very narrow for about four hundred yards, in which is a severe right-hand turn and also a left turn, the road then broadens out, finally running by the side of a quarry, and joins Greenhow at the top. A short time ago the surface was practically impassable, owing to the large amount of the well-known Pateley stone being carted, the quantity at one time being no less than an average of eighty tons per day. Now, how-

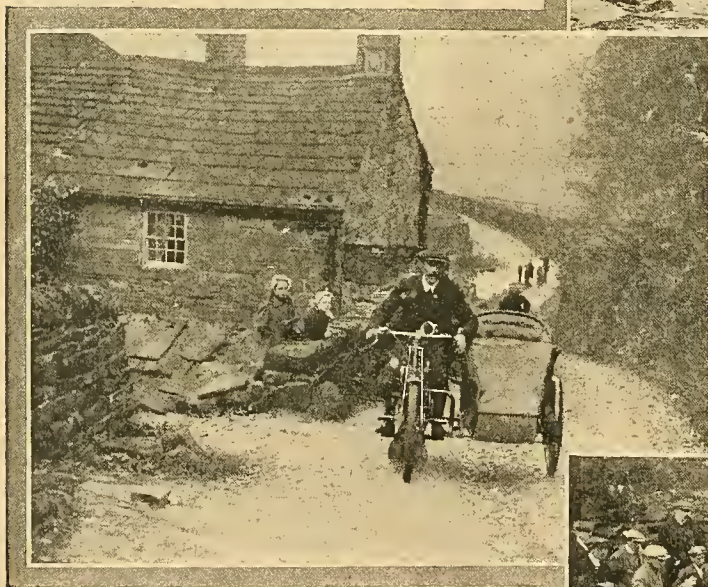
A move was now made for lunch, and then an attempt was made on Hartwith Bank, which runs from Summerbridge to Brimham Rocks. Grange and Atkinson again were successful. Fortune managed about two-thirds, and the rest stopped on various parts of the hill, one man finishing with his machine in the hedge. The gradient is not exceptionally severe, but



Group at the foot of Middle Tongue Hill, near Pateley Bridge.
The water splash will be noted.

the surface is atrocious. The trouble, of course, is to go slow enough to miss the bumps.

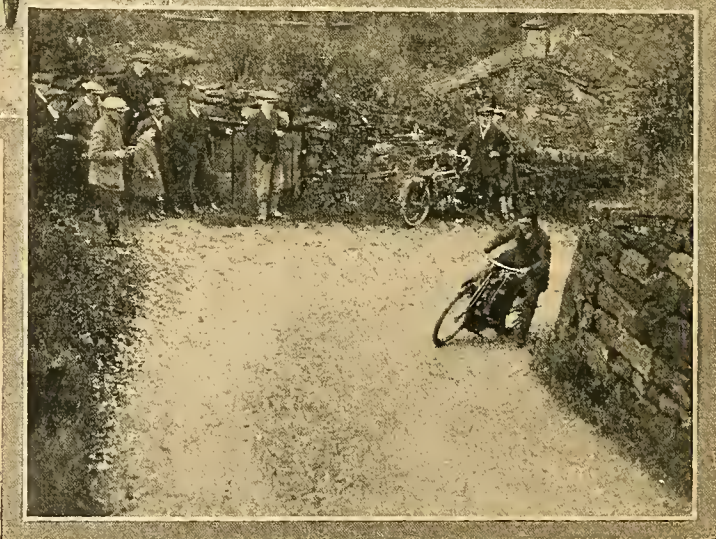
Altogether a very enjoyable day was spent, although the rain somewhat interfered with comfort.



W. Aldon ($3\frac{1}{2}$ three-speed Premier and sidecar) climbing the first stretch of the hill.

ever, there is very little quarrying, and the surface is in fairly good condition.

W. Atkinson ($3\frac{1}{2}$ h.p. Triumph), W. Grange ($3\frac{1}{2}$ h.p. Bradbury), T. Maynard ($3\frac{1}{2}$ h.p. clutch Triumph), and B. Tindall ($3\frac{1}{2}$ h.p. T.T. Triumph) all made clean ascents first attempt. H. Fortune ($3\frac{1}{2}$ h.p. Triumph) managed it on his second attempt, as did also W. Aldon ($3\frac{1}{2}$ h.p. three-speed Premier and empty sidecar). The remainder failed. The last rider could not negotiate the first corner owing to the sidecar lifting, but when held down by someone running by the side he was able to get round.



B. Tindall ($3\frac{1}{2}$ T.T. Triumph) negotiating the first bend on Middle Tongue Hill.

Occasional Comments

by "Lion"



Wear of Big End Bearings.

Mr. John Kennedy, jun., is most certainly within his rights in complaining of an engine which has required two new big end bearings within 5,000 miles. I wonder what he would say if, like myself, he were faced by a bill for £3 10s. for new connecting rod, crank pin, and bushes when the engine was similarly repaired only sixty miles back? Engines of different makes show the most extraordinary differences in this respect.

I have owned very few modern engines on which the big ends were unworn after 5,000 miles; and this year I have owned two engines which wanted new bearings soon after 1,000 miles had been completed. *Per contra*, as far back as 1903 I owned engines which developed no very perceptible wear in 10,000 miles; but we should remember that the $2\frac{3}{4}$ h.p. De Dion and M.M.C. engines of that date had larger crank pins and bushes than some standard modern motor cycle engines, and that they ran slower and had lower compressions. Also the machines to which they were fitted were seldom ridden such long distances at high speed as modern mounts. The public were offered their choice between the 'bus horse and the Arab type of engine; and with no uncertain voice they have declared for ultra-efficiency, which does not always spell durability.

One or two very durable engines are still made and sold, but the demand for them is comparatively limited, and they require the aid of a variable gear before they can compete with the ultra-efficient $3\frac{1}{2}$ h.p. as touring power-units.

No doubt in time the trade will manage to combine the durability of a 1900-3 $2\frac{3}{4}$ h.p. De Dion or M.M.C. engine with the ultra-efficiency of a 1911 Brooklands or T.T. single; but we cannot have all we want in the twinkling of an eye, and the trade has made enormous strides in a very short time. To my mind the most urgent requirement is a better lubrication system. I have seen a great many of these worn engines taken down, and my judgment is that the wear has not been evenly distributed over the 1,000, 2,000, or 3,000 miles which the engine has run. The damage usually appears to indicate that the parts have been short of oil for a few brief periods.

As long as most of us have to oil on our present hit and miss system, the engine is bound to be rather starved of oil for, say, five miles out of every twenty, and a little negligence on the rider's part, or a partial failure of the miniature and delicate valve at the base of a concealed automatic pump, leaves the vital parts without a saving film of lubricant between hot surfaces pressed forcibly into rolling or sliding contact under enormous strains.

I seriously consider that mechanical pressure lubrication must be the eventual solution for engines running at colossal speeds with very restricted bearing surfaces and light reciprocating parts. The real

question is whether we are going to use bigger and heavier bearings, with a probable loss of horse-power and an increase of weight, or whether improved lubrication would render the existing bearing dimensions and materials satisfactory.

As Mr. Kennedy says, it is common knowledge that the modern bearings are short-lived to a degree which no car owner would tolerate. I have just seen the inside of a very cheap car engine which has been worked hard for three years, and the wear of the big ends is practically negligible. [What is the compression ratio of that engine, and is it water-cooled? —Ed.]

The Control of Gears.

Under most circumstances where a variable gear is particularly useful, it is perilous to remove a hand from the steering bar. Riders in the last A.C.U. Six Days' will realise what I mean. Whether a gear change is necessitated by a wicked corner on a long hill or by atrocious road surfaces, it remains true that even a courageous rider will prefer to keep his hands on the grips. Even when sheer gradient compels the change, the surface is almost certain to be jerking the machine about so ruthlessly that two-handed steering is desirable, and I have seen more than one bad smash in hill-climbs this year due to one-handed steering by experts on rough going.

Moreover, we have to consider the duffer, not only the expert; and if we want our share of the colonial trade, we have to design with one eye on conditions usually more exacting than the worst English roads afford.

I could not help noticing in the 'Six Days' that many presumably expert riders changed gear on the hills long before their engines asked for relief, simply because the men did not care to face one-handed steering on stony ground.

On the other hand, foot-rest control is equally bad, since the gear control may be disorganised by a tumble; and, personally, I consider a three feet side lever a disfigurement to an otherwise neat and handsome two-wheeler. Consequently, pedal control of gears already standard on some machines is an advantage, but the pedal should be pivoted where it cannot be damaged by falls.

Two or three possible alternatives deserve more attention than they have received. Handle-bar control contains vast possibilities, provided the ratchets are not of a gimcrack kind, and that the leverage demanded for the operation of the gear is suitably reduced. There is room for a pedal control mounted sufficiently high up on the front down tube of the diamond frame to be out of harm's way in the event of a fall. There are possibilities in a knee or thigh control lying snugly up against the tank side. At present not a single type of control is free from criticism; but the majority of the trade appears to be content to play follow-my-leader.

The Adjustment of Lamp Burners.

By P. W. BISCHOFF.

OUR noble champion "Ixion," to whom we motor cyclists owe many of the detail improvements in our machines, has lately been having a tilt at modern lamps. While by no means concurring in his general denunciation of these, I freely admit that a good many lamps are sent out by the makers giving nothing like as much light as they should and can. It frequently falls to my lot to "tune up" ailing lamps, either for my friends or for makers.

Judging from the fact that I hardly ever fail to get a good light eventually from a given lamp, however badly it may seem to burn at first, I am inclined to think that the fault very seldom lies in the mirror or lens. Therefore, I am offering no suggestions as to these. Nor do I propose to discuss the care and management of generators: this is an entirely distinct subject. But I take it as assumed that the rider has one of the modern big lens-mirror lamps, that the generator is charged with clean carbide and clear water, that the needle-valve is seen to be passing water steadily and freely; and that there is no reason why the lamp should not give a good light. As a matter of fact I am taking a good deal for granted. In heaps of cases the trouble has been traced to air-lock in the water tank, dirt in the grooves of the needle, deposit in the gas passages, a sodden filter-pad, or a partially choked burner.

When the Generator is at Fault.

If your lamp occasionally comes to life and gives a glorious beam, even if only for a few seconds, for goodness sake do not meddle with the burner. The trouble is quite certainly generative, and a thousand to one is an intermittent airlock. Air *must* pass into the tank or the water cannot get out. There is somewhere a small hole to allow of this, probably either in the filler cap or beside the central needle. This hole takes a malicious delight in getting stopped up. Before now I have had a drop of water settle over it and play havoc with the beam till the vacuum inside the water reservoir broke it up.

I can offer a useful tip to anyone who suspects this trouble. Get a long tapered cork of good quality and

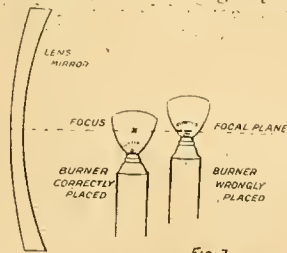


Fig. 1.—Diagram to show how a burner should be placed; the focus is at the point marked X.

I would urge every rider who is dissatisfied with his lamp to use every endeavour to eliminate generator failure before touching anything else. But if your generator works all right with the lamp of a satisfied friend, whilst his generator makes your lamp no better, then and then only do I consider you are justified in laying the blame at the feet of the burner. [Is the burner a biped?—ED.] I have used this

expression purposely, as it is at this spot, or rather at the foot of the burner-holder, where adjustment errors can mostly be found.

The true lens-mirror is a parabola, and this has a geometric point called its focus, such that all light proceeding from this point would be projected forward in perfectly parallel beams. The calculation of this focus is an abstruse mathematical problem in conic sections, and I have not the slightest idea how to do it. Nor is it necessary for the practical rider, because his source of light is a flame and not a point. But the best beam can only be obtained when the brightest part of his flame is placed dead in focus. This can only be done by trial.

Presumably the makers have carefully felt for this spot, and I am sure they have found it. Probably they use jigs to ensure putting every lamp on the market in proper tune. If they do not they ought to.

But it is quite unfair to expect that each individual lamp will receive a road trial. The average purchaser would strongly resent buying a lamp that showed signs of use, nor can we expect the makers to hinder their output as such a procedure would entail. Hence it does follow that an occasional lamp gets through their hands which admittedly needs focussing, but I find such lamps are extremely rare, nearly all trouble being due to dirty or careless handling of the generator.

Directions for Adjustment.

When the true exception has been found, there are three directions in which adjustment can be made—(1) the height of the flame in the lamp, (2) the distance of the flame from the mirror, and (3) the angle of the flame to the mirror.

(1.) It is in the first of these that most of the bad lamps are wrongly adjusted. Put the lamp on the machine and support the latter vertically. Now carefully align the lamp till it is parallel to the road. Light the gas and get the flame a good normal size. Now look closely to see where the flame comes. The focus is on the axis of the mirror, i.e., on a line drawn through its centre and at right angles to it. If the top of the burner comes nearly up to this line, it follows that the black base of the flame is in the focus and the brightest part well above it. Just the reverse may be the case, but it is most unlikely. Now loosen the burner holder and reset it so that the brightest part of the flame (as nearly as you can judge by eye) comes exactly opposite the centre of the mirror. You then know that the source of light is on the axis, but it does not yet follow that it is in focus.

(2.) If the lamp construction allows it, once more loosen the holder, and, without altering its height, slide it slowly nearer to the lens. Get behind the lamp and watch the effect on the beam. Settle at what point you get the best beam and clamp up the holder. But be on your guard not to have it too near the lens for fear of cracking it. Makers possibly send

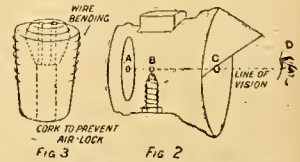


Fig. 2.—Showing how to find the central line of focus.

Fig. 3.—The method of preventing air-lock.

The Adjustment of Lamp Burners.—

out their lamps with the burner rather on the far side for this very purpose. So do not push it right up to the mirror, "do in" the latter, and then blame the maker. He may not see the joke!

(3.) Having got the flame central each way and approximately in focus, if you are still dissatisfied with the result, there is yet one more adjustment available. Slacken the holder, and, without altering its centring, slightly revolve it so that the flame is not quite parallel to the mirror. Absolutely end on, we get a very penetrating beam, but very narrow. This is the method employed in micro-photography or any occasion when an intensely concentrated light is required. Such a beam is quite unsuitable in a motor cycle lamp, but a small twist makes a lot of difference, and I have found it an improvement in one or two cases. Yet the most probable source of error is that detailed under No. 1.

It is not easy to find the central focal line of the mirror. The method I adopt is as follows: First light the lamp and find out how far above the top

of the burner is the best bit of the flame. Next with a pair of dividers find the centre of the mirror and stick on it a small dot of white wet paper. Do not use stamp edging, or you will damage the surface of the lens in getting it off again. Now do the same with the front glass. Then replace the burner with a piece of copper wire twisted round it, ending in a loop which encircles the spot where the best light is produced. It is then a fairly simple matter to get this loop so that you can see the two specks of paper to be in line with it. A ring of white paint instead of the paper on the front glass gives one a very accurate means of alignment.

Having done this, one has really done all that is possible. If the burner is out of line sideways in the body, the lamp (and its maker with it) deserves scrapping. But the tips I have given have never yet failed me in getting a first-class beam. Still I would repeat, in conclusion, the warning I have already reiterated, namely, to take infinite pains to prove that the failure is not due to the generator before beginning to meddle with the focus.

VICTORS IN THE MIDLAND INTER-CLUB RELIABILITY TRIAL.

F. H. Southam (6 h.p. Zenith), winner of the P. J. Evans Trophy.

J. J. Woodgate (3½ h.p. two-speed Singer), second, winner of Humber medal.

SILENCE AND SILENCERS.

NOW that the question of silencing is seriously engaging the attention of the Brooklands Automobile Racing Club and the Auto Cycle Union, the following extract from a South African paper will be of interest:

**NOISY MOTOR CYCLES,
MAGISTRATE'S JUDGMENT.**

Johannesburg, September 28th.

An interesting case affecting motor cyclists came before the magistrate to-day. The police superintendent charged a motor cyclist under the Traffic Byelaws with riding a machine in Commissioner Street, alleging that the silencer of his engine did not effectually deaden the sound of the exhaust explosions. The accused, it was stated, went to the agents, who declared that everything was all right. Whereupon, the police got the opinion of an expert, who declared that the silencer was inefficient.

The magistrate said that his difficulty was that, if he convicted in this case, it would be tantamount to declaring that every machine of the make concerned was illegal.

A long argument resulted in the court adjourning to give the accused an opportunity of demonstrating on his machine.

The case eventually turned on the point whether motor cycles should have baffle plates on silencers or not, and the magistrate held that he could not decide against what is a world-wide practice, and say that silencers without baffle plates were inefficient.

We believe that Johannesburg is the first place in which the police have taken action against the rider of a machine fitted with a noisy exhaust. Unfortunately the only means of suppressing the noisy machine is by similar steps being taken, but it seems inadvisable to give the police the power to discriminate between noisy and silent motor cycles.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Heat-resisting Plugs.

Q. I have a 6.8 h.p. M.M.C. engine which easily overheats. The sparking plug is set immediately over the exhaust, and the heat has quickly ruined several plugs, causing the porcelain, etc., to split and do other damage. Will you kindly inform me what to do?—H.L.

Change the position of the sparking plug; it should not be over the exhaust valve.

C.A.P. on A.C. Tricar.

Q. Will you please inform me if a C.A.P. carburetter can be used with good results on an A.C. tricar? I fully endorse "Ixion's" opinion as to the qualities of the semi-automatic carburetter, and this is why I should be glad to hear of any of your readers' experiences with the C.A.P.—A.E.M.

We do not see why the carburetter in question should not be fitted to your tricar. Before ordering one, however, we should recommend you to correspond with the makers and ask how best it can be adapted to your vehicle.

A Carburetter Conversion.

Q. I have a 2½ h.p. Excelsior motor bicycle which I have fitted with new 26in. wheels, otherwise it is as it left the works about 1902, surface carburetter, etc. I can get 27 m.p.h. or an average of 20 miles. I have only had the machine ten months, but have done thousands of miles. Would you recommend me to have a spray carburetter, new frame and tank, and what would be the cost, or sell and buy an up-to-date one? I may say that I am satisfied with the engine, which seems good for ever, but do not like the look of the machine.—H.T.

Yes, we think you would find an improvement by fitting a spray carburetter. Probably the old tank could be made to do, and the fitting of the new carburetter would cost very little. If, on the other hand, you have a new tank and frame specially made, we should say the cost would hardly be worth while, and you would do better to buy an up-to-date machine. You could get an estimate for the cost of the conversion from your local dealer, or a rough cost of the tank from any of the firms making tanks whose announcements are published in these

A Motor Cycle in North Borneo.

Q. I am going out to Sarawak, North Borneo, in December, and would be very much obliged if you would let me know if the roads are at all suitable for motor cycling, as I am a very keen motor cyclist, and do not want to have to sell my machine, which is a 3½ h.p. 1909 N.S.U. What would be the approximate cost by the Nippon line?—H.R.S.L.

The roads in North Borneo are fairly good, and we think on the whole it would be worth taking a motor bicycle out there. In the Malay Peninsula, however, which is comparatively close, the roads are good. The cost would be approximately 50s.

Sidecars—Axles, Belts, and Tyres.

Q. I should like to have your advice on the following point. (1.) I have purchased this summer a Montgomery rigid sidecar, £9 9s. model (No. 8). I have seen so many references lately in *The Motor Cycle* to the danger of sidecar axles, etc., that I should like to have your advice as to the safety of this model. Do you consider the car safe for a passenger of nine stones on average roads at the legal limit of pace, or if not could it be made safe? The car is used with a 3½ h.p. two-speed 1911 Humber. (2.) Would you consider a Lomax steel-studded tyre to be recommended for the driving wheel of the bicycle? I find that the ordinary rubber tyre will not stand the bad roads here. (3.) As to belts. I have had trouble in this direction, wearing out a rubber belt of one of the best known makes, size 7in., in a thousand miles. What belt would you advise me to put on? Would leather be best and what make?—G.H.F. (Killarney).

(1.) We do not think you will have any danger from this sidecar, which is of reputable make, especially as you are not using it with a very powerful machine. (2.) The band in question should suit excellently, but the wear of tyres with a sidecar is often caused by wrong alignment, which causes the tyre to drag sideways. (3.) You must expect belt trouble if you use a 7in. belt with a sidecar; far better to try a 1in. belt. You might try a leather belt of 1in. section.

Llandrindod Wells to Manchester.

Q. If the weather is favourable, I intend riding on my 2½ h.p. Motosacoche to Manchester from Llandrindod Wells on Saturday, returning the following Monday. Will you kindly inform me which is the best and shortest route, giving the distances between the chief places passed through and the total distance? Can you also give me a different route to return on the Monday? I do not want to go through large towns if I can help it. The part of Manchester I want to get to is Higher Crumpsall. I should like, if possible, to get there without going through much of Manchester itself.—R.R.W.

Your route will be as follows: Llandrindod Wells, Rhayader, 13; Llanidloes, 14; Newtown, 14; Welshpool, 13; Oswestry, 15; Wrexham, 15; Chester, 11; Northwich, 13; Manchester, 20. Crumpsall, 4 (about). Return *via* Alderley Edge, Congleton, Crewe, Nantwich, Whitechurch, Shrewsbury, Ludlow, Leominster, Pembridge, and New Radnor. Crumpsall is on the far side of Manchester, and you can only avoid going through the latter by turning off and going through Salford.

Wanted—A Runabout.

Q. I should feel very much obliged if you would let me know the name and address of the makers of the Morgan Runabout, built with 8 h.p. twin-cylinder and illustrated in *The Motor Cycle* of October 19th containing Quarterly Trials report. Would you be kind enough to give me at the same time the names and addresses of those whom you consider the best makers of tricars and light runabouts in England? I am a Belgian, but I consider that the best makers of tricars are in England.—F.D.

The address you require is Messrs. Morgan and Co., engineers, Malvern, Worcestershire. This machine and the A.C. (Auto-Carriers, Ltd., Martell Road, West Norwood, London, S.E.) are the best-known tricars in England. Humber Co., Coventry; G.N.—Godfrey and Nash, The Elms Motor Works, Golder's Green Road, Hendon, London, W.; L.M.—Wm. Cunningham, Clitheroe, Lancashire; Crescent—Crescent Motors, Pleck Road, Walsall; Sabella Motor Co., Ltd., 33, Southampton Street, Strand, W.C., and Crouch Motor Co., Coventry, all make runabouts.

Silencers.

Q—Which is the quietest silencer on the market? My machine is a 2½ h.p. J.A.P.—G.H.J.S.

There have been no recent silencer tests, so it is impossible to answer your question with certainty, as the winning silencer in the last test is no longer made. Silence without back pressure is largely a question of size. A long exhaust pipe is a help.

How to Protect a New Idea.

Q—I have an idea for an improvement on the present sidecar. There is not, to my knowledge, one on the market built in the same way. Can you inform me if I can have my idea registered, where, and what proceedings to take, and how long a registered pattern holds good for protection of same?—SIDECAR.

The best thing you can do is to put the matter in the hands of a good patent agent. We can give you the name of a good firm of patent agents who have had considerable experience with motor cycle design if you desire it. If you feel capable of wording your own specification and making the drawings you can obtain a provisional patent for £1. This you get on application at the Patent Office, Southampton Buildings, Chancery Lane, W.C. It holds good for one year.

Lamps on Approval.

Q—I advertised for a motor cycle lamp. I got an answer from an agent. The person in question sent his lamp on approval, and said he would refund my money if the lamp did not suit me. When the lamp arrived I did not like it, and more than that, the lamp glass was broken. I signed unexamined on the railway company's sheet, but I knew I could not claim anything because it was not sent at "glass rate." I returned the lamp by rail to the agent securely packed, but did not advise him that the glass had been cracked. In the meantime I ordered my post-dated (five days) money order to be stopped at the local post office. The owner of the lamp claimed from the railway company, but they would not pay anything because it was not sent "glass rate." He went to the post office to cash the money order but found it was stopped. He then asked me to pay for the damage, or let him cash the order and send me the lamp back. He says he has missed a chance of sale through the glass being broken and claims that it will cost nearly 15s. repairing and cost of postage to and from the makers. It is an old-fashioned Polkey projector with 5in. divided front glass. He says he will be content if I pay (7s. 6d.) half of the damages, and he will stand the rest. I have told him I will not pay a cent. He now threatens to summon me if I do not settle at once. (1.) How should I stand with the case in a court of law? (2.) Or what do you advise me to do? I may add that I do not want the lamp, and he refuses to return the money order until the matter is settled. (3.) Can I sue him for illegal detention of the money?—E.L.

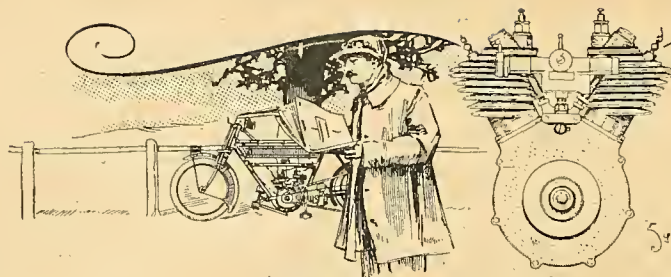
Our legal adviser writes as follows: "Assuming there is nothing in the advertisement, or in the correspondence, to show that the lamp was being sent at 'E.L.'s' risk, your correspondent has a good defence to any action which may be brought by the agent in question. I presume he can conclusively prove that the lamp was in the condition he states when it arrived. He is quite right, therefore, in refusing to pay the 15s. claimed, or any part thereof. I do not quite understand the latter part of the query, as it would appear from the letter that the particular agent has not cashed the money order. If this is so, there can be no action for illegal detention of money. The money order being now valueless, he surely need not trouble about the return of that."

EXPERIENCES WANTED.

"J.K." (Huddersfield). Free engine Triumph and sidecar, also free engine Bradbury and sidecar.
 "C.R.W." (Brighton). 5-6 h.p. Clyno with sidecar.
 "J.D." (Dumbarton). 3½ h.p. Scott, consumption and wear of clutches.
 "H.J.H." (Toronto). The A.S.L. with regard to comfort and reliability.
 "H.L." (Polesworth). Indian, 5 or 7 h.p., reliability, consumption, and running costs.
 "J.S. 101" (Dingwall). Morgan Runabout.
 "T.J.L." (Headingley). Model D 2½ h.p. Douglas, engine reliability.
 "D.H.G." (Dartmouth). 2½ h.p. two-speed Enfield; speed, hill-climbing, and silence.



BIG GAME SHOOTING BY MOTOR CYCLE. C. Theobald, of Mysore, S. India, who, with his brother, do all their shooting with the help of the 2½ h.p. F.N. and Miniford sidecar, illustrated. The photograph shows the last panther they got twenty-five miles from Mysore.



An Admirable Crichton of Sport.

A Great Cricket and Football Player Enthuses over his Motor Cycle.

THE name of Mr. Jack Sharp is as a household word in the realm of sports and pastimes, for he holds the highest honours that the world can offer for football, as a member of the Everton F.C., League champions and English Cup winners; he has played for his country at cricket and football; he is one of the Lancashire County stalwarts with the bat, and does many a turn at bowling; also he is keen on golf. And it is the same with the motor cycle. I saw the sunny-faced, cheery-natured son of Herefordshire in the early summer very enthusiastic about motor cycling, and when I got in touch with him again specially for *The Motor Cycle* it was to find that the attractions of the pastime had not faded one jot or tittle, but that he had changed his machine, and added unto it the supplementary responsibility of a sidecar. Mr. Jack Sharp is a veritable Boyle-Roche bird, seemingly in two places at once. It's the motor cycle that gives him this startling ubiquity, from his sports outfitting depot to some golf links, or on to the King's highway, far from Liverpool's strenuous life.

He has been a petrol user for only about twelve months, and his "introductory" mount was a Triumph of 1907, which taught him much of the wonder-world that awaits the motor cyclist out for pleasure. He now has an 8 h.p. twin Matchless-Jap, and never takes the sidecar off it. This passenger-carrier, by the way, is a Montgomery (castor wheel), and he is immensely impressed with the sociability of the combination. Mrs. Sharp has grown equally fond of the attachment, and, owing to the ample engine power and two-speed gear, there is never any possibility of having to walk up hills.

Some of Jack's renowned friends of the field of play are already envious, and his famous colleague, Mr. J. T. Tyldesley, ensconced himself in the sidecar one day for a jaunt to Cambridge and back—180 miles each way—and everything went as merrily as the proverbial wedding bells. Mr. Sharp, however, has

not yet deemed it advisable to use his motor cycle for transporting him to Old Trafford, or from there to other parts of the country, to fulfil his cricket engagements, though this state of affairs may change ere long. Generally Jack-o'-both-sides, as he has aptly been called because of his versatility at both cricket and football, has contented himself with day and week-end jaunts. He has scoured North Wales so well that the machine can very nearly find its own way along some of the best-known highways.

"I haven't had any trouble with my present machine," he added, feelingly; and when I asked him whether he was an Expert mechanic (capital E, please) as well as The Expert Sports Provider (see catalogues!), he replied, with that characteristic modesty of his, "Not expert, but I have a useful knowledge."

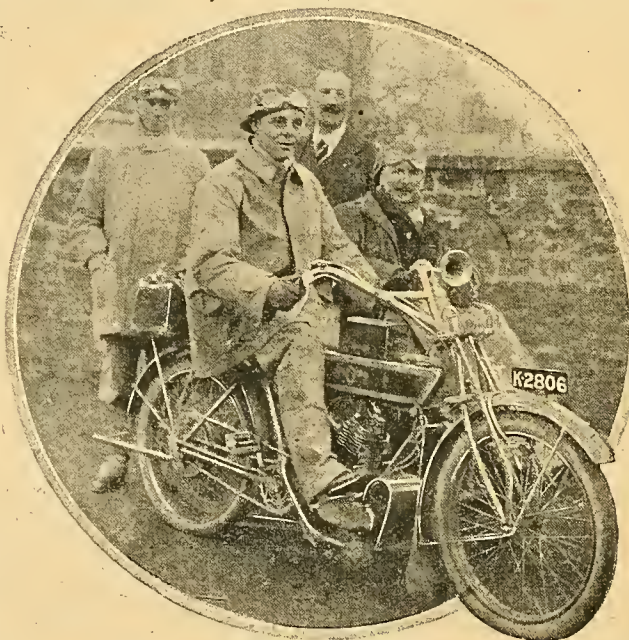
To those, therefore, who hesitate to buy and board a motor cycle for fear of (largely imaginary) troubles, Mr. Jack Sharp's example is encouraging.

I was hoping my old friend, whose fleet foot, eagle eye, and supple wrist one has seen and admired for so many years, might have kept a diary record of mileages and expenses. He has

not, however, but he hastened to add, for the benefit of all whom it may concern, that, as regards financial outlay, the motor cycle is not a heavy drain at all. He is, by the way, not the only one of our great cricketers who motor cycle, for one might mention Messrs. Arnold (Worcestershire) and Kinneir (Warrwickshire).

In conclusion, quoth Mr. Sharp, "I'm in love with the motor cycle. Apart from pleasure spins of length, I use it for getting to various golf links, and the two combined have helped me a good deal to counteract the fact that this season I have retired from football."

LANCASHIRE LADDIE.



LEADING SPORTSMEN.

Jack Sharp, the noted cricketer and international footballer, accompanied by J. T. Tyldesley, on his 8 h.p. Matchless-Jap sidecar combination. Mr. Sharp occasionally uses his motor cycle and sidecar to fulfil his cricket engagements during the summer.

MOTOR CYCLE Show Numbers.

Thursday, Nov. 16.—Buyers' Guide and Continuation of Forecast
" " 23.—OLYMPIA SHOW REPORT.

WHAT TO SEE AT OLYMPIA STAND 1 0 7

The *Indian* Moto-
cycle.

☛ THE MACHINE THAT LEADS ☛
☛ THE WAY IN GOOD POINTS. ☛

Chain drive with chain guards.
Countershaft two-speed gear.
2½ inch tyres.
Foot-starting device.
Handle-bar (wireless) control.
Forced lubrication.

REMEMBER THESE ARE ALL **PROVED**
THERE ARE NO EXPERIMENTAL SHOW **POINTS**
ON THE INDIAN.

The Hendee Manufacturing Co.,
178, Gt. Portland Street, London, W.
Goods and Repairs: 89, Bolsover Street, W.



S. & H.

In answering this advertisement it is desirable to mention "The Motor Cycle."

Are you "friends" with the road—rough or smooth—is it all the same to you—or do you find the rough annihilates your pleasure and makes you quarrel for the nonce, not only with the road, but with the pastime as a whole? If the latter, then you lack true saddle service. . . . That's the link that makes for friendship—kills vibration—and makes the surface of the road a matter of indifference. . . . And riders of the BROOKS will tell you that there is only one Saddle which makes that service possible, the Saddle which, in all its models, embodies that exclusive feature—the BROOKS Patent Compound Spring—the spring that absorbs vibration within itself yet, by its compensating action, eliminates all tendency to bounce. . . . Are you "friends" with the road?—If not, just change your saddle for a

BROOKS

Note that a full range of the
**BROOKS Cycle and Motor
Cycle Accessories** may be seen
at our London Showrooms—
**11, GRAPE STREET,
SHAFTESBURY
AVENUE, W.C.**

We
shall
exhibit at

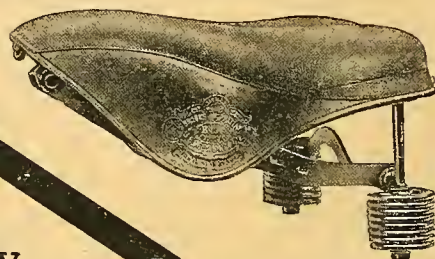
OLYMPIA

Stand 279 Gallery

(near Band-stand), November 20-25.

Will you call?

J. B. BROOKS & CO., LTD., 49, Criterion Works, BIRMINGHAM.



L.M.C.

**"STARTS LIKE
A CAR."**

The Ideal Touring Machine

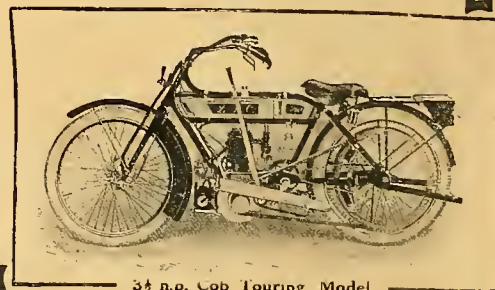
STAND No. 81, OLYMPIA SHOW.

New "Sidecar" Model for 1912.

4 h.p. Single Cylinder L.M.C. Engine. . . .
L.M.C. Improved Two-Speed Gear (Roc Patents)
Sprung Footboards. . . . Improved Control.
Embodying Simplicity with Reliability. . . .

The LLOYD MOTOR ENGINEERING Co., Ltd.
L.M.C. Works, 132, Monument Road, BIRMINGHAM.

The L.M.C. is designed by . . .
Mr. W. J. Lloyd, the designer of
the "ORIGINAL QUADRANT."



3½ h.p. Cob Touring Model.

In answering these advertisements it is desirable to mention "The Motor Cycle."

NEW DESIGN
MOTOR CYCLES

1912 MODELS

TO BE EXHIBITED
AT OLYMPIA.

Olympia, the Mecca of motor cyclists, opens its doors on Monday, November 20th, at 10 a.m., and closes at 10 p.m. The Exhibition finally closes on the following Saturday, the 26th inst. The price of admission is 1s. The number of motor cycle exhibitors at this second annual show is a record, viz., 169. All readers who can, should find time to pay a visit. Below we continue our illustrated forecast of the exhibits. Our next two issues will be special numbers chiefly devoted to the Show, viz., Thursday, November 16th, *The Motor Cycle Buyers' Guide*, and November 23rd, Olympia Show report.

The 2½ h.p. Two-stroke Stuart.

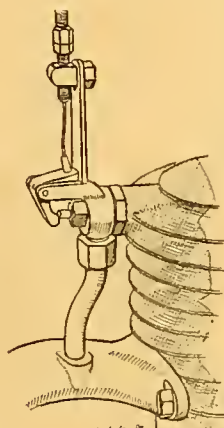
The 2½ h.p. two-stroke Stuart motor bicycle which will be shown on the stand of Messrs. R. G. Nye and Co. is manufactured by the well-known engineers, Messrs. Stuart, Turner and Co., Ship-lake Works, Henley-on-Thames. The most interesting part of the machine is the power unit, since the bicycle part follows lines adopted by most manufacturers. The two-stroke engine, 71 x 75.5 mm., is of the two-port type, and has the transfer port G neatly cast in the cylinder. Compression is retained in the crank case by means of patent oil-retaining ball bearings, details of which we are not yet at liberty to disclose. It suffices only to say that the firm's experimental machine which has been running for a year shows no trace of oil leakage, and has one of the cleanest and neatest crank cases we have seen. It is as free as possible of projections and has no lettering, and so is easy to wipe down, though cleaning does not appear to be necessary. The piston, which has two wide rings, possesses the usual deflector common to two-stroke engines, while the connecting rod is of steel, and is bushed at both ends. The flywheels have a heavy periphery, and are fitted with aluminium plates to enclose the space formed by the periphery and inner disc, so as to reduce the compression area in the crank case. The crank case is provided with a safety release valve A. It is well-known that two-stroke engines

when they do backfire (which is not often) do so into the crank case, and in the case of a crank case explosion in the Stuart the safety release valve would allow exit for the increased pressure.

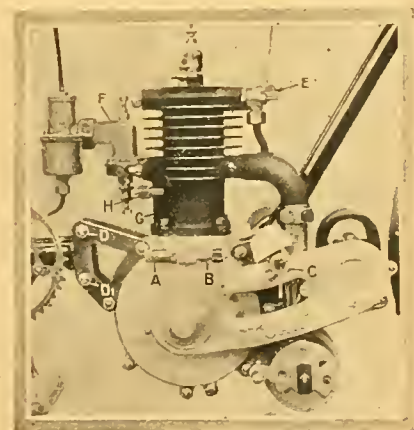
The lubrication system is interesting. Pressure issuing from the crank case through the non-return valve B is delivered into the oil tank, which forces the lubricant through the controllable sight-feed on the top tube, and into the cylinder walls at the union H. A hand oil pump is provided merely for the purpose of injecting oil into the crank case when the latter is empty. The carburettor is the well-known Amac.

from which gas enters the cylinders through a non-return valve F. The valve casing is held on by a stirrup fastening, and so can be easily dismounted. To remove the power unit from the frame it is only necessary to withdraw the footrests C,

and the bolts DD. The valve E is the compression release which serves the same purpose as the exhaust valve lifter on a four-stroke engine. It will be seen by the illustration that the released compression to avoid noise is conducted to the exhaust pipe. The ignition is by chain driven Bosch magneto, handle-bar controlled. The adjustable pulley, which is simple and ingenious, can be altered without the aid of tools, and gives gears from 4 to 6½ to 1. The movable flange has two dogs which engage with steps cut in a rotating ring which by the aid of a ball catch stays in the required position. The accompanying illustration of the pulley is practically self-explanatory. The engine is full of ingenuity, and a pleasing change from the monotony of the standard type of machine now so



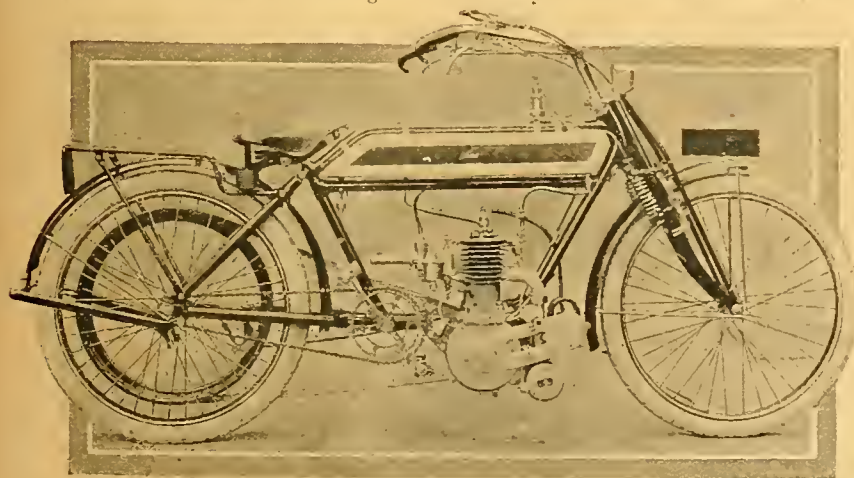
The release valve mechanism of the Stuart.



2½ h.p. Stuart two-stroke engine.

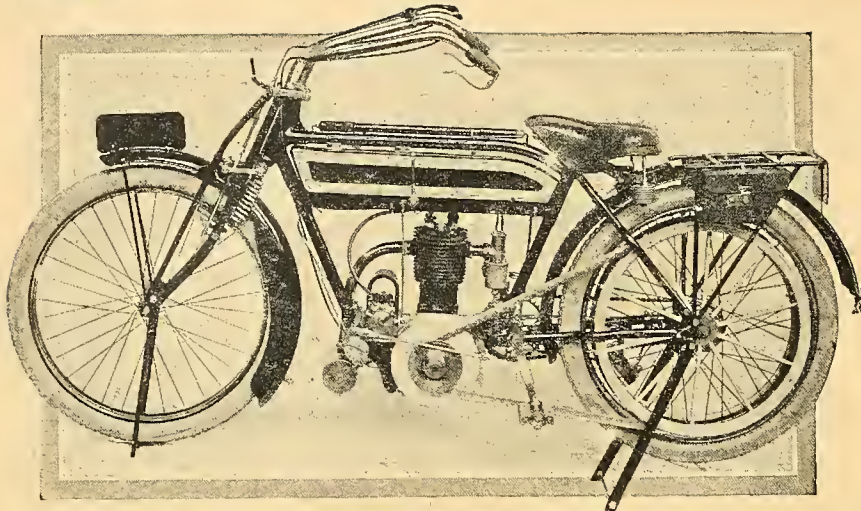
- A. Crank case relief valve.
- B. Non-return valve in lubrication system.
- C. Footrests which serve to hold engine in frame.
- D D. Engine holding bolts. If these and the footrests are removed the power unit can be withdrawn.
- E. Compression release valve, with pipe leading to exhaust pipe.
- F. Inlet valve casing.
- G. Transfer port cast in cylinder.
- H. Oil pipe union.

prevalent. The following details will be of interest: Chater-Lea dropped frame, rendering the height of the saddle from the ground 29in., clearance below silencer 5in., weight 145 lbs., power unit weight 50 lbs., Druid forks and belt rim brake, chain-driven magneto, serviceable stand and luggage carrier.



The new 2½ h.p. two-stroke Stuart, which will make its debut at the Show.

1912 Models.—

Next year's $3\frac{1}{2}$ h.p. 85 x 88 mm. single-gear'd Singer.**Singer Improvements.**

The Singer Company have made it their endeavour to produce as light as possible a $3\frac{1}{2}$ h.p. machine to give lasting satisfaction, and to be fitted with all necessary refinements. From an inspection of one of their 1912 mounts we may say that we consider that they have succeeded admirably.

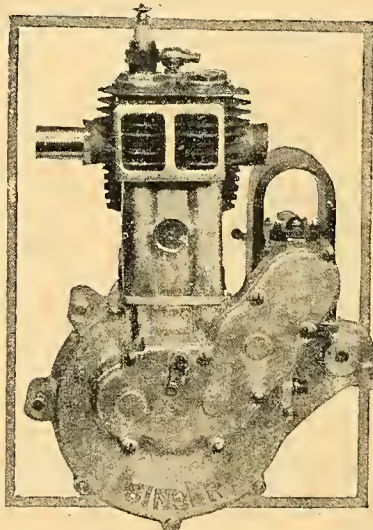
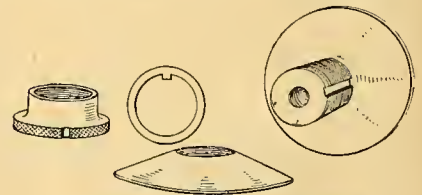
The engine retains all this year's features, but, as will be seen from the illustration, it has been altered in the timing gear.

Only one intermediate wheel is now placed between the exhaust cam wheel and the magneto, and the gear case cover is held on by counter-sunk screws instead of nuts. This gives a considerably neater appearance to the engine, and should reduce gear noise. The combined valve cover and trouser guard is now shaped to the top of the crank case, while large windows are cut opposite the valve chambers so as to allow more air to pass for cooling purposes. All control levers



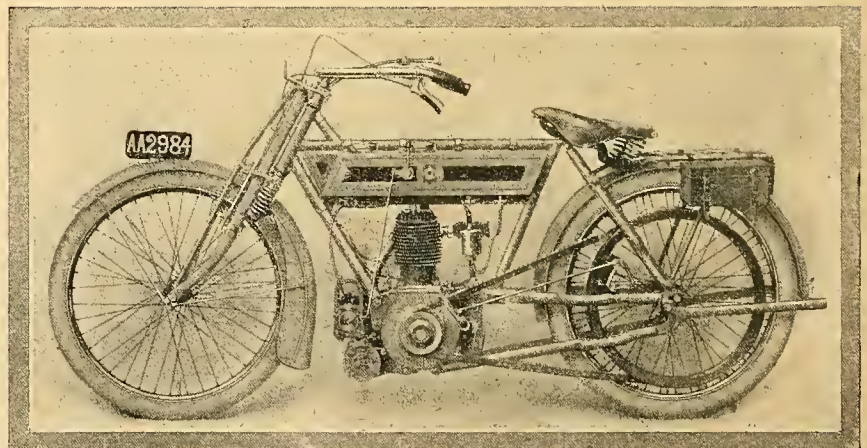
Improved spring snap terminal fitted by the Singer Co. to Bosch magnetos.

now have rounded metal ends formed on the lever, and so prevent the loss of screwed-on knobs and the consequent discomfort to the fingers. A neat front wheel stand is fitted to the front forks. The model we inspected was fitted with a plate clutch in the rear hub operated by pedals conveniently placed and coming under the right foot, the foot brake being on the left side. A very simple terminal is fitted to the high-tension lead from the Bosch magneto, and consists of a long vulcanite collar fitted with a split brass "push-in" end (illustrated herewith). The frame design and engine generally have undergone no important alterations, but the tank has an improved finish, and the oil pump is set at a greater angle so as to be more conveniently operated.

The new $3\frac{1}{2}$ h.p. Singer engine showing combined valve cover and trouser shield, also position adopted for the gear-driven magneto.

The Trump-Jap adjustable pulley dismantled.

gallons of petrol and half a gallon of oil and is carried by four clips. Each of these clips is screwed to a bridge piece holding the tank well away from the frame, and on the inside is fixed to a strap passing round three sides of the tank. We are told that this is the one tank construction which cannot be smashed at Brooklands. Lubrication is by a positive glass barrelled oil pump on the outside of the tank, but Best and Lloyd semi-automatic sight feed lubrication can be fitted as an extra. The B. and B. carburetter is employed on the Tourist model, and on the T.T. either J.A.P. or C.A.P. can

The new model $3\frac{1}{2}$ h.p. Trump-Jap. Observe the extra strut from back axle to base of crank case.

FOUR WORLD'S RECORDS IN ONE DAY !

At Brooklands, on Oct. 25th,
Mr. S. Wright, riding a

2 $\frac{3}{4}$ h.p. HUMBER

fitted with

DUNLOP

TYRES AND DUNLOP BELT

established new records for

50 MILES : 100 MILES
ONE HOUR : TWO HOURS

**LOOK OUT AT THE SHOW FOR THE
NEW DUNLOP TRIPLE-STUDDED TYRE**

THE DUNLOP PNEUMATIC TYRE CO., Ltd., ASTON CROSS, BIRMINGHAM ; ALMA ST., COVENTRY

Branches—London, Nottingham, Manchester, Newcastle, Bristol, Leeds, Liverpool, Glasgow, Dublin, Belfast.

In answering this advertisement it is desirable to mention "The Motor Cycle."

ROVER

at

OLYMPIA, STAND No. 113

Do not fail to see all the improvements we have made on our Motor Cycles. There will be no machine exhibited in the Show which will be neater in appearance or exhibit a more careful design throughout than the $3\frac{1}{2}$ h.p. Single-cylinder Rover.

THE Standard Touring Motor Cycle

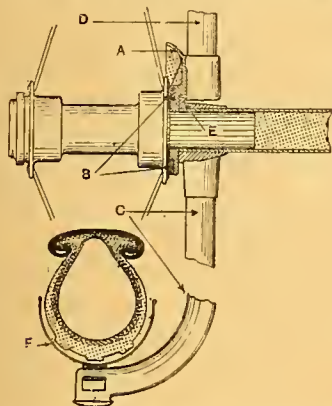
Prices from £49

Catalogue and full particulars from—

**THE ROVER CO., LTD.,
COVENTRY.**

1912 Models.—

be fitted. The magneto is placed in front of the engine, and supported on a bracket cast with the back of the chain case. A special type of Druid forks is used, and the front wheel has ample side guards. The finish is in grey, the tank being aluminium, with a green panel, while a transfer representing the Ace of Hearts and underneath the word Trump is



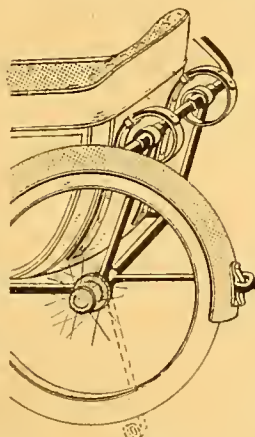
Elevation of Canoelet sidecar axle and plan of stand and clip. A, flange to deflect mud. B, left washer. C, tubular stand. E, revolving lug brazed to stand. F, mudguard.

certainly distinctive. Both head lugs and bottom bracket lugs respectively are cast in one. There is one other feature which we do not remember seeing elsewhere, that is that the belt rim is both spoked on and clipped to the wheel spokes. As will be seen from our illustration, the machine has a low saddle position, and is in every way built for hard work.

Canoelet Sidecar.

The accompanying illustrations show a very original sidecar made by Messrs. Mead and Deakin, 61, Ladypool Road, Sparkbrook, Birmingham. The frame

consists of a tube bent hairpin fashion, the bend is in front, and the two ends are turned upwards at the back almost to the top of the body, which is attached at this point to laminated C springs and shackles. There are two transverse tubes at the back of the frame, a continuation of the lower of these is attached to the motor cycle near the centre of the back wheel, while the upper is bent forward and clipped to the saddle pillar. This arrangement, with special clips of quite original design, gives a very rigid frame. The body is coach built and very comfortable, the angle of the seat being adjustable; there is ample room and protection for the feet and a glass screen is fitted. The weight is 77 lbs. Another 15 lbs. must be added for screen and luggage carrier. The front clip consists of a slotted sleeve cone shaped at the end, which, when screwed up, grips the tube firmly in any position, somewhat after the manner of a carburetter attachment, making further adjustment unnecessary. A neat luggage carrier is fitted in the rear, which when not wanted folds up against the back of the sidecar.

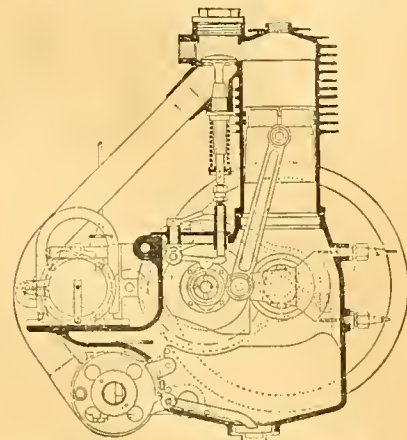


The suspension of the Canoelet sidecar, also showing folding stand.

The stand when not in use takes the place of a rear mudguard stay. The vertical mudguard stay has a flange at the bottom to carry any mud which may run down the stay from the bearing. A delivery body is made which is interchangeable with the ordinary sidecar.

Veloce.

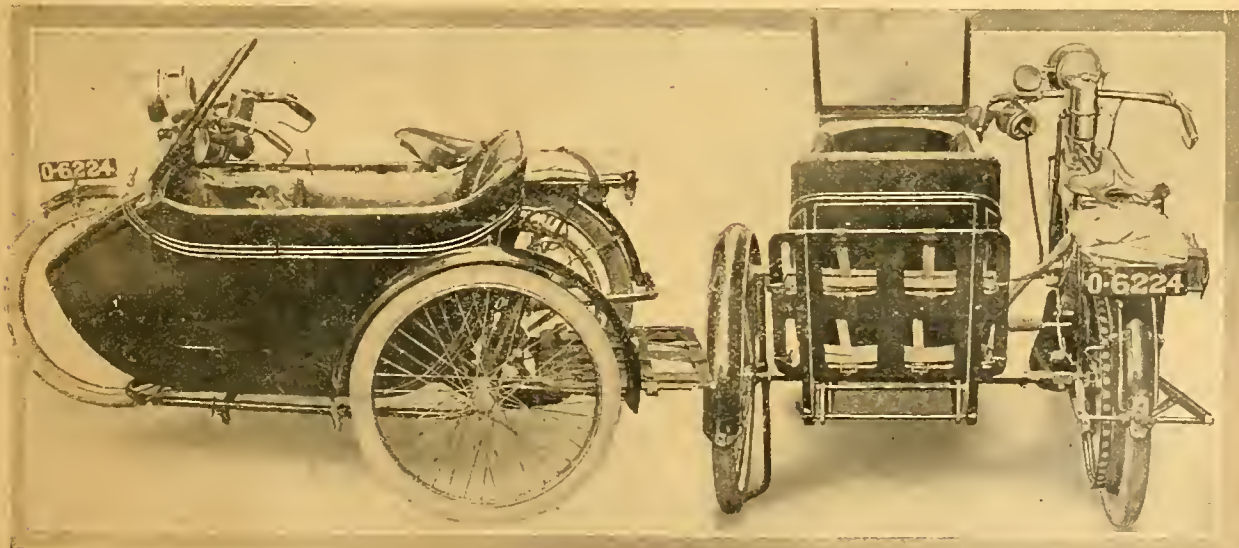
Last week we were shown a most ingenious motor cycle manufactured by the Veloce Co., of Birmingham. The frame is on standard lines, having a dropped top tube, Druid forks, and side flaps to front guard, but the engine and two-speed gear are distinctly novel. The engine has a solid crankshaft supported



Sectional drawing of the Veloce power unit, and two-speed counter-shaft gear in front of the engine.

on one side only by two ball bearings; between these bearings lie two gear wheels, fixed to the crankshaft. In the front part of the crank case lies a counter-shaft carrying two special bronze gear wheels, formed to take a double conical clutch within. These gears are always in mesh, and one of them runs at half engine speed and acts as a timing wheel. The double-faced clutch is actuated by a quick thread screw, and locks either one or other of the special bronze wheels to the counter shaft, on the near side of which is fixed a 6 in. pulley.

The lubrication is most ingenious. In front of the counter-shaft and driven by

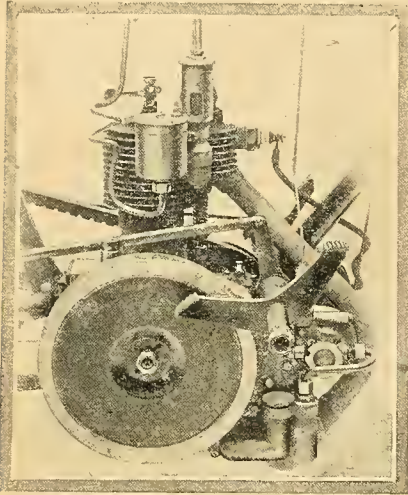


Side view of the new Canoelet sidecar, which has many original features embodied in its design.

Rear view of sidecar showing the luggage platform folded up and the sidecar stand in operation

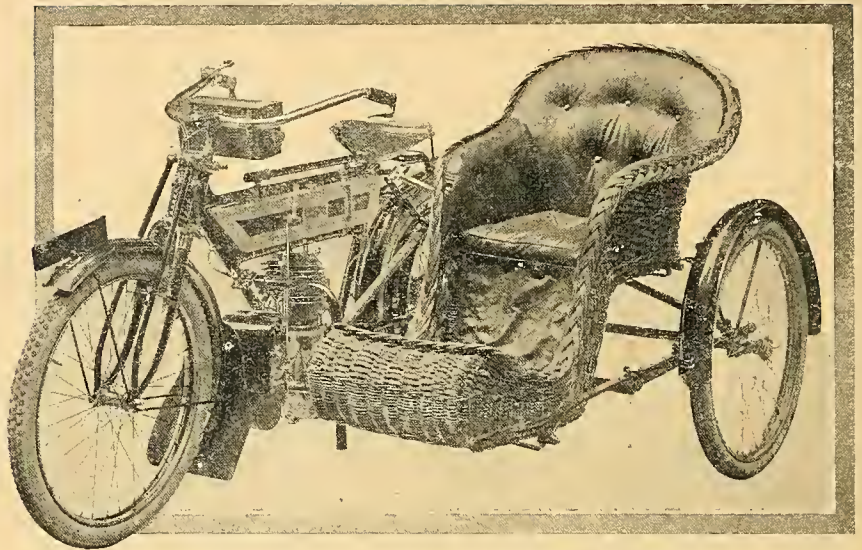
1912 Models.—

an intermediate wheel lies the magneto and a small eccentric oil pump. This pump draws oil from a filter placed in a large sump below the crank case and delivers it, through a regulator with a sight indicator, through a pipe joined to the gear case into the hollow counter-shaft by means of a cap constantly filled with oil from the pump. From the counter-shaft oil holes are drilled to the gear bearings and cams, the holes in the cams being arranged so as to throw oil direct on to the big end bearing, it then returns to the crank case and sump.



Power plant of the new 2 1/2 h.p. Veloce two-speeder.

The engine has a bore and stroke of 68 x 76 mm., and is fitted with a 9 1/4 in. outside flywheel. Both valves are mechanically operated and are situated in front of the cylinder, the inlet over the exhaust. No oil reservoir is fitted to the tank, as the sump holds two pints and is fitted with a large filler cap from which the level can be seen. The gears are operated by a double pedal on the right side of the machine, and from a short run we found the machine and gears



Three-quarter view of the 1912 model 3 1/2 h.p. Brown and sidecar.

very silent and easy to work. The engine is rated at 2 1/2 h.p., and is fitted with Bosch magneto and B. and B. carburetter. The large pulley in front of the engine should make for immunity from belt slip. The option is given of three gear ratios—5 to 1 and 8 to 1, 5 1/2 to 1 and 9.55 to 1, and 6 to 1 and 10.2 to 1. A point we raised in connection with the lubrication system as to whether the crank case could be kept oiltight with the considerable amount of oil used was answered in the affirmative, and certainly the engine we tried was almost spotless.

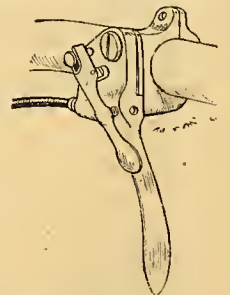
The Brown Motor Bicycle.

It is not surprising that a firm like Brown Bros., Ltd., which has been steadily engaged in the motor cycle industry since 1902, should in 1911 have brought its motor bicycles to such a state of perfection that startling innovations are not needed. There is, however, we understand, to be shortly added to

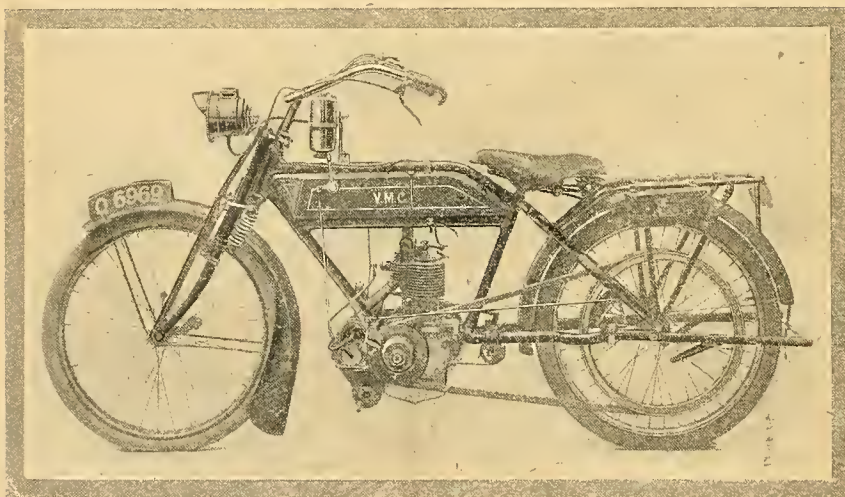
the Brown a two-speed gear and free engine, the details of which are unfortunately not yet available. The Brown motor bicycle is a well-designed and well-made machine, fitted with the 3 1/2 h.p. engine which has performed so well in the past in the hands of R. M. Brice, good spring forks, stand and luggage carrier, petrol gauge, and other items, which the A.C.U. judges sum up under the heading of "convenience." The lightweight 96 lbs. model, 3 h.p. 70 mm. x 76 mm., will also be shown, and a new type of sidecar, fitted with comfortable basket body. The sidecar is of the rigid variety, and has, we understand, met with great demand. It is illustrated herewith fitted to a 3 1/2 h.p. Brown motor bicycle.

F.N.

The alterations to the four-cylinder F.N. for 1912 are comparatively few—the machine having given universal satisfaction, the makers have not found it necessary or advisable to make more than a few minor improvements. The magneto machine is provided with a distributor combined with the magneto, as is the usual practice on cars fitted with four-cylinder engines; previous models have had a separate distributor for the four sparks, with the usual motor cycle type contact maker. The sparking plugs are specially short, and to obviate any possibility of short circuiting owing to the reduced length of the porcelain insulators, special ebonite connections are fitted to the terminals of the plugs. A special type of B. and L. combined drip feed and hand lubricating pump is fitted in



Clutch control lever of the 1912 model four-cylinder F.N.



Another new model, the 2 1/2 h.p. Veloce two-speed machine.

ANOTHER TRIBUTE TO

B.S.A.

SUPERIORITY.

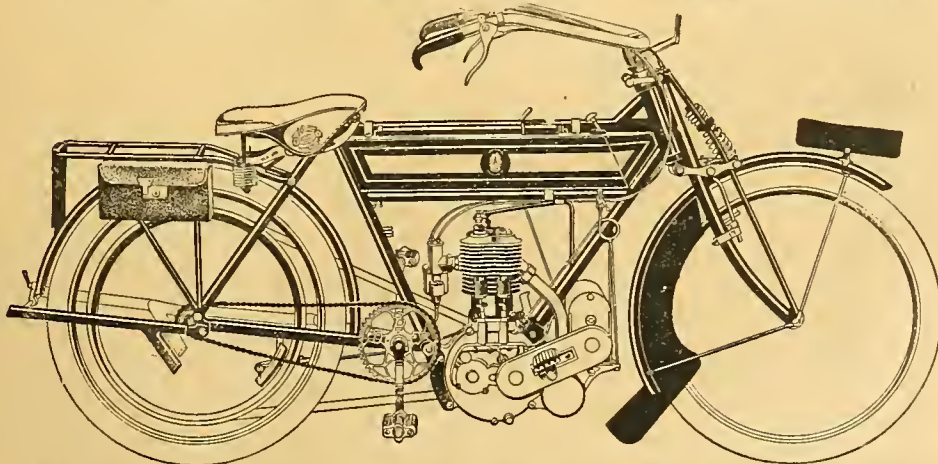
THE B.S.A. MOTOR BICYCLE, AT
THE TURIN INTERNATIONAL
EXHIBITION, GAINED

THE GRAND PRIX

FOR SUPERIORITY IN DESIGN,
CONSTRUCTION, AND MATERIAL.

Send for a free copy of the B.S.A. Motor Bicycle Catalogue, which
fully describes this "Perfect in every Part" machine; or inspect
the 1912 models at Olympia, on Stand No. 122 (Ground Floor).

THE BIRMINGHAM SMALL ARMS CO., LTD.,
13, SMALL HEATH, BIRMINGHAM.



B.S.A. Motor Bicycle, Fixed Engine, £50; Free Engine Model, £56 : 10s.

In answering this advertisement it is desirable to mention "The Motor Cycle."

Royal

On
STAND 39

will be exhibited three different types of

ROYAL ENFIELD MOTOR CYCLES.

The Famous $2\frac{3}{4}$ h.p. Model,

fitted with our patent two-speed and free engine gear—made more luxurious than ever by the addition of footboards and other refinements.

The $2\frac{1}{2}$ h.p. Open Frame Lightweight,

the ideal mount for ladies, professional and business men.

The 6 h.p. Sidecar Machine

(THE "CAR-BIKE"), absolutely the finest combination ever produced.

Make a special point of closely inspecting each of these splendid machines—otherwise your Show visit will be incomplete.



If not visiting Olympia, a postcard to Dept. F, Enfield Cycle Co. Ltd., Redditch or 48, Holborn Viaduct, E.C., will bring a batch of interesting literature to your door.

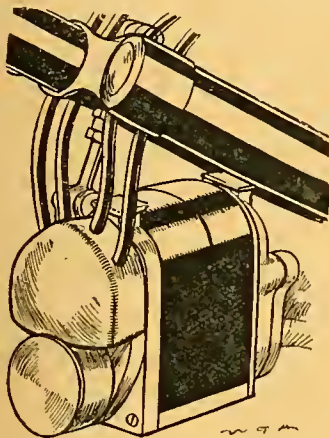
Enfield

Look out for the **ROYAL ENFIELD PATENT CUSH DRIVE**—the most perfect engine shock absorber ever offered—ensures easy and sweet running—adds greatly to life of tyres.

In answering this advertisement it is desirable to mention "The Motor Cycle."

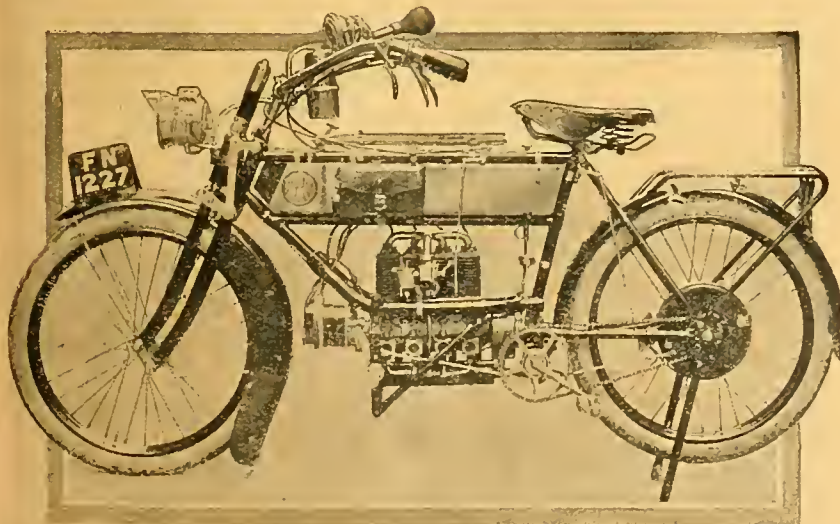
1912 Models.—

the fore part of the main tank. The front mudguard is now provided with metal side wings, and a strong tubular carrier and stand are fitted; these supersede the combined carrier and stand which was fitted to order for the British market. Now the stand is pivoted to studs on the frame, and does not depend on the rear wheel spindle for attachment; it also forms the stays for the mudguard. The carrier is a solidly built up article and strong enough to carry a passenger on if desired.

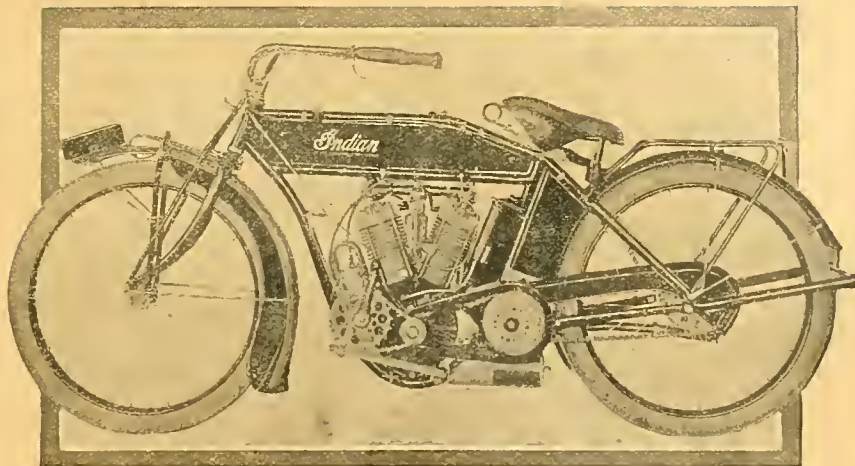


The new F.N. magneto machine with combined distributor.

The saddle position is slightly lower, and 10 gauge spokes are used for the driving wheel. The 1911 2½ h.p. lightweight was always provided with an outside adjustment for the bevel gear. This convenient refinement has now been added to the four-cylinder model for next year and enables the small bevel pinion to be accurately meshed with the large gear wheel with comparative ease. Other minor improvements are increased leverage to the rear brake and Bowden wire to operate it from the handle-bar. The 2½ h.p. lightweight two-speed model remains unaltered.



The 1912 model four-cylinder bevel driven F.N.



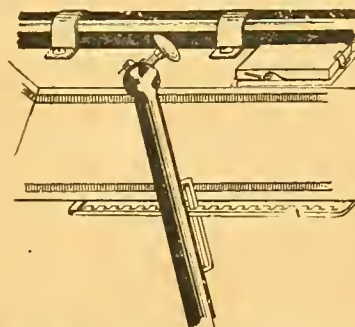
1912 model 7-9 h.p. twin-cylinder Indian, with foot-starting device and two-speed gear.

Indian Improvements.

The Hendee Co., so we were informed by their London manager, Mr. W. H. Wells, have decided to market two Indian models only for 1912, viz., the 3½ h.p. single-cylinder and the 7-9 h.p. twin. The standard models will both have the free engine clutch on the counter-shaft and a slightly altered frame. Both the single and twin will be supplied with the counter-shaft two-speed gear and free engine device to order, but the change speed gear cannot be supplied for the standard models after they have once been purchased as single-geared machines. A foot starting device is a feature of all patterns, and this is illustrated in the photograph of the complete machine. On the engine-shaft a free engine clutch enables starting to be effected by means of the chain and chain wheel shown. The crank is pushed forward, one downward thrust of the pedal revolving the engine one complete revolution. Folding foot-boards and no pedalling gears are also features of the new machines.

The rear driving chain is neatly protected by a metal guard on the lines of

the protector already fitted to the 1911 models. This guard is readily detachable, and should increase the life of the chain by keeping it free from mud and dust. The brakes are two, on the rear wheel. One is an internal expanding and the other an external contracting band brake; they are Raybestos faced and fitted on the right side, thus facilitating the removal and lubrication of the driving chain. Both brakes are foot controlled, as in the 1911 T.T. models. The hollow spindle fitted to the front wheel this year will also be used for the rear wheel in



Showing the notched quadrant control on the new variable gear Rudge, also large square filler caps.

1912. This enables the wheel to be removed from the machine in one minute. An innovation, so far as motor cycles are concerned, is the adoption of Timken roller bearings to the hub of the rear road wheel. The 1912 petrol tanks hold two gallons of spirit. The tool case on the Indian is metal, arched over the top tube of the frame, and occupies a space midway between the saddle peak and the steering head. The case contains a leather tool roll, which is made to fit snugly in the case.

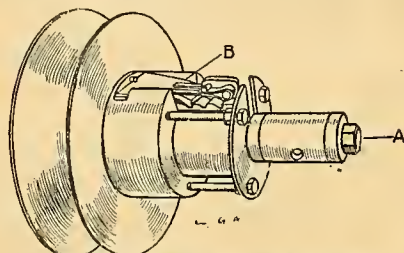
The standard finish is blue, with tyre rim edges nickel-plated.

The Midget Bicar.

The Brown Midget Bicar, for the design of which Mr. J. T. Brown, Reading, is responsible, still retains its unusual but wholly successful sheet steel frame, built up on ash stays. The illustration of the ladies' model, now provided with doors

1912 Models.—

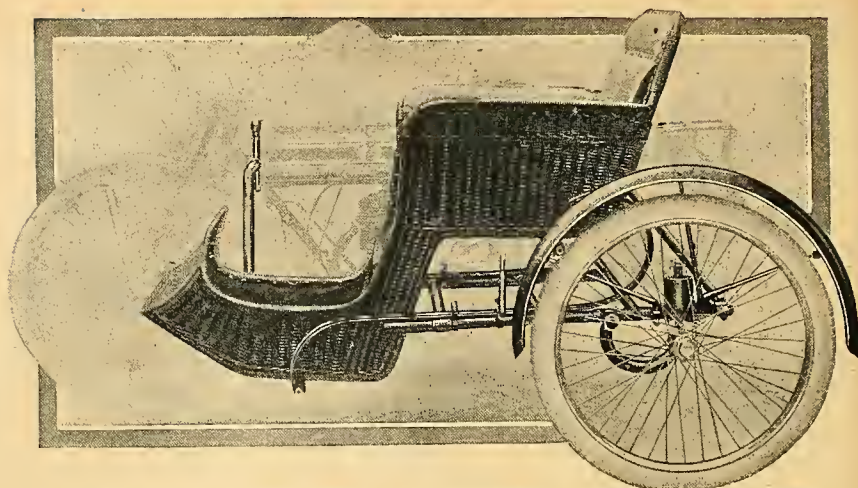
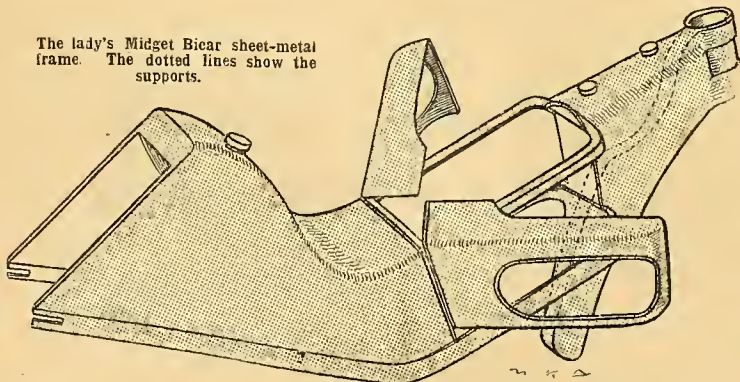
to allow easy access to the engine, shows the position in the frame the wood stay takes. Two bars of wood used are with the grain running different ways, and the bars are firmly bolted together. While at Mr. Brown's works we were shown a photograph of one of these machines, the front forks of which were completely smashed up owing to a collision with a wall, while the frame was untouched. The chief novelty in the Midget Bicar is in the expanding pulley gear. Formerly the back wheel was moved backwards to tighten the belt by tilting the footboards, the wheel being locked in place by a hand lever on the top tube.



The three-speed pulley on the 1912 Midget Bicar. The pull (by the operating fork) on the spindle A draws the pawl B out of engagement with the ratchets.

The new mechanism, however, does the whole process of contracting or expanding the pulley and adjusting the belt tension with the aid of one lever. This when pushed forward operates the pulley, and when pulled up or pushed down slides the rear wheel backwards or forwards. The lever works up or down in leather-faced guides, and is provided with an expanding grip brought into play by twisting the knob at the top. Moving the lever backwards or forwards gives the lateral movement to a fork which operates the expanding pulley. The loose flange of this works in an ingenious manner, and is locked by means of a ratchet and pawl; the operating fork pulls on a spindle which immediately releases the pawl and allows the pulley to be expanded to one of the three notches, or, if desired, at once to its extreme limit, which is, of course, the lowest gear. When pressed in, the flange engages the pawl into one or other of the three notches, and the pawl prevents it from slipping back against the pressure of the belt. The models shown on Stand 87 will be a $4\frac{1}{2}$

The lady's Midget Bicar sheet-metal frame. The dotted lines show the supports.

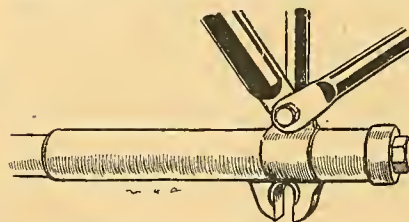


The new Gloria sidecar, features of which are the patent spring wheel and the special frame fixings.

b.p. single-cylinder for sidecar, a $3\frac{1}{2}$ h.p., and a $2\frac{1}{2}$ h.p. lightweight, while one lady's machine will also be exhibited. Precision engines will be used on all models.

The New Zeniths.

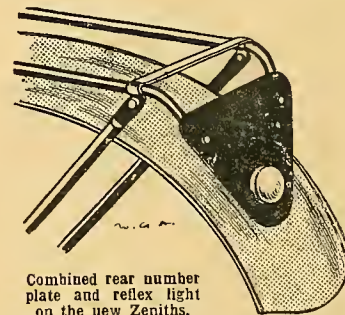
To talk of improvements in the Zenith is to talk of painting the lily. But such a talented designer as Mr. F. W. Barnes is not the sort of man to deny that what he has introduced cannot be brought still nearer perfection. For 1912 he has started an innovation quite as important as the introduction of the Gradua gear, but of a much more simple nature. We all know what a tedious matter it is to remove a back wheel from a motor bicycle,



Zenith fork-end for detachable wheel.

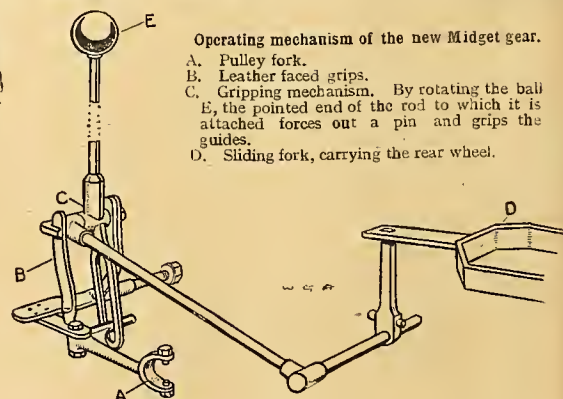
and no one apparently has been more alive to the fact than Mr. Barnes, as he has made the Zenith rear wheel detachable in about thirty seconds. This is considerably quicker than the smartest

amateur motor car driver can remove a detachable wheel on a car, as, in addition to getting out a special spanner, a mallet, and a jack, he has to raise the wheel off the ground to detach it, while the Zenith stand comes into action in two seconds.



Combined rear number plate and reflex light on the new Zeniths.

Were there room to carry one conveniently, a spare wheel complete could be carried and utilised in the 1912 Zenith. The improvement is simplicity itself. Two fork ends are screwed into the sliding plungers in the chain stays, and adjacent to the near side one the brake carrier is fixed, the end of which is also shaped like a fork end. To detach the wheel it is only necessary to slack both the spindle nuts, drop away the brake carrier, hold it to one side, twist



Operating mechanism of the new Midget gear.

- A. Pulley fork.
- B. Leather faced grips.
- C. Gripping mechanism. By rotating the ball E, the pointed end of the rod to which it is attached forces out a pin and grips the guides.
- D. Sliding fork, carrying the rear wheel.

1912 Models.—

the wheel to clear it, and the rider is free to mend a puncture or change a cover. Barnes will be probably wheel changing against time at the coming Show.

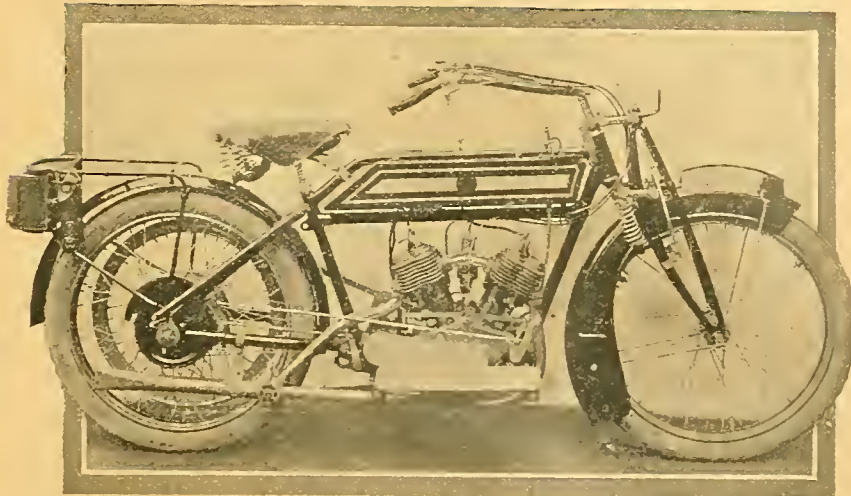
The slots through which the plungers slide are now underneath the chain stays, so that any dirt which may adhere when wet, falls away when dry. The 1912 Zenith frame has its top tube slightly dropped at the rear, and has a horizontal seat-pillar, but should the purchaser be a tall man provision is made for a vertical seat-pillar. The spacious luggage carrier is bent over and fastened to the rear guard, and above where it joins the latter a number-plate is fixed at the bottom of which a red reflector is fitted as a standard. The position and design of the brake pedal have been improved, so that the pedal may be operated by the toe if the rider's foot is on the rear footrest, or by his heel if his foot is on the front rest. The rear footrests are now made easily detachable, so that they may be removed to be straightened if bent by a fall. The engine is now built into the diamond portion of the frame, and the back forks and chain stays are bolted on separately. The silencer of the single is now made so that it can be easily detached for cleaning, and the two ends are rigidly bolted to the engine cradle. Other improvements are a cover to the gear-



Sturdy design of steering head on the new Alldays.

angle after hardening. The models shown will be the $3\frac{1}{2}$ h.p. single-cylinder and the 6 and 8 h.p. twins with and without sidecar attachments

operating chain between the sprockets, and a new method of lubricating the expanding pulley by injecting grease through the hollow engine-shaft by means of an injector supplied with every machine. The faces of the pulley flanges are ground to the correct



A new model for Olympia. The twin-cylinder two-speed Rex-Jap, which as its name implies, is a Jap-engined machine, built in the Rex works. It is sold by the Premier Motor Co.



Zenith rear wheel and special attachments rendering the wheel readily removable.

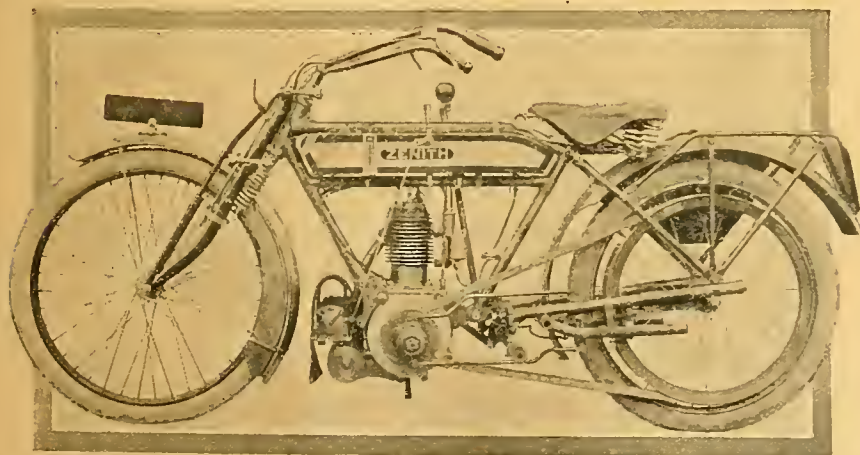
New Imperial Cycle Co.

The above firm is marketing three entirely new models, these being a $4\frac{1}{2}$ h.p. sidecar machine, a $3\frac{1}{2}$ tourist, and a $2\frac{1}{2}$ lightweight. The sidecar vehicle is very carefully designed, and is the result of long tests. All lugs for brake rods, guides, and sidecar attachments, are



Design of crank employed on the New Imperial motor cycles to enable a straight rod control to the clutch.

The clutch-operating pedal mounted on a special lug of the New Imperial.

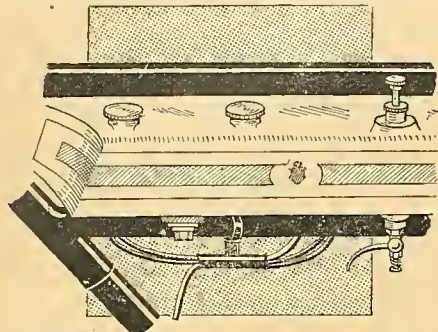


Latest model $3\frac{1}{2}$ h.p. Zenith-Gradua, the improvements in which are enumerated in the reading matter.

brazed to the frame and have a very neat workmanlike appearance. A $4\frac{1}{2}$ h.p. single-cylinder engine of 90 mm. bore \times 96 mm. stroke is fitted vertically in the frame and drives through a Roc two-speed gear situated in the rear hub. The chief feature with regard to this engine is the fitting of a ratchet exhaust lifter which enables the rider to lift the valve right off the seat or to leave it just clear. It is claimed by the makers that when running at moderate speeds the engine keeps cooler and develops more power when the valve is held very slightly off its seating. The clutch and brake pedals are carried on special studs fixed in the engine plates and quite separate from the footrests. Side flaps are made in one piece with both front and rear mudguards, and the finish is in dark green suitably lined. A substantial stand is used and the carrier is brazed to the frame; a special sidecar is being manufactured with heavy gauge tubing, and we understand that by show time we are likely to see something quite new in this line coming from the new Imperial works

1912 Models.

The first point to strike us on the 3½ h.p. model was the transparent bronze finish. We hear that this has excellent wearing qualities, and it is certainly neat and distinctive. The engine has a bore and stroke of 85 mm. × 88 mm. respectively, and the machine is in most



A 1912 Triumph refinement. The carburettor and high tension wires are carried in a neat metal tube as in car practice. Observe also needle valve to petrol injector.

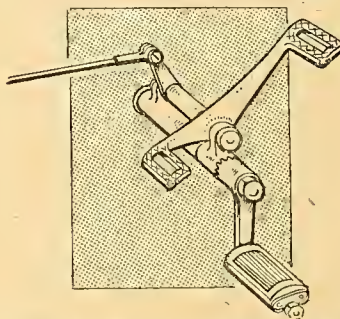
respects similar to the 4½ h.p. type; it is, however, fitted either with fixed gear or a hub plate clutch. The 2½ h.p. lightweight is finished in black, and can be fitted with the Armstrong three-speed hub gear; the pedals for operating this are carried on a lug brazed to the frame. All three types have dropped top tubes, giving a low riding position, comfortable V handle-bars joined by cross bar and Druid forks. The brazed-on lugs make a very clean job, and we hear that in future even the controls will be brazed to the handle-bars.

1912 Triumphs.

This week we are enabled to outline the Triumph Cycle Co.'s programme for 1912. The four models which appeared at Olympia last year will be retained, and an additional one, the two-speed machine illustrated and described in our last issue, will be first exhibited to the public gaze at the Show. We are given to understand by Mr. Schulte, however, that it will be shown more to interest motor cyclists than anything else, the company making no secret of the fact that they are not so

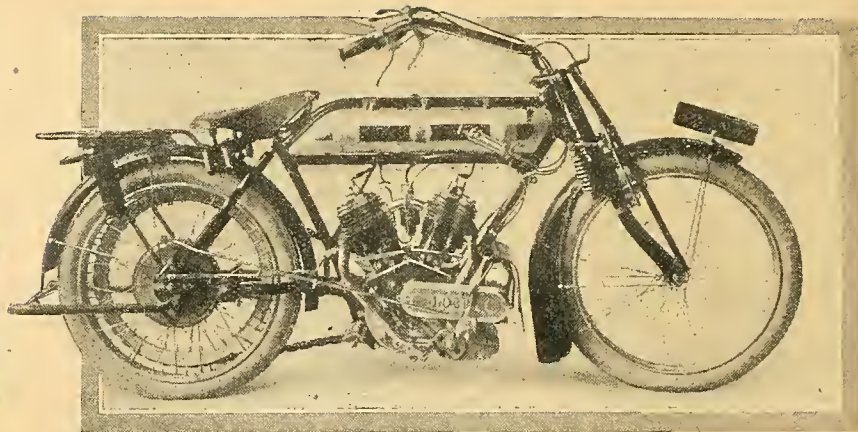
enthusiastic over this mount as over their single-geared machines.

The 1912 catalogue models are as follow: 1, the free engine machine; 2, the roadster model (with pedals); 3, the T.T. roadster; 4, the Tourist Trophy racer.



The curved clutch pedal and adjustable dropped footrests on the new Triumph.

The improvements in next year's mounts at once attract the eye. The tank has been altered considerably, now being made with round top edges, the one longitudinal seam and riveted end still

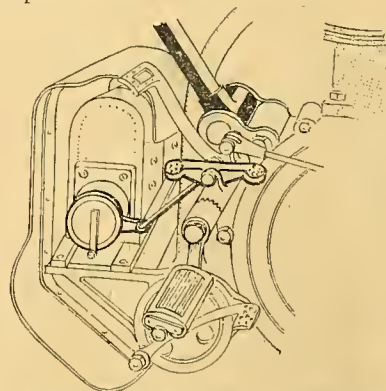


1912 model 8 h.p. Dot-Jap fitted with V.S. gear and handle starting. This machine may be inspected on the Service Co.'s stand at Olympia.

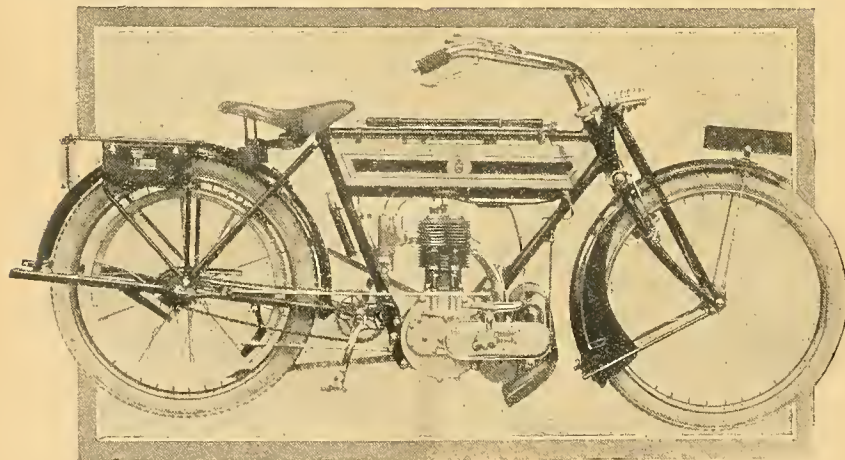
being used. The tank fixings are underneath. Instead of the clips and screws around the top tube, a flat plate formed on the tube under the tank extends the whole width of the tank, which not only considerably strengthens this portion but gives it a much neater appearance. Needle valves have superseded taps in respect of petrol feed to carburettor and injector, whilst the screwed-on filler caps give place to a patent push-on spring cap.

Foot-operated Spark Advance.

The most novel departure is in connection with the advance and retard of the magneto contact breaker. A tiny pedal is mounted on an extension of the foot brake spindle, its movement being geared up from the contact breaker disc. We are told that this device works perfectly in practice.



The pedal operated magneto spark advance on the 1912 Triumph. A movement of the tiny pedal results in a much smaller movement of the contact breaker disc.



The 1912 pattern 3½ h.p. free-engine Triumph.

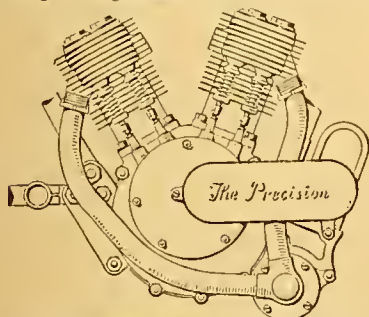
The footrests have been considerably amended in design. They are now dropped several inches lower than formerly, and, what is still more important, they are adjustable, and so may be canted at any angle to suit the individual rider. The new pattern spring fork, with large single coil spring acting in tension and compression, which has had severe testing all this year, is, of course, adopted as standard for 1912; and a new Brooks-Triumph saddle, with Brooks's patent compound springing and the seat

1912 Models.—

portion of padded pigskin, shaped anatomically, should conduce to much more comfortable riding. In future, Triumph machines will have belt rims for $\frac{3}{4}$ in. or lin. belts.

A new design of front brake has also been adopted. Instead of the stirrup which operates the brake shoes protruding through the front mudguard (which weaken the latter and cause breakages), they are now farther apart, and are outside the guard. Another advantage of this arrangement is that the stirrup, by overlapping the front guard, does not interfere with the removal of the latter fitment. The ball bearing engine has undergone very little alteration, which, however, is not surprising in view of its past successes. Adjustable spring tappets are provided, which should be especially handy should the valves be prone to stretching, and in those far apart periods when a Triumph engine does wear.

Finally, the brake pads are made of a special composition which is non-glazing, and thus gives a powerful grip in fine or wet weather. The pannier bags are of improved design, and have a more secure locking arrangement.

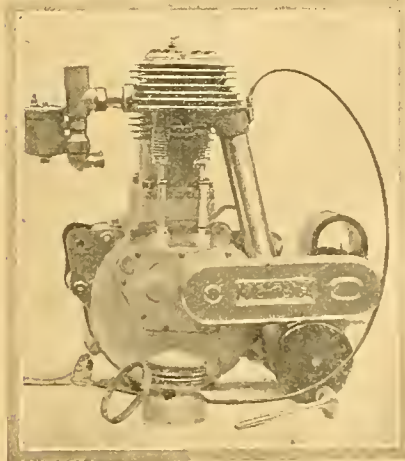


A new Precision engine for 1912. This 6 h.p. twin-engine has a bore and stroke of 75 x 85 mm.

P. and M.

For 1912 the alterations to the P. and M. are of a minor description. The engine dimensions remain unaltered. A foot starter is now fitted which is operated by a pedal on the right side. The pedal, when sharply depressed, revolves a shaft

carried on a bush through the 2 to 1 gear box, this shaft being connected to the pedal by a small chain. On one end of the shaft is a small chain wheel, on the

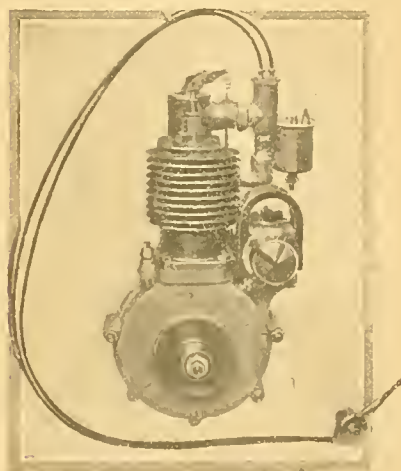


Engine unit of the new long stroke Norton.

other end are ratchet-faced teeth, which engage similar teeth on the mainshaft. On releasing the pedal these automatically become disengaged. The subsidiary-shaft is held out of engagement by a coiled spring. This, in conjunction with the half-compression device, enables rapid starting with one downward thrust of a pedal. This, of course, can be done with the wheels resting on the ground and with the rider seated on the saddle. The 1912 carburetter is of an entirely new pattern, combining great efficiency and simplicity. The single jet can be removed by unscrewing one screw; the air and throttle pistons can also be withdrawn simultaneously by the removal of one screw, both these screws having the same sized head, which fits the small B.S.A. key supplied with the machine. The float chamber cap is instantly detachable, being held in position by a flat spring of the same type as used on a magneto contact breaker cover. The petrol level is adjusted by means of two small nuts threaded on the needle valve stem.

Illston and Smith

are manufacturing a neat lightweight motor cycle engine of 76 mm. bore x 65 mm. stroke. It is fitted with a mechanically operated inlet valve situated directly over the exhaust valve. The magneto is carried behind the cylinder and is gear-driven. A simple form of adjustable pulley is fitted. There is a neat half compression device, which works as follows: The tappet has a D-shaped extension on the bottom end, which when parallel to the flywheels works in the ordinary manner, but when turned through an angle of 90° is brought over an auxiliary lever and operated by a half compression cam. Both tappets are adjustable. The inlet valve is detached by a single ring nut. The flywheels are exceptionally heavy, being 7 in. in diameter and weighing 14 lbs. The crankshaft is supported on ball bearings. The lubrication system is quite novel, the oil being led into a well at the top of the crank case, into which



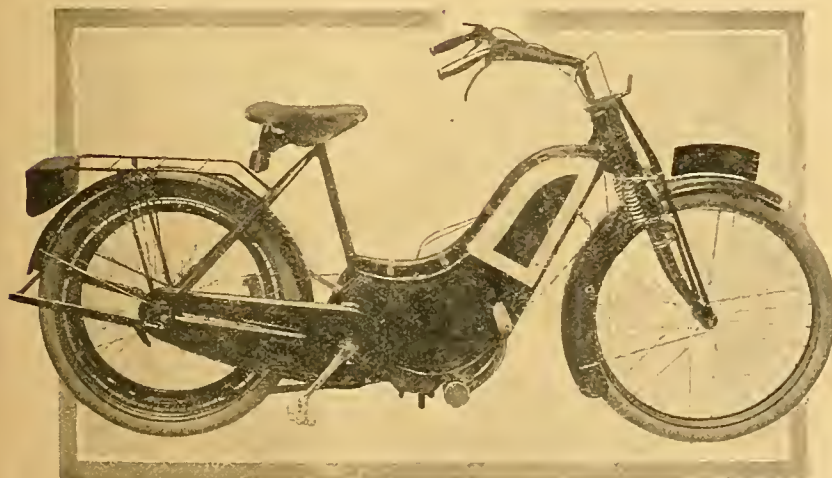
Power unit of the new Illston and Smith lightweight.

the piston dips. The valves are of large proportions. The Illston and Smith machine has been designed by Mr. H. A. Smith.

Forward.

The 1912 twin 2 $\frac{1}{2}$ h.p. Forward will have several minor improvements. Instead of having a dropped top tube, the whole frame has been lowered and a straight top tube is employed. The tank, which has been redesigned and made considerably neater, is now carried on two lugs brazed solid to the lower tube. The inlet pipe has a more direct flow than previously, and the Amac carburetter is employed. The machine will be fitted with a larger saddle (Brooks 130 size 3) and the wheels are shod with 26 in. x 2 in. square tread rubber studded tyres. A ladies' model (which we illustrate) will also be shown for the first time at Olympia.

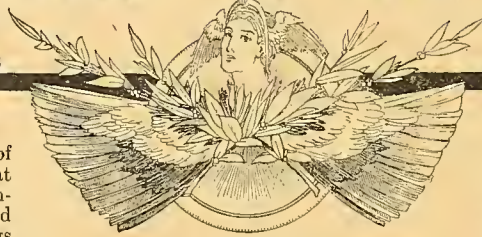
With reference to the paragraph in a recent issue respecting the Enfield Cycle Co.'s gear, the firm is not selling the lightweight two-speed and free engine device, but is willing to supply the heavier type of Enfield two-speed and free engine gear suitable for machines up to 8 h.p.



New lady's 2 $\frac{1}{2}$ h.p. twin-cylinder Forward.

ACCESSORIES OF THE SHOW

By R. Jones



Bluebel.

We recently visited Bluebel Bros., of Wolston, and were shown several neat motor cycle fittings, notably an attachment consisting of side wings to be fitted to existing mudguards. These wings clip on to the bead of the guard so neatly that the joint is hardly noticeable, and yet are easily detachable for cleaning or tyre repairing purposes. We were also shown a plug in which enamel is used instead of packing washers, and which is absolutely compression tight; also a pump with folding foot stirrup, which is now fitted with a light metal lining to prevent the possibility of warping.

Forward Fittings.

Two neat accessories are being marketed by the Forward Co., namely, a new belt fastener, illustrated herewith, and a new sparking plug which it is claimed will

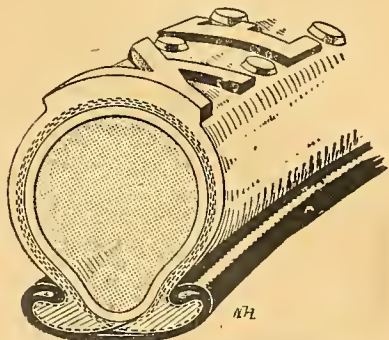


The new Forward belt fastener. The hook, of which three sizes are supplied, works on hardened steel roller bearings.

never soot up. The chief advantage is that the central point lies in a small hole formed in the cup-shaped end piece.

Cycar Tyre.

Cuthbe and Co. will be exhibiting the Max Cycar tyre, recently described in *The Motor Cycle*. This is a really substantial cover for powerful machines designed to propel a sidecar. A belt which was used with great success in the Irish End-to-end record ride and in numerous hill-climbs during the past season will also be on view. Another speciality of this firm is a butt-ended inner tube and also Leakure, a new puncture preventive, which neither damages the tube nor prevents patches from sticking. A further novelty is the idea of selling pedal rubbers by the yard, so that a pedal rubber of any length can be cut off to suit any type of pedal.

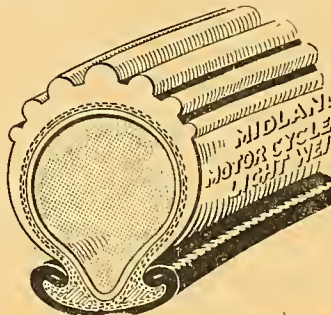


Kerry combined steel and rubber studded cover.

Kempshalls.

The 1912 Kempshall tyre is made exactly on car lines, and not manufactured by wrapping the tread on to a drum. These tyres will be found on Stand 181. The cover is made under tremendous hydraulic pressure, with the result that the tyre is turned out a better shape. Great care is also taken to make the tyre fit the standard rims absolutely exactly, so that nipping of the tube is impossible.

The chief types are the anti-skid pattern, the tread of which has been slightly improved, and the non-skid cover, which remains outwardly the same, but of course both types are now made under the new process.



Section of the Midland Tyre Co.'s lightweight motor cycle tyre.

Palmer.

The Palmer Tyre, Ltd. (Stand No. 164), for 1912 will have several new patterns in tyres, in addition to the rubber-studded model introduced this season. These will be an improved ribbed tyre, the ribs of which will be both thicker and wider, and a new heavy fabric motor cycle cover, which will be made both ribbed and rubber studded. The ordinary fabric tyre will be made the same as last year, except that it will have an improved and wider tread, while it is also made in the studded pattern. A new type of tyre will be known as the "Privateer," the chief feature of which will be its low price.

It is interesting to note that the Palmer Tyre, Ltd., has introduced a 650 x 65 mm. ribbed tyre specially for sidecar work.

The firm has been specially generous in encouraging the motor cycle pastime this year, and has presented no fewer than four cups and six tyres to be competed for in various local club competitions. F. E. Pither is using Palmer cord tyres for his attempt to establish a long-distance sidecar record.

Michelin.

The Michelin Tyre Co. (Stand No. 24). No special innovations have been made in Michelin tyres for the coming season, as the existing models have been found to give entire satisfaction. Two types of tyres for lightweight machines will be shown with square treads and both wired-on and with beaded edge, and the well-known Michelin "Semelle" non-skid tyre in both wired-on and with beaded edge types. These covers are beautifully made and are manufactured in all sizes.

Hutchinson.

The chief novelty of Hutchinson tyres will be a new rubber studded tread, which will be seen on the three Hutchinson tyres at Stand 26. They are known as the "passenger" type, the "T.T.," and the "Brooklands."

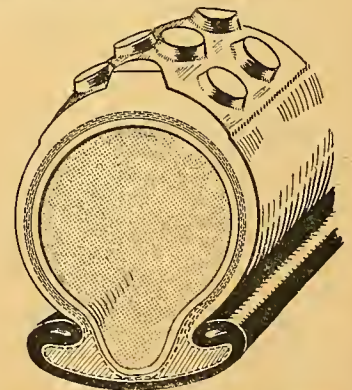
Yet another innovation will be a new light car cover for passenger machines, made in two sizes—650 x 65 and 700 x 65. The smaller diameter cover fits light car rims, but the larger one fits the 28 x 2 rims of the Indian.



Section of the Hutchinson butt-ended tube, showing the extra strong joints.

The butt-ended tube sold by the firm has been considerably altered for next year, and the accompanying illustration will show that the ends where the strain occurs have been considerably thickened and strengthened.

Hutchinson tyres have had this year a record of which their makers may be proud. Machines finishing 2nd, 3rd, 4th, and 5th in the T.T. race were shod with these tyres, and in the Six Days' Trial twenty-six machines entered using these covers gained twenty-six awards.



Section of the new rubber studded Hutchinson cover.

Accessories of the Show.—

Miller Lamps.

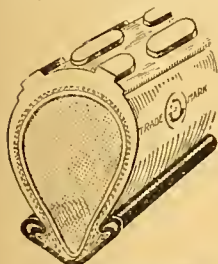
Mr. Miller recently showed us a neat motor cycle lamp and generator. The lamp is fitted with Mangin mirror reflector and can be swung to any desired angle. A special bracket can be supplied to carry both lamp and generator.

Powell and Hanmer

are producing a larger motor cycle lamp fitted with Mangin mirror reflector with adjustable focus burner and an adjustment for the angle at which the lamp is to be set. There will be no alteration to the generator. The lamp can be seen at the car Show.

Fafnir Engines.

The Fafnir engine was one of the first to be fitted to a motor cycle, and from the earliest days of the movement it has gained for itself a reputation for efficiency and good workmanship. It is true that not so much has been heard of this well-known engine of late years, but the recent wonderfully rapid growth of the motor cycle movement has brought it once again to the fore. These engines, which are the production of the Aix-la-Chapelle Steel Works, for which Messrs.



The new pattern Dunlop cover showing triple row of studs.

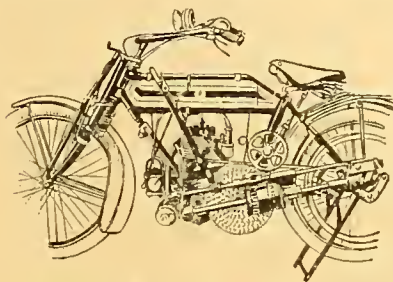
Strauss and Co., 211, Upper Thames Street, E.C., are the representatives, will be seen at the coming Olympia Motor Cycle Show on the stand of the Chater-Lea Manufacturing Co., Ltd. (Stand No. 112). Three types will be on view: The 2½ h.p. for lightweights, 70 × 80, with ball bearing crankshaft, gear-driven Bosch magneto, and side by side valves. Similar to this engine is the new type 4-4½ h.p. engine, 84 × 88, to which a handle-bar controlled Brown and Barlow carburetter is fitted. Like the former, it has a ball bearing crankshaft and an internal exhaust valve lifter. The third type is the 5-6 h.p. twin, 70 × 80 mm., with side by side mechanically-operated valves and ball bearing crankshaft. The chief features of these engines are the excellent casting of the radiator fins, the excellent finish, and their good design throughout.

Cowey.

The well-known and reliable Cowey speed indicator will be exhibited by the Cowey Engineering Co. on stand No. 221. No fresh models are being introduced for 1912, the present model having been found perfectly satisfactory in every particular. As many of our readers are already aware, the Cowey dial has very clear indicating figures. These show speeds from ten to forty, ten to sixty, or in a more expensive model, ten to eighty miles per hour. They can also be supplied to suit right or left side of the fork, and with a clip for any standard diameter handle-bar. All models have a mileage recorder.

A Novel Change Gear Transmission.

It has been truly remarked that this year's Olympia will be a variable gear show. Many of the gears that will be exhibited have been described and illustrated in these columns, but we came across quite a new variable gear in Birmingham last week, which will be exhibited by the Dallison Gearing Co. on Stand No. 133. This gear hails from the city of Ottawa, Canada, and is the



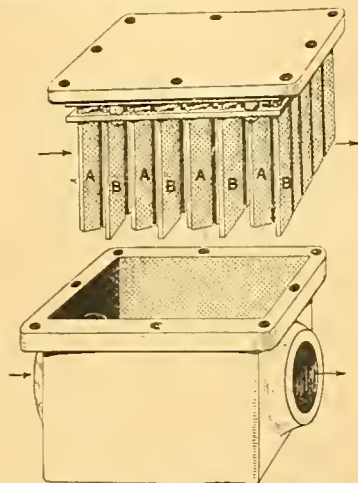
Dallison's gear, which consists of a pinion meshing with five circles of teeth on a disc.

invention of Mr. G. J. Dallison. Reference to the line illustration shows that the type of gear somewhat resembles the Lloyd cross roller gear in so much that the changes of speed are effected by moving a driven pinion on the shaft across the face of a disc provided with five circles of teeth placed radially on the disc. We believe the method by which the changes are effected is novel. To enable the pinion to pass across the face of the disc, its teeth are withdrawn until they come entirely out of mesh with the teeth on the disc. When the pinion is moved opposite any other desired circle of teeth on the disc, the pinion teeth are expanded and are again meshed. The power from the engine to the disc is transmitted by spur gearing, teeth being cut on the periphery of the disc and a pinion being keyed to the engine-shaft. The final drive from the propeller-shaft to the road wheel is by worm gearing. When the teeth on the sliding pinion are retracted the machine will run free, the worm wheel on the bicycle hub driving the worm on the propeller-shaft.

The teeth on the disc are somewhat curiously shaped and difficult to describe, as they differ from all accepted forms of tooth gearing used on cars and motor cycles. Perhaps they are best described as oval-shaped studs. The retractable teeth of the pinion are square studs with the corners rounded off. The drawing reproduced is from a photograph of an experimental machine, which we have examined but not ridden; we were, however, assured that the gear changes perfectly and gives excellent results, four passengers having been carried on the one machine up a fairly steep gradient on the low gear of 16 to 1. The top gear is 5 to 1. We pointed out that there is really no necessity to have a bottom ratio as low as 16 to 1, and were informed that three speeds were already under consideration. The gear in its present state adds about 18 lbs. to the weight of a standard machine, and is somewhat crude in construction. The model gear that will be exhibited will be entirely covered in with a metal case, and consequently weatherproof.

New Silencer.

The same firm will exhibit a very novel form of silencer which we illustrate. The interior is made up with a number of small plates which hang vertically and loosely from a plate attached to the lid. The plates are set in alternate rows, first at a slight angle and then at right angles to the side of the box. In the sketch those placed obliquely are marked A, and the others B. The gases take the path shown by the arrows in their entry and exit. The overall dimensions are 5in. long, 3½in. wide, and 3½in. deep. The lid is screwed to the body, and between the edges is placed an asbestos washer. We have not had an opportunity of testing the silencer or hearing an engine run with it, but Mr. Dallison informed us that he had run an engine at the rate of 3,500 r.p.m. on the stand without apparent back pressure. Another claim for it is that if the engine be over lubricated smoke will not issue from the exhaust pipe, as the burnt lubricant is caught on the plates.



A novel design of silencer—the Dallison, described on this page. It will be exhibited on Stand 133 at Olympia.

The Senspray Carburetter.

Charles H. Pugh, Ltd., will show their new "Senspray" carburetter on Stand 259, as well as a set of frame lugs for building motor cycle frames. These lugs are cold pressed and welded, and are stronger than ordinary steel stampings or malleable castings. The carburetter, which was fully described and illustrated in these pages on Oct. 5th, 1911, gives perfect atomisation with the admission of all air past the jet. The vaporisation is performed in exactly the same method as in a Venturi spray. The power of the vaporiser is such that the setting of the petrol level is a matter of no consequence. Amongst other ingenious contrivances in connection with this carburetter is the rack and pinion arrangement for the control levers on the handle-bar, the wires being attached to the end of the rack, the action thus being a straight pull, obviating any possibility of breakage of wires. The special feature of the Pugh carburetter are the duplex spraying jet, which is formed by fitting the nozzle proper into an air cone and the unimportance of the petrol level.

Accessories of the Show.—**Service Specialities.**

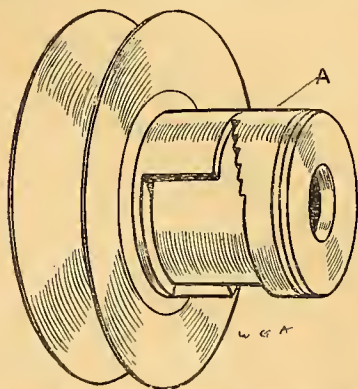
As may be expected almost every known accessory on the market will be seen on the Service Company's Stand No. 292. Among these we may mention two useful methods of giving audible and efficient warning, which are a foot controlled whistle, and the handle-bar controlled "Service Warbler," which is a type of "nightingale" whistle. The "Fitzall" spanner, illustrated in another part of this issue, will be another feature, and the "Votalite" lighting set, consisting of a dynamo driven off the front wheel lighting an electric lamp. In addition to the above the Binks, C.A.P., and other well-known carburettors will be shown, the A.L. generator, the Service belt and belt dressing, which has lately been introduced, as well as various makes of mud-guarding devices. The firm's clothing exhibit will also be worthy of special attention.

A New Tyre Repair.

H. Taylor and Co., 21a, Store Street, Tottenham Court Road, W., have introduced a method of repairing cuts in tyres automatically by means of a plug of rubber and a disc called the "Limpet." The cut is first cleaned, and then the prepared plug of rubber is solutioned into the hole in the cover over which is clamped the "Limpet" disc, which has four arrow-headed points projecting from it. The idea is that the heat generated by the friction of the tyre on the road will vulcanise the plug to the cover, and after a run of an hour or two it is claimed that the "Limpet" disc may be withdrawn and the repair is complete.

Dunhill's Lamps and Clothing.

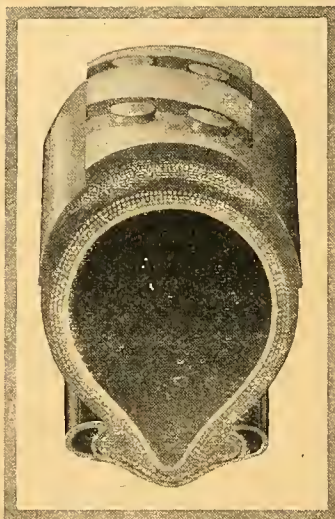
Our readers may be sure of an interesting exhibit on Messrs. Dunhill's stand, No. 232. First of all we may mention the Dreadnought motor cycle lamp. This lamp is perhaps a little large for the ordinary type of motor bicycle, but it is especially suitable for heavy sidecar machines, tricars, and light four-wheeled motor cycles. It is of the self-contained type. The generator is built on sound lines, and is provided with filters for the gas after it leaves the generator and at the bottom of the burner. The pipes running from the generator to the burner and the water pipes are made as accessible as possible, so that at any time a wire



Details of the Stuart adjustable pulley. A is the stepped adjusting ring (see page 1173).

may be pushed through for cleaning purposes. The lens is of the Mangin type, and the lamp is supplied complete with bracket. A further lamp is an electric one fitted with an adjustable bulb holder, which is also sold complete with bracket.

Other novelties which we may mention are a racing cap fitted with ear flaps, and possessing two long extensions which are intended to be used as a muffler; a numerous variety of mascots for motor cycles, including well finished metal models of numerous birds and beasts; a serviceable pair of hand warmers made of American cloth and lined with wool, intended to be strapped over the handles; an electric lamp lighted by a dynamo and driven by friction off the front wheel; while the greatest novelty of all is an electric hand heater, which is kept hot by means of an accumulator. In addition to the above the firm will have an imposing exhibit of various articles of clothing, such as frieze jackets, waterproof overalls, caps, goggles, and gloves.



Rom 3in. cover to fit 2½in. rim.

Rom Improvements.

The chief novelties shown by the Rom Tyre and Rubber Co. on Stand 157 will be a 26in. by 2½in. extra heavy combination tyre, made to fit 2½in. or 2in. rims, the section of which will be rather larger than that of the standard 2½in. cover, a 26in. by 3in. heavy tyre to fit 2½in. rims, and a 650 by 65 mm. voiturette cover fitted with a special extra heavy tread of greater thickness than the standard. The chief patterns which will be maintained in 1912 will be the well-known combination rubber and steel-studded type, which has been so successful, the square ribbed studded pattern, which is made in nine different sizes, the rubber bar non-skid, and the heavy racing tyre.

Peter Union.

Three different patterns of motor cycle covers made in all sizes will be the feature of the Peter Union Tyre Co.'s stand (No. 29). They are the ordinary type, the twin-ribbed type, and the steel studded non-skid. In the latter, it will be remembered, there are two rows of studs and the studs are placed

fairly wide apart. In form these tyres have not been altered in any way, as they have been found to be thoroughly satisfactory. Another feature of the Peter Union Tyre Co.'s exhibit will be the "Peter" puncture-proof band. A band of rubber is inserted between the tube and the inside of the cover, so preventing most punctures.

Steel-rubber Tyres and Belts.

Wood-Milne, Ltd., have not hitherto marketed a motor cycle tyre, but in response to the demand for a tyre incorporating their successful steel rubber tread they will exhibit on Stand 46 motor cycle tyres to fulfil all requirements.

These tyres are built in three different patterns. The Rubber Studded, the Skewrib, and the Combination Steel Studded, all with the patent steel-rubber tread.

The Rubber Studded and Skewrib patterns are made in two weights, the Special and the Extra Special.

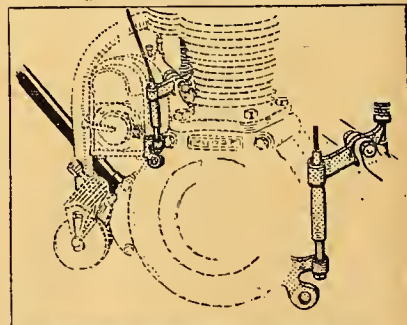
Brooks Saddles and Seats.

At Stand 279 in the Gallery, J. B. Brooks and Co., Ltd., Criterion Works, Birmingham will exhibit a full range of their saddles and seats. These will be of special interest to motor cyclists, and a feature which will most strongly appeal is the Brooks patent compound spring, a device which is both clever and ingenious, and, at the same time, ensures both absorption of vibration and elimination of that common fault—a tendency to bounce unduly. This spring is fitted to various models suitable either for light or heavy weight machines, as also a large and luxurious motor cycle seat which is designed expressly for use on machines of the non-peddalling type.

In addition there will be included the many tool and touring bags which are produced by this firm. These include pannier bags, carrier bags, spare belt and tube cases, carbide carrier, repair outfit case and spare tube box, all of which are constructed of weatherproof materials and provide absolute protection for their contents.

Surridge Patches.

R. Surridge and Co. will be exhibiting on Stand 140 Surridge "Holdtite" patches, which are now so well-known among motor cyclists. This year the patch has been improved by the insertion of stockinette between the two faces of the patch, and as before the patch is designed to stretch only in one direction, the arrow on the patch denoting that it should be placed across the tube.

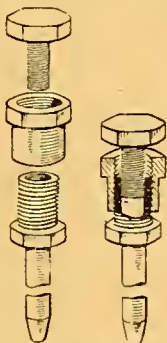


Exhaust lifter mechanism on the 1912 Rudge.

PRECISION ENGINES FOR 1912.

Precision engines will be found on the stand of F. E. Baker, Ltd. (No. 253 in the Gallery). In addition, Mr. Baker told us last week that he had ninety-six engines ordered for various customers who would show them fitted to their machines.

Great strides have been made by this firm during the last twelve months, and they now have, in addition to the Moor-som Street factory, an excellently equipped fitting shop at the works of Messrs. Webley and Scott, the well-known gunmakers in Birmingham. We recently made a tour of the two factories, and were very much impressed with all we saw. Very little alteration is being made in the design of these engines for



Showing design of the adjustable tappet on the 1912 Precision.

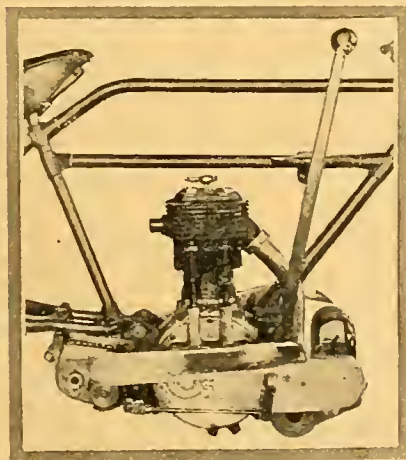
1912, which is a proof that they have been satisfactory. Mr. Baker, however, showed us one or two items which will interest readers, although they only lie in the direction of detail improvement. One item is an adjustable tappet rod. This has been introduced to allow for wear which takes place on the end of the timing gear bell cranks. The line sketch shows that the thread of the loose table top is cut rather fine, whereas the lock nut has a rather coarse thread. This provides a differential locking device which should give no trouble. Many readers may think that adjustable tappets are scarcely necessary, but a considerable amount of wear takes place on the end of the bell crank lever, and unless there is some provision for adjustment the very best timing results cannot be obtained. Wear on the table top is often not so important as wear on the end of the bell crank.

Another device which Mr. Baker

showed us was a variable pulley gear with which the firm are experimenting. F. E. Baker, Ltd., do not sell complete motor cycles, only engines, but the variable gear will probably be sold with the $2\frac{1}{2}$ h.p. unit. It is a variable pulley gear used in conjunction with a jockey pulley with considerable success by a French firm named Terrott, of Dijon. The jockey pulley is fixed midway between the rear belt rim and the engine pulley, and a five-eighth or three-quarter Whittle belt is employed. Operation of the jockey pulley is by means of a handle and reel on the top tube, which winds or unwinds a cord. The same movement of the handle also expands and contracts the pulley flanges.

Precision engine plates and lugs are now being made with a suitable bracket to take the new counter-shaft gear made by the Bowden Wire Co. and recently described in these pages.

The Precision lug is shaped to fit the box, and the engine plates are made with rearward ears through which passes



Showing control of the new counter-shaft gear on the 1912 Calthorpe-Precision.

a bolt connecting the front portion of the gear box to the frame. At the Precision works we saw an interesting process by which the compression ratio of Precision engines is measured. Although this is a manufacturing process, it will interest enthusiastic motor cyclists, and we therefore describe it. It is an extremely difficult matter to arrive at the exact compression ratio of an engine by calculation on the drawing board because allowance has to be made for pockets and also shrinkage in the castings, etc. Therefore the actual compression ratio can only be definitely determined after the engine is assembled. Whenever a new model is completed a graduated glass tube provided with a tap and called a "Burette" is inserted through the compression tap hole. The engine is then placed with the piston at the top of the stroke and the combustion head and pockets are filled with water; by turning the tap of the burette in the case we saw this amounted to 136. The engine was then turned to the bottom of its stroke and again filled up in a similar way, and the amount registered was 635. By division we get a compression ratio of 5.1 nearly and by subtraction a cubic capacity of 599 for that particular engine.

A New 6 h.p. Twin

A new model 6 h.p. twin (see page 1181) has been introduced with the object of meeting the demands for an efficient and powerful engine for sidecar work. It is not essentially a racing engine, although quite capable of high speeds. It can be supplied as a complete unit with twin inlet pipe, exhaust pipes, magneto transmission, and silencer. Both valves are mechanically operated, and the crankshaft is fitted with ball bearings. The exhaust valve lifting device is neat, and the Precision adjustable tappets referred to above are included. The bore is 75 mm. and the stroke 85 mm., total cubical capacity 760 c.c. The angle of the cylinders is 50° , and the belt line, which is the distance from the centre of the engine to the centre of the belt pulley, is $2\frac{3}{4}$ in.

More Rudge Records at Brooklands.

Not satisfied with his already excellent performances at Brooklands, W. Stanhope Spencer started on Monday last on his $3\frac{1}{2}$ h.p. Rudge on an attempt to break the 150-mile and three-hour records for 500 c.c. engines. Not only was he successful in beating these two records in Class C, but he also broke the three-hour records in Classes D and E, Class D being for a maximum capacity of 750 c.c. and Class E for a maximum capacity of 1,000 c.c. Also, he established 200-mile records in all three classes.

The new Rudge silencer, three different types of which were passed by the B.A.R.C. last week, gave excellent results, and the Rudge-Whitworth Co. and W. Stanhope Spencer are to be congratulated on such excellent performances. For a single-cylinder engine to beat the three-hour records in Classes D and E, made with engines of 662 and 964 c.c. respectively, is quite an extraordinary per-

formance. Rhys was also careering round the track, his object being to annex the six-hour record, but he retired after covering forty laps—about 108 miles.

Official Times and Distances.

Below will be found Stanhope Spencer's times and distances with previous best performances: Class C: 150 miles, 2h. 38m. 13s. (previous best, 2h. 51m. 17s., F. A. McNab, June 22nd, 1910). C, D, and E: Three hours, 171 miles 1,764 yards (previous bests, Class C—McNab, June 22nd, 1910, 158 miles 548 yards, Class D—C. B. Franklin, 161 miles 1,545 yards, June 22nd, 1910, Class E—H. Martin, 165 miles 930 yards, November 22nd, 1909).

Spencer also established records for 200 miles in Classes C, D, and E; time 3h. 28m. 51s.

The weather was bitterly cold, and the wind blew at a speed of 40 to 50 m.p.h.

When riding against it Spencer's speed was reduced to 25 m.p.h., and although he wore two waistcoats, two sweaters, and a leather suit he was unable to keep sufficiently warm.

M.C.C. Winter Run.

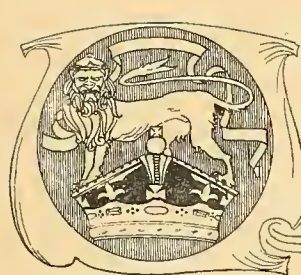
The second winter run, London-Exeter and back, will be held on December 26th and 27th.

REGULATIONS.

Meeting Place.—At the Bulstrode Hotel, adjoining Heston-Hounslow Station, Tuesday evening, December 26th, starting at 7 p.m.

Route.—The route to be followed, starting from Hounslow, is *via* Basingstoke, Salisbury, Shaftesbury, Yeovil, Chard, Honiton to Exeter, and back in the reverse direction.

A stop of one hour will be arranged at Salisbury, both ways. About two hours will be allowed at Exeter.



CURRENT CHAT



TIME TO LIGHT LAMPS.

Nov. 9th	...	5.18 p.m.
" 11th	...	5.15 p.m.
" 13th	...	5.12 p.m.
" 15th	...	5.9 p.m.

Quarterly Trials Abandoned.

There will be no A.C.U. Quarterly Trials next year; instead, a couple of one day reliability trials—one in the spring and one in the autumn. These events will be supported by the trade as in 1910, and so will be thoroughly representative.

3,000 Miles in Three Weeks.

Advices as to F. E. Pither's progress in his attempt to cover 3,000 miles in three weeks on a two-speed $3\frac{1}{2}$ h.p. Rudge and sidecar show that the weather has been most unpropitious for such an arduous test, and it is extremely unlikely that Pither will succeed in his object.

Accident at Brooklands.

We understand that H. T. Lloyd, who was injured at Brooklands while riding a Triumph motor bicycle one day last week, and had to be removed to the Weybridge Cottage Hospital, is progressing satisfactorily. Lloyd was tuning up a machine for record, and ran into an obstruction warning track users that repairs were in progress. He unfortunately suffered a broken jaw.

R.A.C. School of Tuition.

It is found that some pupils at the Royal Automobile Club's school of tuition in car driving and mechanical matters can only gather a hazy notion of the working of a four-cycle engine when confronted with a four-cylinder car engine. A single-cylinder motor cycle engine, in the shape of a $3\frac{1}{2}$ h.p. Rudge, with parts of the cylinder and crank case cut away in order to show clearly the principle of the four-cycle type, has therefore been installed.

Harry Long's Ride.

In course of conversation with Mr. Harry Long in Coventry last week he informed us that it is his intention next year to attempt to beat his 1911 record on a motor car. He will start from and return each day to his home, and may drive a Vulcan which is made in the Lancashire watering place, Southport, where Mr. Long resides. The question he asks himself is, "Shall I beat the motor cycle record?" The Triumph motor bicycle used for the ride will be on the Triumph stand at the Show, and although it will be cleaned no fresh enamel or plating will be used. Mr. Long himself will also be pleased to meet his friends and acquaintances at the stand, where he will be stationed each day from the opening of the exhibition.

A Severe Test.

A Cheltenham reader sends us a cutting from a local paper, from which we gather that a $2\frac{1}{2}$ h.p. A.J.S. lightweight, with two-speed gear, climbed Birdlip last week with a passenger on the carrier.

Next Year's B.M.C.R.C. Dates.

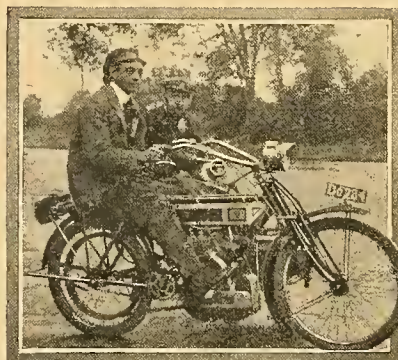
The following dates have been suggested for next year's B.M.C.R.C. race meetings at Brooklands: March 23rd, April 20th, May 11th, June 1st, June 29th, July 20th, August (any Saturday except fourth), September 14th, October (any Saturday).

The A.C.U. and Provincial Clubs.

We have received a lengthy letter and explanation of the methods adopted by the R.A.C. and A.C.U. in dealing with the question of affiliation of one of the Northern clubs. Unfortunately we received this letter too late for insertion in our correspondence pages, but we hope to publish it next week. The writer of the letter strongly advocates the formation of a Northern Association to deal with clubs in Northumberland, Durham, Cumberland, Westmorland, and Yorkshire, and suggests a conference should be held at Harrogate.

The Trade and the T.T.

Mr. B. Mariani, an enthusiastic rider and one of the directors of Phelon and Moore, Ltd., writes us regarding the Tourist Trophy Races and the decision of the A.C.U., and says that the Competitions Sub-committee of the A.C.U. have probably given the matter consideration, but the General Committee who represent affiliated clubs have had no opportunity to say a single word for or against the makers' suggestion for a race at Brooklands. He thinks the lack of trade support will mean a loss to the organisers, and speaking as one to whom it makes no difference where the race be held, he says the A.C.U. has made a mistake.



L. W. Fox, hon. sec. of the motor cycle section attached to the Brookdale Cycling and Social Club. He rides a $3\frac{1}{2}$ h.p. Bradbury and sidecar.

SPECIAL FEATURES.

FIRST SHOW NUMBER.

MANY 1912 MODELS DESCRIBED AND ILLUSTRATED.

WORLD'S RECORDS AT BROOKLANDS.

THE ADJUSTMENT OF LAMP BURNERS.

Hill-climbing at the Cape.

A flexibility hill-climb, promoted by the Cape Peninsula Motor Cycle Club, on the 7th ult., was won by the Rev. S. B. Preston on a $3\frac{1}{2}$ h.p. two-speed P. and M. His fast time was 1m. 16 $\frac{1}{2}$ s., slow time 6m. 22s., difference 5m. 5 $\frac{1}{2}$ s. Second, A. Keyzer (4 h.p. Scott), fast 1m. 8 $\frac{1}{2}$ s., slow 3m. 46 $\frac{1}{2}$ s., difference 2m. 37 $\frac{1}{2}$ s. Third, T. R. Butler ($3\frac{1}{2}$ h.p. Zenith-Gradua), fast 1m. 8 $\frac{1}{2}$ s., slow 3m. 45s., difference 2m. 36 $\frac{1}{2}$ s. A. Douglas ($3\frac{1}{2}$ h.p. Triumph) made the fastest ascent in 1m. 5 $\frac{1}{2}$ s., but failed in the slow test.

Rear Red Lights Compulsory in Warwickshire.

An active campaign in favour of rear red lights on all vehicles has been pursued in Warwickshire for some years, and we believe we are right in saying that the Coventry and Warwickshire Motor Club was the first body to draw up a petition for presentation to the county council in favour of the compulsory lighting of cattle and all vehicles. At the time, the recommendation was rejected without the consideration it deserved, but all readers will be pleased to hear that at last Saturday's meeting of the Warwickshire County Council, held at the Shire Hall, Mr. J. Stratford Dugdale, K.C., presiding, on the recommendation of the County Roads and Bridges Committee, it was decided "to make a new byelaw as to the lighting of vehicles, requiring all such to be provided with a red rear light or a reflector so constructed as to reflect a red light from the lights carried by vehicles approaching from behind."

The Noise Nuisance

The prejudice against motor cycles caused by unnecessary noise reached another stage on Saturday when the Warwickshire County Council had before them a report from the County Roads and Bridges Committee as follows: "We have had before us a letter from the Kenilworth Urban District Council complaining of the fast driving of motor cycles through the town, and the nuisance caused by the ear splitting and rest disturbing noise emitted from such machines, and urging that steps should be taken for reducing the speed limit of such machines. We have drawn the attention of the chief constable to the complaint."

Next Week's Issue

of *The Motor Cycle* will contain our annual Buyers' Guide, as also a continuation of our forecast of 1912 models to be exhibited at Olympia. Thursday, November 23rd, is the date of our complete Show report, written and illustrated by our own staff after a personal inspection of the exhibits.

Humber Activity at Brooklands.

P. J. Evans writes that the 2½ h.p. twin Humber he used at Brooklands on October 25th was an ordinary roadster machine originally fitted with beaded-edged tyres and three-speed gear, and had not been specially tuned up. Although it was his first attempt at Brooklands he rode 51 miles 1250 yards in the hour.

The Olympia Motor Cycle Show.

234 exhibitors have already booked space for the Olympia Show, November 20th to 25th. Of these exhibitors, 169 will show complete motor cycles or accessories for motor cycles. Out of the total number there are twelve stands devoted to motoring and kindred publications, so that the percentage of motor cycle exhibitors at this exhibition is 76.1.

Stand-pipes for Petrol, Air, and Water.

A year or two ago footpath supply stations for petrol, air and water, were referred to in Christmas stories in these pages as possibilities of the distant future. They are realities in the U.S.A., as the Geyser Company, of Indiana, is prepared to fit a stand-pipe for a combined petrol, air, and water supply in front of any garage, hotel, etc. The company particularly points out that air for the tyres and water for the radiator are big inducements for motorists to stop.

A Romance.

Lieutenant C. J. Janssen, late of the Danish Dragoons, who is well-known to our readers as a rider of a Moto-Rève motor cycle in numerous competitions in 1910, produced last week at the Oxford a ballet sketch "The Abduction." Those who knew Mr. Janssen will be sorry to hear he has had to give up motor cycle riding. Last New Year's Eve he was run over by a taxicab in Copenhagen and had both legs broken. In the cab was Mlle. Karina, of the Royal Opera House, Copenhagen. This lady, whom he recently married, takes a prominent part in the sketch above referred to.

A Crock (?)

An amusing little incident occurred at a recent motor cycle hill-climb. A class was set aside for skilful driving, and competitors were expected to see how far up the hill they could induce a certain "crock" to go. Now we were informed by one who ought to know that this "crock" would never climb the hill. True to its reputation, on being started up it stuck with a "wump," and another machine had to be borrowed for the competition. Shortly afterwards it was discovered that the pulley on the original crock had screwed up tight against the crank case. When this was put right we hear that the so-called "crock" surprised everyone by going up the hill at such a pace as to necessitate cutting out at the corners!

FUTURE EVENTS

Nov. 3-11.—Olympia Motor Show (see "The Autocar").

" 20-25.—Motor Cycle and Cycle Exhibition at Olympia.

Dec. 9.—M.C.C. Annual Dinner at the Café Monico.

" 26-27.—M.C.C. Winter Reliability Run to Exeter and back.

" 27.—Dublin and District M.C.C. Open Reliability Trial to Waterford and back.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions

Dangers of the Road.

To prevent street accidents particularly to children should be the laudable endeavour of every charitably disposed person. A. Brown and Sons, Ltd., educational publishers, 5, Farringdon Avenue, E.C., have sent us some small reproductions of two pictures they have had drawn for hanging in schools. The drawings depict the consequences of hanging on behind carts and similar vehicles and should act as a warning to children to exercise more caution in these days of crowded streets congested with fast moving traffic.

The Motor Cycle in South Australia.

The opening run of the South Australian Club for the season 1911-1912 took place on September 23rd; thirty members and a number of visitors were present. The destination was National Park, Belair, a public recreation reserve situated in the hills about ten miles south of Adelaide. Several new models were brought out for the first time, including Indian, B.S.A., and Lewis (3½ h.p. water-cooled), whilst Triumphs, Nortons, N.S.U., Rex, and Royal Enfields were well represented.

OPENING RUN OF THE MOTOR CYCLE CLUB OF SOUTH AUSTRALIA.

Some of the members in the National Park, Belair, ten miles south of Adelaide.

The captain, W. W. Sampson, drove his forecar, and four members were mounted on 3½ h.p. water-cooled Lewis machines with sidecars. After a short programme of sports had been carried out, the members partook of tea.

The Autumn Quarterly Trial.

The name of J. H. Purcocks has been added to the list of non-stop competitors in the last A.C.U. Quarterly Trial. It appears that Mr. Purcocks was impeded on Farlow Bank by another competitor who fell, but he did not stop the engine of his two-speed Alldays, and succeeded in reaching the summit unaided. He placed the above facts before the A.C.U. Committee, who have considered his appeal, and have awarded him a non-stop certificate.

M.C.C. Second Winter Run.

The regulations for the above run will be in members' hands this week. The date has again been fixed for December 26th and 27th, and the only alterations are that the schedule through the night has been speeded up by one mile per hour, making it about sixteen miles per hour.

Special emphasis is laid on the rules re quiet driving, the M.C.C. committee feeling very strongly that if motor cyclists do not mend their ways themselves, irksome regulations enforced by the police are inevitable.

Cinematograph Show at Olympia.

Every day during the Motor Cycle and Cycle Show a continuous series of cinematograph displays will be given from 2 to 9 p.m. in the balcony tea room, including views of cycling, motor cycling, and motor boating events, admission sixpence. The room being lent gratis by the management, the entire proceeds will be devoted to the Cycle and Motor Trades Benevolent Fund. The programme will be entirely changed every day, except that the most popular pictures will be repeated. Each display will last approximately forty-five minutes.

Auto Cycle Union Notes.

T.T. RACE.—The most important decision at the last meeting of the A.C.U. was to hold the T.T. Race in the Isle of Man next year. We deal with this matter editorially.

MEMBERSHIP.—Sixty-two new members were elected at a recent committee meeting of the A.C.U.

THE 1912 A.C.U. PROGRAMME.—The following trials will be held by the Union in 1912: Two one day trials—one in the spring and the other in the autumn (to take the place of the Quarterly Trials); the Six Days' Trial (to be run from a centre); the Tourist Trophy Race (to be held in the Isle of Man if the necessary permission can be obtained).

AN IMPORTANT RESOLUTION.—At a recent meeting of the committee the following resolution was passed: "That the Auto Cycle Union shall now reconsider their decision relative to the holding of open and other reliability trials by clubs." This should remove the bone of contention between the provincial clubs and the A.C.U.

WINTER PROGRAMME.—The Auto Cycle Union is now considering a winter programme, to include papers on subjects of interest to motor cyclists.

40,000 Miles in 11 Months

Harry Long's Achievement.

Personal Note by the Author.

FOR at least three years the name of Harry Long has been prominent in the wheel world of England (in his native county of Yorkshire his name has been a household word for twelve years as a record holder and cup winner in contests on the road) owing to his exploits of 1908, 1909, and 1910, when he covered respectively 12,940 miles, 23,241 miles, and 25,376 miles per pedal cycle, all three of which constituted world's records, and colossal figures indeed they are. But his latest achievement per motor cycle to my mind easily eclipses these three performances, and the least generous of Mr. Long's numerous friends and admirers (and, mark you, all prominent and popular men have some admirers less generous than others) must acknowledge that this feat of covering 40,000 miles in eleven months on a

motor cycle is a remarkable achievement. Even the most ardent motor cyclist at times tires a little of constant riding and desires either a change or a long stop at his journey's end, but to Mr. Long it has meant one constant grind—no matter whether his inclinations were bent on a rest or not, he had to stride his mount and get out on the open road or his total could not have been reached. It requires tremendous will power and determination to adhere to a pursuit to this extent.

As I have competed against him on a push bicycle, helped pedal a tandem with him in many competitions against time, and now, on his last performance, I have accompanied him many hundreds of miles, a line or two of my personal impressions may not be out of place.

AN ADMIRER.

Characteristics.

Practical, very serious, and crammed full of enthusiasm for the sport and pastime of motor cycling, and withal successful in his strenuous capacity as record maker, thus I describe this marvellous mile-eater. Possessed of a laudable ambition to shine, and though he may not know it himself, this is the real mainspring that gives life and movement to the labour he loves so well, and his best reward, I am sure, is the appreciation of his fellow motorists. With a wonderful energy, a congenial and happy personality, and the rare gift of imparting enthusiasm to all with whom he comes in contact: in his peregrinations he has made a host of friends, and probably no enemy, he counts an indomitable pluck and a knowledge of the geography of his own country as most valuable—such is the man as I have found him at all times.

The first notice of any moment I received from this rider anent his record ride was a postcard, dated January 6th, from Coventry, where he had gone to take possession of his $3\frac{1}{2}$ h.p. free engine Triumph. I cannot do better than give the P.C. *in extenso*. He says: "Having just finished my ride of 25,376 miles on a push cycle, I arrived yesterday, 3rd January, at Coventry, with overalls, ready for my new venture on a petrol mount. As you said, I was only ten minutes learning to ride the Triumph. Mr. W. F. Newsome put me through, and after ten minutes we started on a twenty miles run, and to-day we have done fifty miles. To-morrow (Friday) I drive it to Southport, 140 miles, alone."

Thus did Harry, as he is popularly known, enthuse on his first postcard out of hundreds I have received from all parts of the British Isles. During the early months of the year his experiences were very rough, and from January to the

last week in March he had not a single day's riding on really dry roads. One of his worst experiences was on January 27th, when he travelled from London to Doncaster in a blizzard of snow all day, and was almost perished with the intense cold; at least a dozen times the rider had to dismount and dance about to restore circulation.

The whole of the winter riding was, in fact, simply mud plugging, and on many occasions he wrote to me almost throwing up the ride in disgust, but his persistent efforts were rewarded with the glorious summer, such as we have not experienced for many years, albeit the excessive heat was at times very trying.

An Early Venture.

His first long ride was a daring venture for so uninformed a motor cyclist, seeing he essayed the task of riding from Southport to Land's End, and this in February, which bears the reputation of being the wettest month of all the year. February was true to its name of "fill dyke," and he experienced heavy roads and rain every day, and over the Devonshire hills found plenty of hill-climbing to satisfy his most ambitious desires.

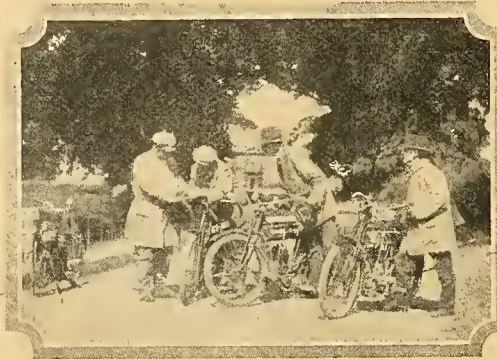
A striking feature of his riding is that he has never yet carried a lamp, not caring for night riding, and this whim of fancy has led him into heaps of exciting sprints to reach his home or his set destination before dark.

A brief analysis of his ride shows me that for ten weeks in May, June, and July he averaged actually 1,000 miles per week, and out of the total months he has been riding he has only had thirty-five days on which he has not done some motor cycling, and deducting these, his ride averages 1,000 miles per week for the whole forty weeks.

INCIDENTS OF HARRY LONG'S MOTOR CYCLE ROAD RECORD OF 40,000 MILES IN 11 MONTHS.



(1) A helping hand.



(2) Which way? Consulting the map with a party of Yorkshire motor cyclists.



(3) A wayside incident

40,000 Miles in 11 Months.—

The tit-bit of his journey was, of course, his ride round the coasts of England, Scotland, and Wales. This stupendous task was, to my mind, much the stiffest problem, as the worst hills are to be found on the coast line. There was also the difficulty in obtaining petrol supplies, as his wanderings at times landed him well off the main highway in his quests for post offices on the sea coasts, and in not a few cases these proved to be in awkward corners.

In many parts of the Highlands the gradients are most severe, the remarkable Applecross Hill being one of the stiffest climbs, rising, as it does, nearly 2,000 feet in five miles. For the whole ride he took thirty-two days, covering in this time 5,043 miles; his greatest day's mileage was 280 miles and his shortest fifty miles, the average per day working out at 157 miles.

En route he had twice to sleep in the open, and on numerous occasions was wet to the skin, despite his overalls, and

the constant rain, which hunted him for ten days on end in Scotland, made the road so bad that at times ten miles per hour was only kept up with difficulty. Only a man of Harry Long's extraordinary stamina, endurance, and experience dare attempt such a performance. I can imagine his plights as he plugged along through the mud day after day, struggling with the apologies for roads up the mountain passes of West Scotland. The average motor cyclist may say that he oftentimes does his 150 miles per day, but let him set out to average this for forty weeks, wet or fine, rain or shine, and he will speedily find that the compulsory part of the bargain takes out all the romance, and it becomes a stern reality.

His 3½ h.p. Triumph, free-engine model, has carried him right through the task, the tyres being Kempshalls, extra heavy on the driver and the anti-skid on the front, Lyso belts, and Bosch magneto. Harry Long completed his 40,000th mile in London at 1.30 p.m. on Thursday last week, and he is in splendid health.

Items of Interest at the Car Show.

HERE and there at the Olympia Car Show one or two items of special interest to motor cyclists are to be found, a few of which are equally well applicable to either motor cycle or motor car.

The first thing we examined was a Simms motor cycle magneto with both ends of the magnets closed in so that the wet is entirely excluded. The high tension lead issues through a wet-proof terminal. The contact breaker, however, is left unclosed, but the Simms Magneto Co. assure us that the contact breaker is, and always has been, entirely waterproof. In appearance this magneto is particularly neat and compact. Quite a novelty on this stand which has not yet been adopted for motor cycle work, but will, we gather, shortly be adapted to a motor cycle magneto, is the Simms universal transmission coupling and automatic advance and retard. The coupling consists mainly of two curved discs, one concave and the other convex. The concave disc attached to the magneto has a semi-circular groove cut diametrically across it; the convex disc has two curved grooves in which lie two large balls, while two smaller balls are placed in sockets to allow the two discs to move easily in relation to one another. As the speed of the engine increases the large balls fly outwards in the curved guides, acting like a centrifugal governor, and alter the relation of one disc to the other, thus advancing the spark. When the speed decreases the governor balls exercise the opposite effect, and the spark is automatically retarded.

C. A. Vandervell and Co. showed us their well-known electric motor cycle head light, which has been considerably improved both as regards general design, and has been made to sell at a considerably cheaper price.

The Skew non-skid tyre is exhibited by Oyleys, Ltd. There are two types for motor cycles, one the anti-skid type, with round tread, and the other the non-skid with square tread.

A useful sight-feed lubricator worked by the vacuum in the crank chamber, and a filler cap with a bayonet joint are the two chief items on Benton and Stone's stand.

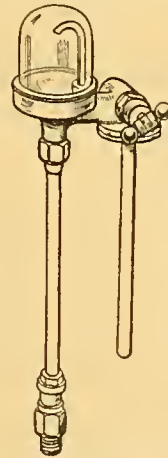
Miniature Lodge plugs for motor cycle work, and the double pole plug, are on view in the Gallery.

Harvey Frost and Co. have introduced a new vulcanising material, known as "Plastene," which allows one to

vulcanise in about one-third the time and with about one-third the pressure.

Drummond Bros. make a speciality of small but strong lathes for the amateur mechanic; incidentally we have seen these lathes in use in quite large shops.

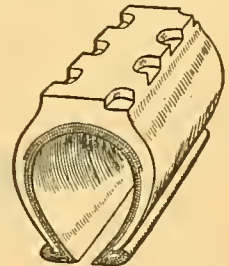
The new Pognon motor cycle plug, sold by H. M. Hobson, Ltd., has the electrodes turned inwards, with a special porcelain end fitted to allow the points to keep



Benton and Stone sight feed lubricator.



Fittzall wrench.



The Skew non-skid cover.

cool. The Claudel-Hobson carburetter for motor cycles can also be examined on this stand.

The Laystall Eng. Co. show examples of repair work they carry out, such as rebored cylinders, welding, etc.

The Motor Accessories Co. have introduced an ingenious spanner known as the Fittzall. It is made in all sizes, with jaws opening from ⅜ in. to 1½ in.

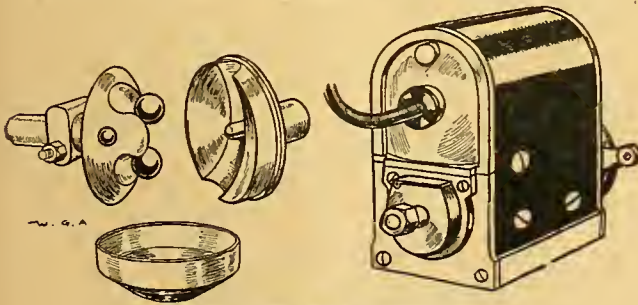
At G. T. Riches and Co.'s stand we saw the Brooklands detachable leather non-skid band, lately referred to in *The Motor Cycle*. It is fitted with non-rusting steel studs, and is clipped on the tyre rim.

Oleo plugs and a new preparation known as Petrode are exhibited by Ripault and Co. The latter is a galvanic battery enclosed in a perforated tube which is dropped into the petrol, and by galvanic electrolysis is claimed to increase the affinity of the petrol vapour for oxygen, so obtaining more complete combustion.

The Parsons rapid repair kit, we may remind our readers, consists of a plug which may be pushed through the puncture aperture, and is afterwards clamped up by special pliers.

Powell and Hanmer exhibit a new motor cycle lamp and generator of large size, which is practically a replica of the smaller lamp made by this firm, and so much appreciated by motor cycle riders. The new lamp is a particularly handsome one. It is of the lens mirror type.

The Rotax Motor Accessory Co. showed a well-made lamp of the lens mirror type, of simple construction as regards its exterior and, in consequence, easy to clean. The ventilator is well designed and gives no back glare.



THE NEW SIMMS MAGNETO.
The automatic advance couplings. Complete magneto with enclosed terminals.

CLUB NEWS.

Marlborough A.C.

F. I. Watson, the winner of the solo and sidecar classes in the hill-climb, rode a single-geared $3\frac{1}{2}$ h.p. Premier, not a Bradbury as previously reported.

Chesterfield and District M.C.C.

The official results of the reliability trial held on the 25th ult., over a course of sixty-five miles in Derbyshire, are as follows:

Sidecar class.—1, Jack Haslam (6 Zenith) lost 14 marks.
Solo class.—1, Frank Kelly ($3\frac{1}{2}$ Bradbury) lost 43 marks.

Streatham and District M.C.C.

The formula figures in connection with Class II. of the open hill-climb at Brasted have been checked, with the result that E. W. Cheshire ($3\frac{1}{2}$ h.p. Triumph), who made fastest time in this class and was given as fifteenth on formula, takes fourth place, the figure of merit being 443.

North Middlesex M.C.C.

The winter season opened on the 29th ult., when an all-day run was indulged in over a circular route of about one hundred miles. All are requested to make a special effort to meet at the Gatehouse, Highgate, at 10.30 each Sunday morning during the winter months.

The Bristol B. and M.C.

The annual dinner, at which the prizes won by members will be presented, will be held on Saturday, November 11th, at the Royal Talbot Hotel, Victoria Street, Bristol, at 6.30 p.m. The club heartily invites Messrs. Alec Ross, Cooper, Moorhouse, Reed, Newsome, Brewster, and Slaughter. Others can obtain tickets from the secretary, Mr. Philip Grout, Wormley, near Bristol, at 3s. 6d. each.

Oxford M.C.C.

A breakdown competition took place on October 27th at the Creamery Café, which was won by Mr. H. Askew. This was followed by a musical social to celebrate the winning of the Auto Cycle Union Championship. During the evening, the Rev. Mansell Merry proposed "Success to the Oxford Motor Cycling Club," and the challenge cup was handed round. A most convivial evening was spent.

Harrogate and District M.C.C.

The annual general meeting was held on Thursday, the 2nd inst., at the Clarendon Hotel. There was a fair number of members present, a few energetic ones being, however, unable to attend owing to illness. The report and balance sheet, which gave a balance in hand of over £8, was favourably commented upon. Mr. C. A. Nettleton was elected as president in place of Mr. R. Fortune, who was retiring. Practically the same committee was re-elected, as well as the same hon. secretary and treasurer.

Newcastle M.C.

On the evening of November 1st, before an audience of about 250 members and friends, in the Lecture Theatre of the Literary and Philosophical Society, Newcastle, the hon. secretary of the club gave a short discourse on "The Newcastle Motor Club and its Work." Mr. J. R. Atkinson presided. The Hon. Secretary illustrated his description of the many attractive events held in connection with the club over the past five years with about 200 limelight views which had been taken by Mr. Geo. C. Urwin (hon. sec. of the Heaton Camera Club) and himself.

Cambridge University M.C.C.

A successful reliability trial was held on the 28th ult., fourteen members starting on a seventy-seven miles run. There was a control at Hertford, where a stop was made for tea. An observed hill-climb was made at Standon Hill. Results:

1. H. D. Goodwin ($3\frac{1}{2}$ Rudge), silver cup (presented by Messrs. Rudge-Whitworth) and silver medal.
2. S. Russel-Cooke ($3\frac{1}{2}$ Rudge), silver medal.
3. N. B. Stewart ($3\frac{1}{2}$ Arno), silver medal.
4. R. W. Gosse ($3\frac{1}{2}$ Zenith-Gradua), silver medal.
5. E. L. Mather (5-6 F.N.), bronze medal.

The following finished the course: G. Gillan (2 $\frac{1}{2}$ Douglas), T. P. Ellies (2 $\frac{1}{2}$ New Hudson), Mason ($3\frac{1}{2}$ Bradbury), G. E. Cuffe (5 Indian), G. N. Shackle ($3\frac{1}{2}$ Rex), and M. Isaacs ($3\frac{1}{2}$ Triumph).

North-west London M.C.C.

The "O.T." club held its inaugural run on Sunday, 5th November. The start was from Jack Straw's Castle, Hampstead, and the members turned up in full war paint, suitable to the date. To the huge amusement of the crowd Hal Hill led off with his ancient Centaur. Just past Barnet G. O. K. Thomas set his whiskers on fire in trying to light his pipe, very nearly giving a real 5th of November display. At Hatfield the excitement was tremendous, and after a general inspection, they all retired to a spot about a mile away for the bonfire and burning of masks, etc.

This club will hold an entertainment at the Town Hall, West Hampstead, on Saturday, the 18th inst., at 8.15 p.m., which will include the first official performance of the Omacadians, followed by a burlesque entitled the Shamaten's Bride. Tickets, 2s. 6d. each, may be obtained from Mr. H. J. Pooley, 23, Clifton Avenue, Finchley, N.

Edinburgh and District M.C.

The final competition of this season was held last Saturday on Whitebaults Farm Hill, near Linlithgow. This hill is a new one, has a fair gradient, no bad corners, and excellent surface. There was a very good entry, and some fine sport was witnessed. The following are the results:

CLASS III.—Flexibility (Twins).

	Fig. of merit.
1. S. J. K. Thomson (8 h.p. Bat) ...	5.56
2. R. S. Morrison (8 h.p. Bat) ...	5.45
3. J. R. Alexander (7 h.p. Indian) ...	5.14

CLASS IV.—Knockout (Singles).

J. Gerard ($3\frac{1}{2}$ h.p. Bradbury) beat J. S. Turnbull ($3\frac{1}{2}$ h.p. Bat).

P. E. Tolfree ($3\frac{1}{2}$ h.p. Matchless) beat R. H. Mouat ($3\frac{1}{2}$ h.p. Rudge).

Final: J. Gerard beat P. E. Tolfree.

CLASS V.—Knockout (Twins).

R. S. Morrison (8 h.p. Bat) beat J. R. Alexander (7 h.p. Indian).

J. R. Alexander (7 h.p. Indian) beat S. J. K. Thomson (8 h.p. Bat).

Final: J. R. Alexander beat R. S. Morrison.

CLASS VI.—Passenger Class.

	Fig. of merit.
1. R. S. Morrison (8 h.p. Bat and s.c.) ...	4.80
2. J. S. Alexander (7 h.p. Indian and s.c.) ...	3.80
3. S. J. K. Thomson (8 h.p. Bat and s.c.) ...	3.78



A. H. Alexander (7 h.p. Indian) making a slow ascent in Class III. of the Edinburgh and District M.C. hill-climb last Saturday.

FROM THE CHANNEL TO THE ADRIATIC & MEDITERRANEAN & BACK

By Motor Cycle.

By R.M.B.J.

(Concluded from page 1114, October 26th.)

Tuesday, July 4th.—X having spent the morning repairing his tyre and tube, the while a fine drizzle of rain made the roads nicely greasy, we got going at 2.30 for the run round the western side of Lake Maggiore. This road was in splendid condition, and the views were magnificent—mountain on left, lake and more mountains on right. Turning one of the innumerable sharp corners on the rock-hewn road, we suddenly struck the Italian Customs, where our lead seals were removed—I retained mine as a souvenir—and the Italian *permis de circulation* given up. Round another corner was the Swiss douane, which we cleared, and ran on to and through Solduno, whence the road as far as Bellinzona was very bad, with many narrow, ill-paved village streets. Going right up the valley, round the end of the lake until Monte Cenere greets one, is a stiff climb over very loose surface, especially on the corners. After successfully rounding ten "hairpins" in rapid succession, the road rises straight up, and a magnificent panorama is spread out far below on one's right. Then one long "blind" (I forgot I was in Switzerland again) at thirty to forty, over a good road, down through a village, so narrow that a girl taking her stockings off in a doorway had to draw her legs in to let me pass! A further descent to Lugano, with its lovely mountain and lake views, and the Hotel Bristol was reached at 7.30. Day's run, fifty-seven and a half miles.

Wednesday, July 5th, was spent at Lugano, exploring, and going up to Porlezza by steamer, as there is no road.

Thursday, July 6th.—X departed, not on his bicycle, to see his relatives elsewhere, so at 4.15 I set out alone to finish the tour. A rough, bumpy road brings one out over the lake at Melide, and then along the left-hand shore to Capolago, where I had my first experience of having benzina (petrol) syphoned out of a huge tin into litre wine bottles, and thence transferred to my tank. At Chiasso I left Switzerland, and again had a lead seal attached to the frame, and the permit issued. After some difficulty, I managed to persuade the official that I only had clothes on board, and so was spared the annoyance of unpacking. This was the strictest customs I met. Then down into Como and up out of it again over a very bad road, until Lecco appeared—a very pretty picture, at the foot of a perpendicular mass of rock, on the other side of the Lake of Como. Over the bridge, and I was soon at the Hotel Croix de Malte et d'Italie. Day's run, thirty-eight and a half miles.

The Monotonous Plain of Lombardy.

Friday, July 7th.—Leaving at ten o'clock, over bumpy and terribly dusty roads all the way, Brescia was reached at 3.15. Then the road led on through

dirty, badly-paved villages, on over the intensely monotonous plain of Lombardy, with the sun simply blazing down. The towns now are entered through narrow gateways, over a moat, through another gate in the walls, and so into the town. The machine was running splendidly, in spite of heat, dust, and bad roads, and reeling off a steady 30 m.p.h. Verona is an interesting town, with its amphitheatre, gateways, etc. Pushing on, Vicenza (another of the fortified towns) was reached at 9 p.m. 129 miles.

Saturday, July 8th.—Having explored Vicenza, with its painted house walls, cathedral, and so on, I left at 10.30. On the outskirts of the town I had to get benzina; it was *weighed* to me over the counter of a chemist's shop; 2frs. 50c. for four litres, i.e., 2s. 1d. for not even a gallon. The road improved to Padua, a very difficult town from which to find an exit, only to become hopeless to Mestre, with dust *inches* deep. Only those who have seen the Italian dust can realise its terrors. Just short of Mestre, I had some fun in buying petrol at a cottage, which displayed the official "Italian Touring Club—benzina" sign. I could only succeed in buying three wine bottles (litres) full, with the usual admixture of water, as the woman had exhausted her stock. I wanted to fill my tank and spare tin, as petrol was "cheap" here, being only 50c. the litre.

Venice at Last!

The last fifteen miles through Dolo and Malcontenta (excellent names) are dismal: one long straggling line of houses, a canal on the right, and the everlasting electric tram on the left. Having put up my P. and M. at the Garage Reale at Mestre, on the mainland, where there is a lock up for the Italian royal family cars, the boat soon carried me to my goal—Venice and the Adriatic Sea. It was a fortunate evening on which to arrive, as there was a fête, an illuminated procession of boats, and fireworks on the Grand Canal. Forty-seven miles.

Sunday, July 9th.—To-day was spent exploring the Palace of the Doges, the canals, Bridge of Sighs, prison, the Lido, and the bathers (!) in company with an American acquaintance. By the way, a wag has said: "See Naples and die; smell Venice—same result!" Personally, I found Venice quite salubrious, except that cholera was prevalent.

Monday, July 10th, dawned wet and miserable. Fortunately it cleared and having said good-bye to the American, I set sail for Mestre. Leaving the Garage Reale at 6.15 p.m., I had the experience of a muddy Italian road. The way my tyres held the road was nothing short of marvellous, and all through the tour when grease was struck I never had any cause of complaint. Words fail me to describe Italian mud. Soon the engine, which had run faultlessly from England to Venice, began to misfire badly. Plug, contact

From the Channel to the Adriatic and Mediterranean and Back.—breaker, petrol pipe, etc., were all examined, but still the misfiring continued. Three times I had that carburetter down—no good: then, in the dark, I rode, "bang-miss-bang-miss," into Padua, to be hauled up by a gendarme for riding without a light. I looked innocently at the lamp to see why it had gone out, but the fact that it was stuffed full of dusters gave me away! However, I found a haven of refuge, after a trying and tiring ride of only twenty-five miles, at the Hotel Fanti Stella d'Oro. In Padua a B.S.A. motor bicycle was staged in a shop window.

Tuesday, July 11th.—Starting off full of hope that the misfiring would have departed in the night, as mysteriously as it arrived, I was immediately disillusioned. "Bang-miss-bang-miss," it went again; so I "bang-missed" out of the town, and sat down in a shady, deserted spot, determined to do or die. Now what was it? The small lock-nut on the float had slipped down! What a relief it was to get going at our favourite

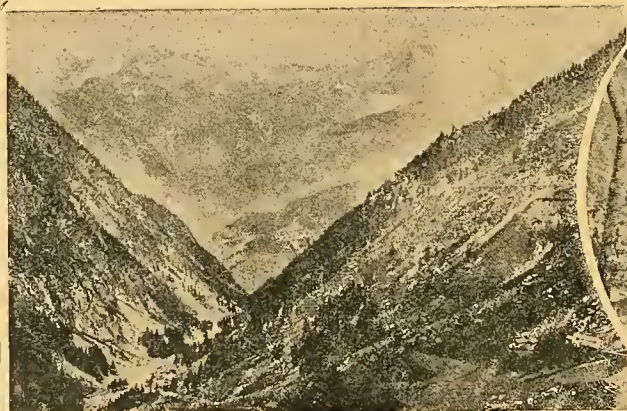
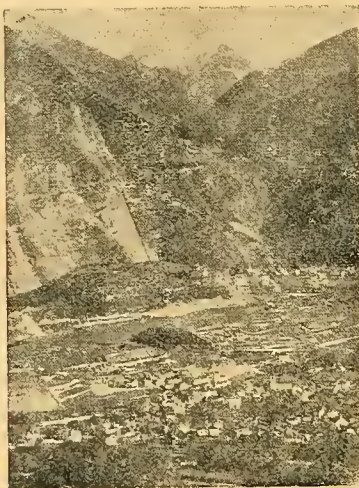
very picturesque walled town as one approaches it over a long ramp, defended by drawbridges. Following the monotonous, flat road through Cremona and Piacenza (where I was hauled up by the Octroi at the gates), choked with dust, baked with sun, I stopped at a desolate village for petrol, which was measured out to me from three different receptacles—

an oilcan, a wine bottle, and an old tin. During this performance, the only motor cyclist I met on the country roads throughout the Italian run passed on a Triumph. Being anxious to quit the Italian plain roads as soon as possible, I pushed on in the dark to Voghera. 170 miles to-day.

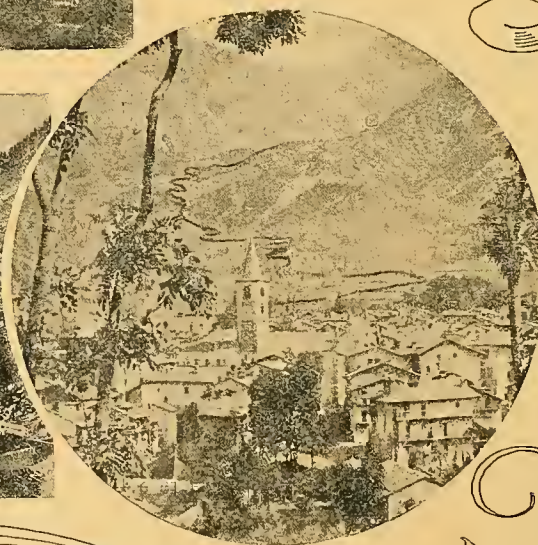
Terrors of the Turin Road.

Wednesday, July 12th, was the most terrible ride I have ever had in my motor cycling experience, viz., from the Albergo Universo, Voghera, to Turin. To begin with, it was blazing hot. After doing eight miles, at Tortona I had a bullock shoe nail right through the

1. The town where the writer spent the night before crossing the Simplon Pass.



2. The magnificent view obtained from the Simplon Kulm Hotel, at the absolute summit of the Pass. The road can be seen first of all on the right, then far below in the middle distance. Some idea of the immensity of this picture can be gathered from the farm buildings seen in the right-hand corner.



3. The "corkscrew" road from Limone leading up to the mouth of the Col di Tenda Tunnel. The road is marked.

30 m.p.h. gait! Soon the abominable roads and appalling villages made me slow down, and the road was very difficult to find, people imagining I could lift the machine up flights of steps to bridges over the canal. After some patience, I eventually got through Mouselice Este to Leguagno, a quaint walled town, below the level of the River Adige, which is crossed by going up an inclined plane, parallel to the river. Mantova is a

back cover, tearing the tube in two places. This had to be repaired in a dust storm. The dust was terrible—the way very difficult to find. The road for the whole distance was nothing but longitudinal ruts, close together and deep, so that steering became almost impossible. In places I was only able to ride on the 2ft. wide path at the roadside, bounded by periodical stones on one side and a ditch on the other. One collision with a boundary stone stripped

From the Channel to the Adriatic and Mediterranean and Back.—the luggage off the footboard; there were several very narrow squeaks of going into culverts, which I did not see till on top of them. Every bit of luggage I had on the machine fell off several times. When I got to Turin, the city was alive with Exhibition visitors, and the Via Roma gaily decorated with bunting and garlands, and trams everywhere. Eighty-four miles.

Thursday, July 13th.—Before starting I visited the Borgo motor cycle factory. The Borgo machines are wonderful, but I have no space to describe them. I had discussed the road over the Col di Tenda with several Turin motor cyclists, and they, without exception, said it was impossible to motor cycle through the tunnel owing to the mud. In fact, one of them had essayed it a fortnight earlier, and had to retire with a mud bath. They strongly advised me to go round it by train, but I was not to be deterred.

Passing through Racconigi, where the Italian Royal Family were in residence, well guarded by sentries, and getting on to Saluzzo, I ran out of petrol. Fortunately, I had only a mile downhill to go to the nearest village. Then it was more of the chemist shop product, costing 4 francs 20 for six litres. Passing through Cuneo—a city on a hill, where is an electric trackless motor 'bus service with overhead wire connection—the road becomes very twisty, winding up the magnificent Vermentagna valley, with its rocky scenery. The carburetter went on strike again, but though I could not exceed twenty-two miles per hour downhill it took me to my night's stopping-place. A landslide caused me some trouble to negotiate, as well as some very narrow, cobbled streets with dangerous, deep gutters running across at intervals. As the horn bulb had perished, I had to use the exhaust whistle, and every time I raised the exhaust a low bang would take place in the whistle, scaring the women and children, who went rushing into their doorways pell mell. I stopped at the Hotel d'Europe, Limone, in a gloriously pretty spot, where I was most comfortable. If anyone is looking out for an ideal honeymooning place, here it is. Eighty-nine miles.

Through the Famous Tunnel. No Photographing Allowed.

Friday, July 14th.—Leaving at eight o'clock, I had a wonderful corkscrew ride up the mountain, passing two three-mule waggons on two of the hairpins, but doing a non-stop to the mysterious tunnel. William le Queux describes this road thus: ". . . One approaches what appears to be an impassable barrier—the high blue Maritime Alps. Gradually it rises, through remote Alpine villages, higher and higher, then with sharp corkscrew turns, still ascends . . . wilder becomes this treeless scenery, while

the view, looking back, becomes superb. . . Then suddenly the road ends, and you find yourself face to face with a tunnel . . . two miles long . . . deadly cold within." My attempt to photograph the entrance was at once stopped owing to the proximity of an Italian fort. Lighting the lamp, and on the low gear, I entered the blackness, wondering what was in store. The sensation was weird—the banging of the engine reverberating up and down—slithering about (the Kempshalls prevented me actually parting from my machine) in the mud, I went on, on into the narrow blackness. Then after about a mile I saw far away a faint pinhole of light, which gradually grew larger and larger, till at last I emerged, having successfully negotiated the dreaded tunnel. Here I attempted another photograph, with similar results, and I was thankful I was not in Germany. From the tunnel exit the view of the road was extraordinary, as it



This picture gives a good idea of the road near the foot of the Simplon Pass on the Italian side. A "refuge" can be seen by the bridge.

wriggled, in countless hairpins, right down the face of the mountain. The scenery through the gorge defies description. On over the rough road to Cannes, and then along that wonderful road (the Corniche d'Or) round the Esterel Mountains, with the blue Mediterranean always on one's left, to St. Raphael. Sixty-five miles of Alps, followed by the twisting Esterel road, causes a great strain on the eyes and nerves, especially at Bank Holiday time, when numerous cars are about. I found the best way to take the hairpins was: "Machine out and body in." I only had one stop for overheating (due to the carburetter being on strike) in all this mountaineering,

From the Channel to the Adriatic and Mediterranean and Back.—and it was hot, too, for the low gear! Day's run, 113 miles.

Cosmopolitan Marseilles.

Saturday, July 15th.—Leaving St. Raphael for Fréjus, I took the wrong road, and found myself travelling along the magnificent cork and pine-tree forest straight back to Cannes, until I noticed a kilometre post. I did not meet a soul on this road, nor did I regret my mistake, as the road was so beautiful through the sweet-scented forest. I reached Marseilles early in the afternoon. The road in places, as is common all over France, was entirely broken away in lumps, but good for the most part; very narrow villages, with abrupt corners and steep hills. The *pavé* at Marseilles was excellent, and is kept in very good repair. Day's run, ninety-eight miles.

Sunday and Monday, July 16th and 17th, I spent at Marseilles, which had given itself up to the Festival of the Republic. Do not miss seeing Notre Dame de la Garde. Marseilles is chiefly remarkable for smells, mosquitoes, long curving horns on the horses' collars, carters' cracking whips, trams, and ships. Also one sees representatives of every nation under the sun, clad in their native garb, which makes the effect very picturesque. I noticed two motor lorries at the docks, flat belt driven to the counter-shaft, and then chains to back wheels. Talking of chains, my low gear and back wheel driving chains were the original ones I had with machine, having done 2,279 miles with a sidecar and passenger and 4,543 solo before I started on this tour. How does this compare with belts? The high gear chain had been replaced before commencing the tour, and as the pitch of the teeth and rollers did not agree, the rollers constantly broke. The other chains needed no attention beyond greasing.

Tuesday, July 18th.—10.30 a.m. saw me once more awheel on the blinding white roads of Southern France, through Avignon (a sleepy old place, where the old Popes' palace is used at present as a barracks), along the banks of the Rhône, over the typical bridges to Orange with its famous Roman arch. I overtook the first G.B. car I had seen since leaving Abbeville, near Valence, and I finished up in the darkness at 9.30 at Vienne, which looked very pretty, with its twinkling lights across the river. Owing to the carburettor sulking, I could not exceed 22 m.p.h. from Valence, but I managed to reach my destination for the night, having run 193½ miles from Marseilles.

Misfiring and its Cause.

Wednesday, July 19th.—Leaving the Hotel de la Poste, I traversed a very rough, hilly road for some miles, and then stopped to grease chains and clean up a little. After this the machine kept misfiring, and though I kept altering the nut on the float, as the carburation was at fault, this went on for many miles. Now heavy rain descended, and I bumped through Lyon in a downpour, still misfiring. Finding the main road again at Villefranche, and the rain having cleared off a little, I paused to cure the misfiring. Will you believe me? In cleaning up in the morning I had pushed the half-compression lever down, and, forgetting it, had driven nearly forty miles on half-compression, hence misfiring unless I had full throttle! The symptoms, being so similar to those

of previous carburettor troubles, had deceived me. I ran on merrily through Mâcon, Tournus, and Châlon-sur-Saône, where the country becomes very hilly and pretty, with fields and hedges as in England. It is the edge of the Côte d'Or. There is a very pretty view of a chalet perched high up above the village as one drops down into La Rochefort, and again on the climb up the other side. Just as I reached Saulieu my back tyre went flat, and as it was now dusk I stopped at the Hôtel de la Poste for the night. 151½ miles to-day.

More Haste the Worse Speed.

Thursday, July 20th.—Rising at six o'clock, to make up for lost time, I mended the leak and got away over the hot and dusty road. At Etampes, where the road was awful, a bolt came out of the high gear chain, and I did a rapid repair, surrounded by a gaping crowd. I had great difficulty in finding my way. Darkness came on; I had no carbide, hence no light; nothing but cross roads, and no signposts and no moon. After roaming about and almost deciding to sleep in a cornfield, I happened on a railway crossing keeper. He gave me full directions, which at last brought me to Chartres at 10.45, after I had gone no less than thirty-five miles out of my way. Day's run, 191 miles.

The Final Burst to Cherbourg.

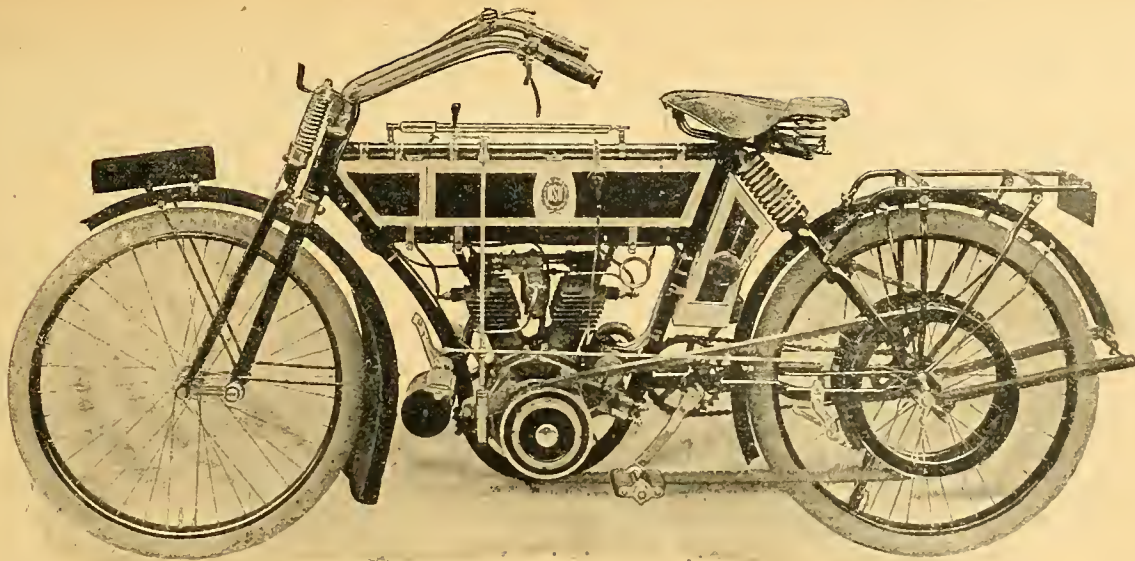
Friday, July 21st.—I had now 192 miles to do before reaching Cherbourg, so leaving the Hôtel du Grand Monarque at 6.40, I had only done nine miles, when I ran out of petrol. As the engine was still hot, I managed to get half a litre of paraffin, on which I ran to the next village, nine miles away, and filled up with *essence*. The roads were excellent through Normandy, the only rough *pavé* being through Verneuil. After the usual interview with the back tyre, I got going fast to make up time, through Laigle, Argentan, and Falaise, along the deadly straight road to Caen, thence with the road stretching in view for miles ahead to Bayeux and the undulating road to Valognes, finishing up with a long drop down to Cherbourg, which I reached at 6.45. Putting the machine (fare 4s.) on board the *South-Western* with the aid of half a dozen porters who would help, I had a glorious dinner at the Café du Grand Balcon, and sailed at 1 a.m. for England. Day's run, 192 miles.

I had succeeded in getting across France from sea to sea—728 miles—in four days, heavily laden, and with an engine which had not been touched (save for the new exhaust valve slipped in on the third day of the tour) since leaving England. A week's stay at Bournemouth, and then the 145 mile run home (the Hampshire roads were very loose owing to the drought) completed the tour of 2,595 miles. For the machine which carried me so well I have nothing but praise, and it speaks well for the strength of the frame that no tubes broke, or any part save the carrier and mudguard stays, which were partly supporting the carrier.

NEXT WEEK!

MOTORCYCLE Buyers' Guide

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She looks good and she makes good because - she's an **N.S.U.**

There is a masterliness about the designs of the N.S.U. mounts that knowing eyes never fail to appreciate. A compactness without crowding of details, a thoroughness which omits nothing, and a gracefulness achieved so simply, are characteristics, evolved only after long experience and careful observation, of the N.S.U.

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In answering this advertisement it is desirable to mention "The Motor Cycle."

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. . . MOTOR CYCLES. . . .

Symmetry in design.

Best quality materials.

Highest class Workmanship

—ensure absolute Reliability.

Read what a Rider of
8 years' experience says:—

TESTIMONIAL

October 23rd, 1911

Dear Sirs,

"In your advertisement I note you say 'First in 1903 etc.,' well I own a 1903 SINGER bike (No. 1084) and the engine is in fine condition. One or two alterations I have made such as lowering the seat, fitting longer handle-bars, and the old bike carries me everywhere. I ride nearly every day and in the coldest weather the machine will start with ease and once warm will start at a walking pace in 5 yards. I have ridden a lot this Summer and the machine has brought me home every time—no pushing to nearest station. I have never had engine trouble on a journey, the power of this engine is wonderful. It tackled Lansdowne Hill, Bath, last Summer at 20 miles per hour, tested by speedometer on a 1911 3½ h.p. machine of another make, which belongs to a friend of mine, and he admitted he could not pass me. We both started on the hill itself, on this same occasion another 1911 3½ h.p. machine would not go up without the pedals. We three had ridden nearly 50 miles before tackling the hill at a very decent pace.

Wishing your firm every success,
Yours faithfully. "B.M."

Satisfaction is guaranteed to
—every rider of a—

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Let this fact influence your
choice of a machine for 1912.

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(1909), LTD.,
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LONDON SHOWROOMS:
17, HOLBORN VIADUCT,
E.C.

In answering this advertisement it is desirable to mention "The Motor Cycle."

ALCYON RECORDS AT BROOKLANDS.

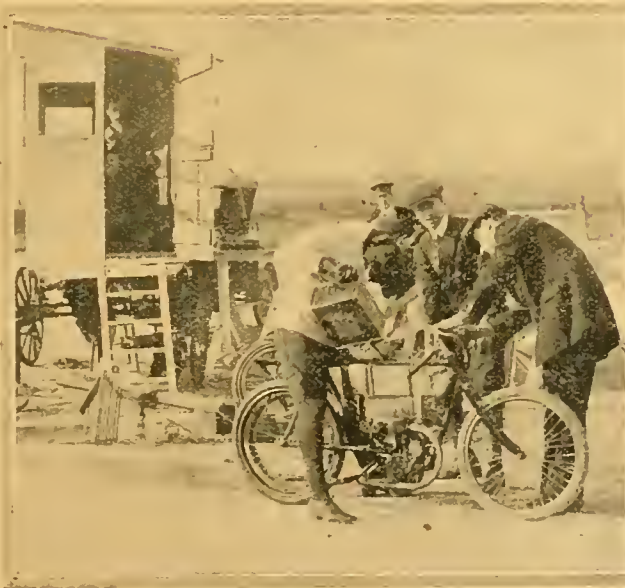
Six Hours' and several other Class A Records Broken by N. D. Slatter.

THE Alcyon motor cycle, which made its *début* in England this year, has just finished a season in which its performances have made its name. First and foremost, we must remind our readers of its excellent behaviour in the Six Days' Trials, and, secondly, we have to relate how in the hands of N. D. Slatter it beat the six hour and other Class A records on Tuesday last week. The machine was a standard 2 h.p. Alcyon fitted with an extra large tank, C.A.P. carburetter, Bosch magneto, and Hutchinson tyres, and was running on Shell spirit. The time-keeper, Mr. F. Straight, started Slatter just after 10 a.m.

The morning was fine and cold, but a strong south-westerly half gale prevented any startling times being made. The little machine, however, began by reeling off the laps at a 43 m.p.h. average, and ran most consistently. A stop was made at seventy-six miles for replenishments, the tanks being filled in 1m. 20s. At the end of the next lap, however, Slatter had to pull up to replace the contact-breaker cover of his magneto, which came adrift. In the first hour 43 miles 850 yards were covered. At the end of the forty-seventh lap a stop was made to tighten the carburetter union nut and to take in a further supply of petrol and oil, and at the end of the next to file down a stretched valve. The distance covered in the two hours constituted a record—84 miles 1,575 yards—beating C. S. Franklin, who on a 257 c.c. M.R. covered 50 miles 1,285 yards, on June 9th last. Slatter also gained the 100 miles record for Class A, time 2h. 21m. 45 $\frac{1}{5}$ s.,



N. D. Slatter, who, riding a 2 h.p. Alcyon, captured several Class A records at Brooklands last week.



N. D. Slatter stops during his record ride to replenish the petrol and oil tank.

beating Yates on a 198 c.c. Humber, time 3h. 18m. 50 $\frac{4}{5}$ s., October 8th, 1910, while the three hours record also fell to the Alcyon, 127 miles 126 yards, beating C. S. Franklin, who in the time covered 77 miles 472 yards. Slatter continued to average about 40 m.p.h., but his fastest lap, his forty-ninth, was

45.71 Miles an Hour.

Later in the afternoon misfiring set in, and it was found that the exhaust valve had again stretched. The four hours distance was 163 miles 1,622 yards, while in five hours 196 miles 1,011 yards had been covered.

The wind by now had become very strong, the sky clouded over, and a cold and heavy rainstorm came on, which spoilt the gripping powers of Slatter's belt. At the seventy-fifth lap he changed his belt, and again at the seventy-sixth he did likewise. The belt slip was apparently incurable, and the average speed was now reduced to twenty-eight miles an hour. The record, however, was safe, but just before the six hours were up the belt broke in the railway straight, and the ride was ended.

Two hundred miles were covered in 5h. 5m. 12 $\frac{4}{5}$ s., and at the conclusion of the ride 223 miles 1,494 yards had been accomplished, easily beating Franklin, whose distance was 159 miles 1,055 yards, on June 9th this year.

To accomplish an average speed of thirty-nine and a half miles an hour for two hundred miles at Brooklands on a machine fitted with such a small engine as the Alcyon is a splendid performance, and one of which Mr. G. N. Higgs, the agent for these machines, may well be proud.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Good Performance of a 2½ h.p. Lightweight.

[6023.]—On Saturday, October 28th, I witnessed an ordinary 2½ h.p. single-speed A.J.S. lightweight climb (without pedal assistance) the famous Griffin Hill, Gresford, North Wales. This hill is well known to Chester district motor cyclists as a good test, the gradient being at least 1 in 6, and is declared by some to be 1 in 4, there are also some very sharp corners. The machine was taken from stock at the North Wales Motor Exchange, Rhosdda, Wrexham, and ridden with a view to purchase.

(REV.) D. T. SILIAN EVANS.

Hill-climbing in Cheshire.

[6024.]—Permit me, as a regular reader of *The Motor Cycle*, to ask if many of your readers ever get into the rough parts of Cheshire. I hear it said on all sides that the Cheshire roads are grand bowling roads, but I may suggest that any motor cyclist desirous of testing the climbing powers of his machine should try the roads around Macclesfield.

If he would take the road from the last-named town to Wincle, Wildboardclough, Swythamley, and Macclesfield Forest, or through Quarford to Buxton, and return by way of Chapel-en-le-Frith, Kettleshulme, and Rainow, he will land in Macclesfield after a very exciting time, and I think he will find roads rough enough to last him a lifetime.

I ride a 3½ h.p. Bradbury, but a single-cylinder machine is hardly enough, to my mind, for this district.

Over these roads, any machine, no matter what make, will have to struggle hard to surmount most of the hills.

I should like to hear of any riders climbing these Cheshire hills.

A. BURGESS.

Hints on Dismantling the N.S.U. Gear.

[6025.]—In one of your October issues there appeared a letter under the above heading, which I feel, if left unanswered, might have the effect of frightening amateurs like myself, with but little mechanical knowledge.

Two years ago I bought a 6 h.p. N.S.U., for use with sidecar. This was my first machine, and I knew absolutely nothing about motor cycles. I was warned to leave the gear alone, in the sense, that is, of trying to take it to pieces to see how it worked. I have followed that advice. I have never even oiled it through the little screw provided for the purpose, but I have been careful to see that the engine always had plenty of oil, and I concluded that as long as the outward appearance of the gear showed that oil was coming through, all was well. I admit I have not been in for competitions, extraordinary hill-climbing, or anything of that sort, but I have covered over 8,000 miles by Cowey, of which the greater part has been with my wife and two young children in the sidecar, and a by no means small proportion has been town riding, when the gear is constantly in use. I have had no trouble with the gear whatsoever, partly no doubt due to the fact that I adhere rigidly to the makers' advice never to leave the machine standing in the road or the garage with the low gear in, when the spring is compressed, but always turn the handle back to the "high," when the spring is relieved. I hesitate to differ from an expert such as the writer of the letter under reply, but I can truthfully say that I have not found any of the five faults, which Mr. Philips enumerates, to exist. The best "hint on dismantling the gear" that I can give is *Punch's*: "Don't."

N.S.U.

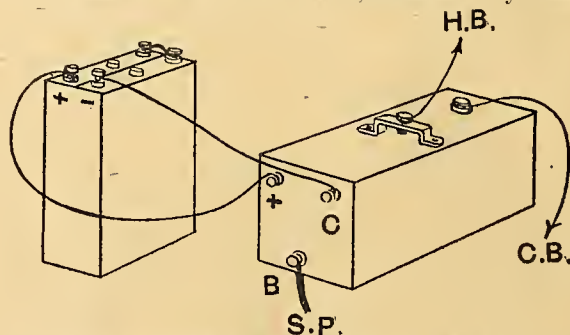
Water in Petrol Tins.

[6026.]—I should like to recount a recent experience with my 6 h.p. Zenith. Running short of petrol, I called at a large garage and asked for a gallon of Shell. My tank was duly filled, and after paying 1s. 3d. I departed. Taking a hill a hundred yards or so from the said garage, my machine misfired once or twice and then stopped altogether. Badly sooted plugs thought I, so, of course, I immediately cleaned them and then confidently pushed the machine to start it, but for some reason it would not start. I then put a spare Bosch plug in, but no use—it would not start. I examined carburetter, it was in perfect order. I then cleaned carbon brushes, and did everything I could, even to injecting, although the engine was hot. As it would not even fire the "petrol" I injected, I naturally concluded something was seriously amiss with the magneto. I had already spent an hour trying to put machine right, and as I was in a hurry, I decided to go back to the garage where I purchased the petrol and see if there was anyone capable of diagnosing what was the matter. I was told what was wrong immediately I entered the garage. In calm tones I was informed that someone had put water in my tank by mistake. I think that if anything is more than idiotic, it is to put water in a spirit can, and then place that can among the other cans that do contain spirit, as was done in this case. I write this to warn readers that it is not always the farm labourer who has turned his cowshed into a garage by some country roadside who is to be carefully watched, but many garages in towns.

SYDNEY R. AXFORD.

A Conversion—Trembler Coil to Plain.

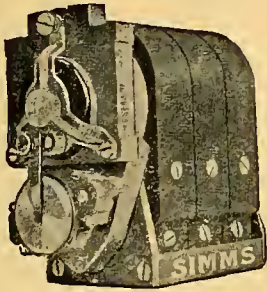
[6027.]—A friend of mine has converted his trembler coil to a plain coil in the following manner: Positive of accumulator to positive of coil. Negative of accumulator to the old contact terminal of coil. Plug to B (on coil) as usual. Wire from trembler screw and bridge to handle-bar switch, and frame wire from screw which previously held the trembler blade (now entirely removed) to contact breaker (an ordinary make and break). This has been converted over six months and has run over 1,000 miles. My friend



Manner of connecting up a trembler coil to work as a plain coil.

says he has noticed a great improvement in the running. Another point worth noticing is that the coil can now be run on two volts, using one cell of the accumulator at a time—previously it required four volts. As I have frequently seen it stated that a trembler coil cannot be used as a plain coil, this seems to be of unusual interest.

E. E. SMITH.



Is your Magneto a British **SIMMS** ? Are the Plugs you use British **SIMMS** ?

because if they are not you are not getting the highest possible service from your engine. This may sound a very bold statement, but it is, nevertheless, a fact,

SIMMS

ALL-BRITISH MAGNETOS

are not affected by vibration, which is the cause of a big percentage of ignition troubles at this season of the year when roads are heavy and rutty—this is a point worth consideration.

Mr. James Murton's 2,157 miles in 6 days was accomplished on a machine fitted with the Simms Ignition. He writes: "Had not the slightest trouble with magneto, and it was not touched the whole of the journey."

Let us send full particulars at once.

By the bye, we have a unique service for **Magneto Repairs**, overhauling, repairing, and dispatching same **within 24 hours**. Can we be of service to you?

We shall be at Olympia Motor Show, Stand 251, Gallery.

THE SIMMS MAGNETO COMPANY, LIMITED, Welbeck Works, Kimberley Road, Kilburn, London, N.W.
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1912 Improvements...

Countershaft two-speed gear, magneto behind engine, chain drive, half compression, adjustable tappets, footboards, butt-ended tubes, large silencer, tank needle valves and lowest possible saddle position,

HAVE BEEN STANDARD ON THE P. & M. FOR YEARS.

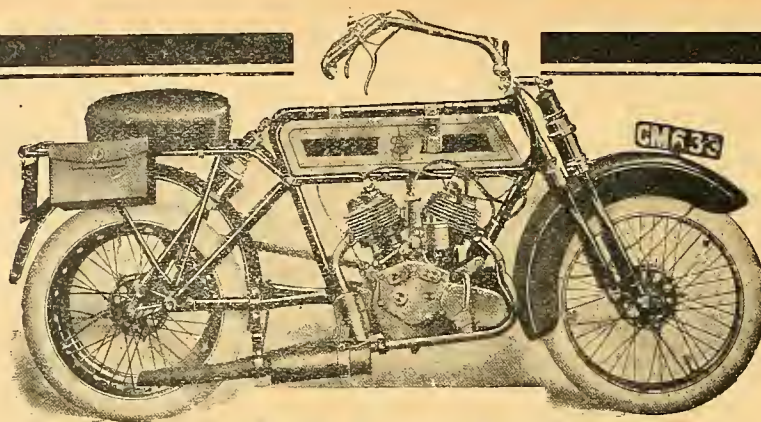
Examine the new models on the P. & M. Stand at Olympia for the latest points in motor cycle design.

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THE PERFECTED MOTOR CYCLE.

PHELON & MOORE, Ltd., **CLECKHEATON, YORKS.**
4, Percy St., Tottenham Ct. Rd, LONDON, W.

In answering these advertisements it is desirable to mention "The Motor Cycle."

3 $\frac{1}{2}$ h.p.**SINGLE
CYLINDER****5 h.p.****TWIN
CYLINDER****"Riding on Air."****A. S. L.**

: : : : POINTS TO REMEMBER. : : : : :

It enables you to enjoy the pleasures of motor cycling without fear of any danger arising through vibration. Photographers can carry plates without fear of breaking. Medical men can carry the most delicate

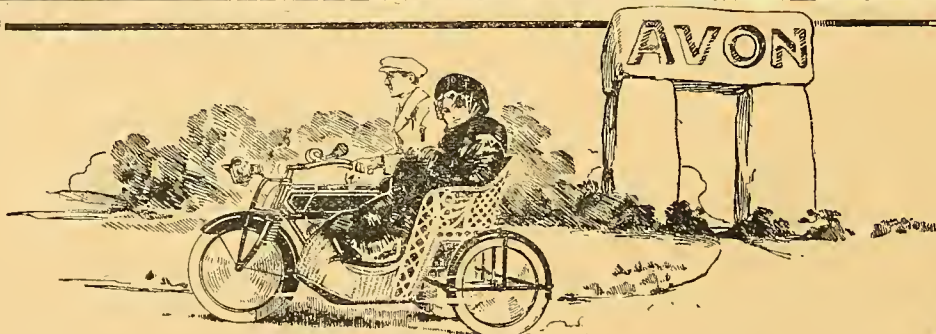
instruments without fear of injury. An A.S.L. Motor Cycle, as a test, carried eggs at a speed of 40 miles an hour over bad roads without a single breakage.

A.S.L., Ltd., Corporation St., STAFFORD.

Telephone: 156, Stafford.

Telegraphic Address: "Airsprings, Stafford."

C.D.C.

STAND**103****OLYMPIA****STAND****103****OLYMPIA****AVON****"Excellent in making ladies trip."—SHAKESPEAR—"Pericles" ii. 3.**

The Bard of AVON might have been speaking of Avon Motor Cycle Tyres, for these are indeed excellent in making ladies trip. AVON TYRES make the best of the machine, and minimise the discomfort of bad road surfaces, so that ladies, who have a voice in most matters, should be careful to see that AVON TYRES are specified for them on Car, Motor Cycle, or Cycle.

STAND**No. 150****GROUND FLOOR.**

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AVON INDIA RUBBER CO., LTD.,

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In answering these advertisements it is desirable to mention "The Motor Cycle."

The Track at New Brighton.

(6028.)—Your correspondent "Limelight," obviously without the courage of his convictions as he signs with a *nom-de-plume*, makes some absurd remarks regarding the above track. I think I need only show his crass ignorance of the subject on which he presumes to write by pointing to his comparison of New Brighton Track (a flat one with banked ends) with that of American "saucer" tracks.

I should be only too pleased to meet and fix up matches with "Limelight," but presume he will not come out of his shell.

It is hoped that if your correspondent answers this he will at least have the courage to put his name to his letter, otherwise I shall let the subject drop. E. F. BAXTER.

Cost of Running a 3½ h.p. Motor Cycle.

(6029.)—With reference to letter 6015 regarding the above heading, perhaps the following may be of use.

3½ h.p. Humber and sidecar, May to October (inclusive); mileage 4,000.

	£	s.	d.
Shell spirit, 45 gallons, at 1s. 0½d. ...	2	6	10
Vacuum A oil, 8 gallons, at 4s. 6d. ...	1	16	0
*Tyres, belts, and repairs ...	16	3	4

£20 6 2

*Including one non-skid band, one steel-studded cover, one suit new clothing, four rubber belts, two inner tubes, and two repair bills and one repair bill for collision.

Total inclusive cost per running mile, 1.21d. (say 1½d.).

C. A. M. HOWARD (Capt).

[Deducting the clothing and the repair bill due to a collision, the cost would be reduced to some extent. These items should not be included in running costs.—ED.]

Will the Ultra-lightweight Return?

(6030.)—It is very interesting to see the way in which exploded ideas are resuscitated in these enlightened days. There were numerous attempts between five and ten years ago to make the ultra-lightweight by means of a so-called "conversion set" to fit a push cycle. Every attempt to make a complete roadster motor bicycle at under £30 and 75 lbs. has failed, dismally—the principal reasons being that it is impossible to turn out a comfortable and efficient machine of good workmanship and hill-climbing capabilities at this price; also these very light machines hold the road very badly, even at ordinary low speeds, and the flimsy frame seems incapable of absorbing any road or engine vibration.

The 2½ h.p. New Hudson three-speeder started life at 110 lbs. "lightweight," but with the numerous additions that have been made to increase the efficiency and stability of the machine and the rider's comfort, the weight is now nearer 140 lbs., and there is not the slightest doubt that the machine has been improved by this, especially the 12 lbs. added weight of the Armstrong three-speed gear.

THE NEW HUDSON CYCLE CO., LTD.

—ROY W. WALKER.

The Trade and the T.T.

(6031.)—The trade have ample justification for refusing to continue to countenance an event whose title "T.T." was always a flagrant misnomer. Mr. H. W. Fortune's tribute to the A.C.U. is one which everyone recognises. On the other hand, few will share his alarm at the manufacturers' abandonment of a race which, if transferred to Brooklands or Benares, makes no difference.

Mr. Fortune might well exclaim, "I have here a machine—a T.T. machine—that has averaged its thirty miles per hour. Its valves have kept in excellent condition. It has needed no overhaul after even 12,000 miles. It is still sound and strong enough to resist Scottish moorland roads."

But could he in truth continue, "I have here a machine—a T.T. machine. To start it, I have neither to pedal nor to vault into my seat, nor get going by the help of a stand; a machine that turns in an ordinary roadway without dismounting, that climbs any hill without a rush, and with sidecar attached will take any slope from standing start; a machine that enables me to reach my destination respectably

attired, without the disguise of overalls, without gaiters for my boots, and without cumbersome strappings for the carriage of spare tube, belt, and the like; a machine that in traffic never puts my life in jeopardy, never causes me the smallest inconvenience in negotiating a busy market town; a machine that is in short no less easy and handy to start and operate than a car?"

Until such a type is standardised, it will be prudent not to condemn the makers hastily. The way has been paved enough for speed. With less clamour for its repetition, and more for exhibition of some added comfort and convenience, a new era of construction will steadily arrive that will do far more to popularise the motor cycle than all the racing events combined. The coveted machine as represented in the average T.T. model is one that only enthusiasts will tolerate, and one that gives no promise of any permanent career.

ARTHUR W. WALL.

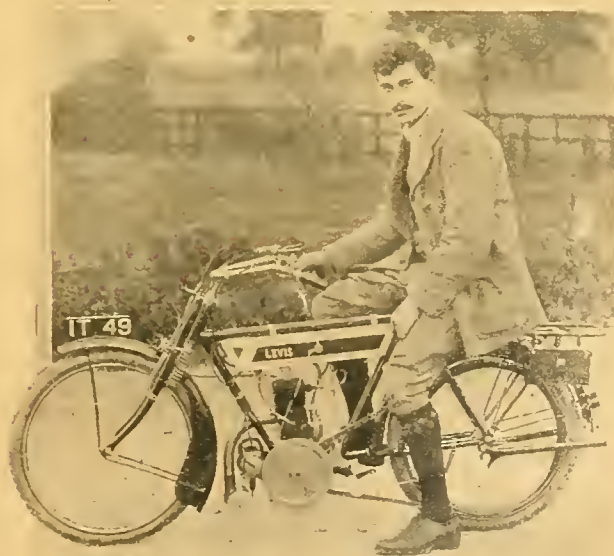
(6032.)—Being an interested spectator of the T.T. race, and one who has had great pleasure in witnessing the famous road race during the past three years, I read with regret the attitude some manufacturers are showing toward this coveted trophy. Surely hundreds of motor cyclists who have been attracted by the prospect of sport attached to the open road race will lack the enthusiasm to go to Brooklands where the skilful rider and touring type of machine are certainly less likely to be required. You would interest the motor cycling world if you started a plebiscite on the lines you did in regard to the day of publication of *The Motor Cycle*. Who votes for Brooklands? Who for the open road? It is a pity that financially the race should have been dependent upon the trade. Why do not the promoters encourage a larger entry by reducing the entrance fee? Then reduce the entrants by eliminating tests that need not take up as much time as is now devoted to practising. But perhaps the novelty has worn off. Motor cycles run like chronometers. And the incidental excitement has waned. I remain a most interested reader.

FRANCIS C. MASON.

(6033.)—I have read with interest, and not a little disappointment, your article on the decision with regard to the T.T. arrived at by the Manufacturers' Union.

Though I have never had the good luck actually to witness the race, I can claim to have been as much a spectator, through the medium of your excellent paper, as some of the onlookers who were there at the time.

I am convinced that a great number of motor cyclists decide on their next machine according to the T.T. results, and for this reason alone, apart from the sporting side of



Wm. Hughes Butterfield on his 1912 pattern 2½ h.p. two-stroke single-cylinder Baby-Levis. The exceptionally low frame will be noted.

the race, I think it would be a great pity if it were allowed to die out.

I do not intend, however, to dwell on the sentimental side of their decision or the pros and cons of their complaints, but rather to suggest a means of surmounting this extremely artificial obstacle.

Now, sir, I put forth this plan, not with the conviction that it is bound to succeed—I do not even know if the idea is feasible, for I am not a county magistrate, nor am I an A.C.U. councillor—but I submit it as a method, that your readers are free to censure or to propagate, as the basis of a wider scheme, as the spirit moves them.

I understand that, in the course of the week before the race actually takes place, the competitors are allowed to practise in the early morning, and this, apparently, without causing the slightest annoyance to the inhabitants.

Now, might not this fact be made use of, and might not leave be obtained to hold the races in some scarcely-populated county in the South of England (such as Devonshire or Cornwall), and, moreover, in the early morning?

Personally, I see no reason why so much time should be allowed for practising; surely two or three days ought to be enough; besides, the course being in England, there would be nothing to prevent the competitors from acquainting themselves thoroughly with the course at an ordinary touring speed.

I think the idea is worthy of consideration, and might give rise to a more feasible plan.

I think it would be extremely tame if the race were to take place at Brooklands; the same sort of exhibition can be seen equally well once a month or so.

H. A. BUSK.

[To legalise the race in England, a special Act of Parliament would have to be passed. We do not think that such an Act would be considered for one moment in this country.

—ED.]

Up Edge Hill on a Single-gear Sidcar.

[6034.]—In reply to W. G. Bower [5993], I should be pleased, if there are any Zenith-Gradua riders in Coventry or district, if he would ask them to run over to Edge Hill and show how easy it is to get up with a sidcar and passenger, the weight to be within a few pounds of 6 cwt. Personally I can make it convenient to run over any time, and, if any Zenith-Gradua rider succeeds, I should be very pleased to give him every credit for doing so.

W. BRANDISH.

Analysis of Carbon Deposits.

[6035.]—I was interested in reading letter 5997, by D. R. Edwards-Ker, giving an analysis of deposit removed from his cylinder. From the letter it would appear that there is very little road dust in the deposit, but the editor points out that the letter was written from Kent, and suggests that tarred roads may account for the absence of road dust. Although there is comparatively little dust on tarred roads, what there is consists of tar which has been worn off the road, and this contains a large proportion of carbon in combination, which when heated in the cylinder would be liberated, and so form a deposit which would consist chiefly of carbon. It would be interesting to compare analyses of deposits taken from machines ridden over ordinary gravelled roads, and see if the proportion of silicates and lime was materially increased.

A. J. DREW.

Wear of Big End Bearings.

[6036.]—Referring to Mr. Kennedy's letter in the issue of October 26th, I beg to differ from his remarks. He writes, "I have a 3½ h.p. single of well-known make which has now done 4,400 miles, and the third big end bush is now audibly worn, the average life of each bush being roughly 1,466 miles." Something is very much wrong with his engine for so small a mileage. Does he oil his machine well, say every ten miles? Does the engine knock excessively? Has the best phosphor bronze been used for the bush metal? Is the crank pin defaced, bent, or not set true?

I have had a similar experience with a bent pin. On the other hand, I have had single-cylinder 3½ h.p. engines down when they have done between 10,000 and 12,000 miles, and the big end has only been slightly worn. Only recently I had a 1909 T.T. Triumph engine down which had covered 9,000 miles, the bushes of which were in excellent condition and looked good for another 5,000 miles. This proves that Mr. Kennedy is wrong in saying that the average life of a big end bush in a T.T. single only does between 4,000 and 5,000 miles.

LEONARD B. HENDERSON.

Rear Springing.

[6037.]—Re "Ixion's" article on "Rear Springing," I can assure you that I have been riding a spring frame (not a spring saddle, like most of the so-called spring frame machines) for the last six months, and have never ridden a more comfortable machine, and I have had considerable experience in motor cycling. The machine I refer to is the "P.V." spring frame (3½ h.p. Peugeot engine), and I shall be very pleased to show "Ixion" at any time a real rear sprung machine. I have no interest in the machine except that of a satisfied owner.

P. F. BUTLER.

Stands as Nail Catchers.

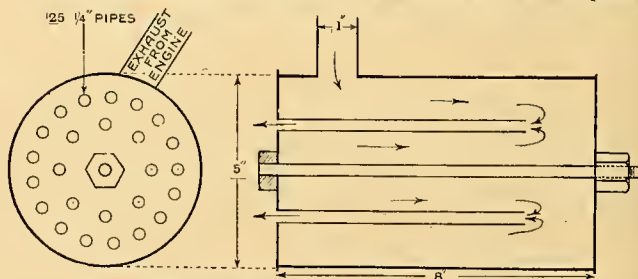
[6038.]—As the writer of the letter that lured "Never Again" to his fall, I am naturally gratified to read Mr. Hughes's letter [No. 5984]. There is no danger at all if the stand be properly adjusted. I am still running with a small clearance like Mr. Hughes, and shall go on like him. If "Never Again" does not like the stand as a nail-catcher, let him adjust a piece of copper wire above his wheels, of such a gauge that it will carry away if there is any fouling.

AB 668.

Silence and Silencers.

[6039.]—*Apropos* of your leader on Silence and Silencers, it may be of interest to describe an experimental silencer I had fitted in 1904. Under full power, running fast, it was very silent, ditto at low speeds, running light, but it was noisy when accelerating from slow on full throttle. As shortly afterwards I took to four wheels, I did not carry the experiment further.

At that time I was doing blow pipe work and needed a quiet, but powerful jet, and, in a certain book, I read that the only way to secure this was by making a smooth cylindrical jet of length 15 to 20 diameters. In actual work, I found that with a steady gas pressure behind I obtained a powerful, yet silent, flame. The idea came to me to try this on the silencer of a motor cycle. The normal pattern was a cylinder about 5in. diameter and 8in. long, the exhaust entering radially about 2in. from one end of the cylindrical portion, the gases passing through a series of baffle plates. We left the exhaust pipe and cylindrical portion, but ripped out the ends and the inside. We then made two end plates



End view and section of the silencer described by PS 7.

distinctly substantial. To one we fitted about twenty-five ½in. tubes 6in. long, perpendicular to the plane of the plate. The other end plate was solid. A single long bolt and nut held the two plates with asbestos washers against the ends of the cylindrical portion, that containing the tubes being nearest the exhaust entry. I append a rough sketch to make details quite plain.

This silencer was most easy to clean out. All one had to do was to take off the one nut and the whole parts came adrift. There was also no question about its efficiency. I had a 1904 76 x 76 mm. engine (automatic inlet), and 26in. wheels. With a 5 to 1 gear it took the first London-Edinburgh without any pedalling, except on Alconbury Hill, struck in the dark, and on 4½ to 1 it took me up Reigate Hill unaided. The old brigade of the Motor Cycling Club knew well my R. and P. I have it still, and on the tenth anniversary of the Land's End Run and the International Championship of the M.C.C. I propose to turn out and show I have not entirely forgotten how to use a two-wheeler!

Part of this letter is a little personal, but the point is plain. By chance I hit on a plan which may commend itself to further investigation by Brooklands speed mechanics.

PS 7.

Overheating.

[6040].—I am inclined to think that the mechanical conditions have as much to do with this as the chemical conditions (mixture). I understand you to indicate this in your editorial note to letter No. 5987. We all know how hot a pump will get if there is any obstruction in the connection. It is the compression that does it. When an engine slows down on a hill there is more obstruction (load) against the explosion, and consequently, as it seems to me, more heat. Change over to the low gear (I ride a machine with P. and M. gear) and the engine is relieved at once, though if one drove hard on full throttle on the low gear the engine would overheat from another cause. AB 668.

[6041].—Mr. B. Starks Field's letter [No. 5987] reads like sound logic and close reasoning, but it is not. The logic in your footnote is very much better where you say, "bad running always makes the engine hotter, hence it causes overheating."

When the mixture is perfect in every way, that is, properly proportioned and properly mixed, then the maximum explosion takes place, or, in other words, the mixture reaches the maximum temperature in the minimum time. This explosion is so quick that it takes place quite at the top of the stroke, so the piston gets the benefit of the very high pressure quite early in the stroke. As soon as combustion is completed the gases begin to cool, due to expansion inside the cylinder, and when the end of the stroke is reached the gases are comparatively cool and the pressure low. The average temperature throughout the stroke may therefore be lower than if the mixture had been a little faulty with the resultant slow explosion and smaller power. But this is not all, for, as you are taking advantage of all the power the petrol will give in that particular engine, you are not using so much of it, as you find that you go fast enough with the throttle almost closed.

If the mixture be weak the explosion will be slow; often it is so slow that even with the spark fully advanced maximum pressure is not reached till the piston is well down the cylinder and combustion goes on right to the bottom of the stroke and into the silencer. In extreme cases the gas that remains in the cylinder is so hot that when the suction stroke begins it ignites the incoming charge and pops back into the carburetter. When the mixture is weak therefore you run with the throttle full open, and the cylinder above the piston is full of flame during both explosion and exhaust stroke. Therefore the weak mixture overheats the cylinder.

If the mixture be too rich the slowness of the explosion seems not to be so marked, but the maximum explosion does not take place because the petrol does not get properly burnt. If the oxygen in the cylinder would burn a proportionate amount of petrol properly and leave the remainder alone it would not be so bad, but it tackles the lot as well as it can and only half burns it, thus producing a much more poisonous exhaust gas and much less power. As the power is less, you must open your throttle more to get the speed, and the large charges overheat the cylinder. Another peculiar thing about too rich a mixture seems to be that when the charge of oxygen meets more petrol than it knows how to manage, some of it sulk and will not do anything; the bulk of it half burns the petrol and the remainder burns it properly so that the exhaust gases may consist of half burnt petrol, properly burnt petrol, unburnt petrol, and free oxygen.

WILLIAM SCOTT AND SON.

[6042].—In your correspondence columns of the 26th ult., under the above heading, there seems to be some misunderstanding of the working of an internal combustion engine. There is only a small range of the correct mixture for a given load and of complete combustion, the latter depending on the intensity of the spark. If the amount of air is varied, the power, and therefore the speed, of the motor will fall off. This can be proved by any good and quick following tachometer.

I can regulate my correct mixture like this: Suppose the speedometer shows 30 m.p.h.; by opening the air lever I reduce the speed to, say, 28 m.p.h.; by closing the air lever I pass the maximum speed, and note the position when it shows 28 m.p.h. again. The middle position is the best for correct mixture and maximum power.

Overheating is due to incomplete combustion and burning of the gases when they leave the exhaust ports. I have found this confirmed by an interesting experiment, or rather accident, last year. In order to silence my machine more fully I had fitted a long pipe instead of the normal box in front of the motor. As the autogenous welding had not been done properly, this pipe broke, and I had the finest open exhaust there is on the market.

Riding home at night, I saw a blue flame shooting out of the pipe, which disappeared as soon as I gave more air and appeared again when still more air was given, the colour now being yellow-red. There were several long hills to be passed, and I could see the flames again whenever the machine slowed down, showing that the mixture was no longer correct.

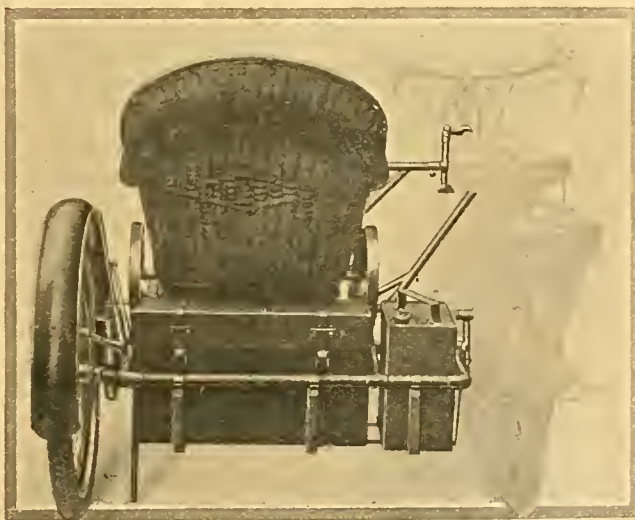
How will an automatic carburetter behave? With my next "one lever" the first test will be to try the machine without exhaust pipe at night (not in town, of course), and whatever be the effect, I wish to have an additional air lever.

An automatic carburetter can only be right if set for one size of jet, as I believe. If the jet chokes up—or when a smaller jet is fitted—I have to open the throttle wider and, at the same time, close the air lever. How is this done in the "automatic"? R.R.

Large Twins v. T.T. Singles.

[6043].—Regarding above article by Mr. Mackenzie Cott, my experience of the big Matchless on the road may be interesting. It is absolutely fine; beautiful to steer, quiet as a lamb, with throttle shut one can glide through country lanes with ease, and when I open the throttle on the open road, well—I should like to meet the car owner who would take me on for a wager. My answer would be "Yes, sir. I shall be delighted to give you a good view of my Hutchinson back tyre." Joking apart, the 8 h.p. Matchless-Jap is a beautiful machine, so easy to handle, everything on the handle-bar. Hand-operated oil pump, throttle and air lever, exhaust lifter, magneto control and front brake—plenty to amuse oneself with. The best of these big twins is that one never runs all out with them, they are never fully extended, and have such a wonderful reserve of power. One eats mountains, and then with the high gear you tick along the level on a "whiff of gas" at a nice speed. I consider the big Matchless my ideal in motor cycling.

W. HARRY BASHALL.



A NEW DESIGN. Gloria sidecar attachment to be exhibited at Olympia. In an extension of the chassis at the back, a framework has been formed for a small touring trunk and a two-gallon tin of petrol.

SUMMARY OF CORRESPONDENCE.

LAMPS AND WINTER RIDING.—The makers of the Voltalite magneto generator, mentioned in letter 5988, write to warn readers not to use a cycle generator on a motor cycle. All the modifications suggested by Mr. Turner are carried out in the latest motor cycle Voltalite in a much more substantial form, so as to withstand vibration.

A Growing Firm.

R. S. Fox, M.A., A.I.A.E., has joined the staff of Markham and Prance, consulting engineers, Dudley House, Southampton Street, Strand, London, W.C.

Progress.

Anyone on the look-out for a good place to open in the motor business as repairs to motor cycles or cars should pay Glossop a visit. A correspondent advises us that at present there is only one garage there, and they are extremely busy.

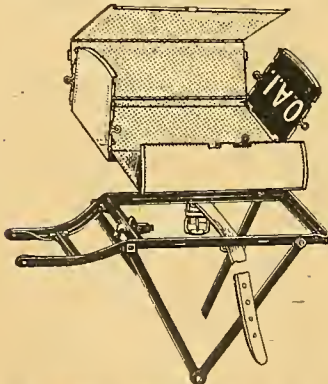
1910-11 Balance Sheets.

The firm of J. Lucas, Ltd., have had an excellent year, and in their report and balance-sheet to August 31st, 1911, the directors recommend a dividend on the ordinary shares for six months at the rate of 15% per annum, making, with the interim dividend already paid, 10% per annum. The net profit for the year is, with the balance brought forward, £36,174 11s. 11d.

The Enfield Cycle Co. have had a successful year's trading, and the directors recommend payment of a dividend on the ordinary shares at the rate of 5% per annum. £2,000 is allotted to the reserve fund and £6,297 carried forward to next year's account. Since the formation of the company the 7% dividend on the preferential shares has been distributed half-yearly, and an average dividend of 7% has been paid on the ordinary shares. The total profit earned in fifteen years amounts to £169,570, or £44,600 more than the total amount of the paid-up capital.

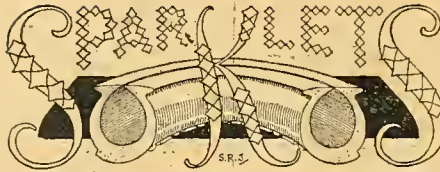
A New Carrier.

A novel form of carrier has been produced by Mr. E. A. Wallbridge, of 31, Wood Street, Woolwich, and sold under



The Wallbridge motor cycle carrier, the sides of which as may be seen are all collapsible, or the whole case may be detached as shown above.

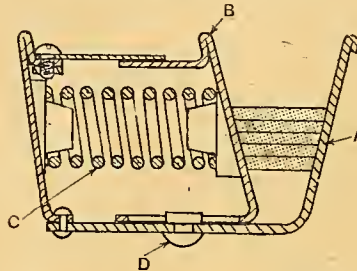
the name of O.A.I. It consists of an angle steel carrier made to fit almost any machine, in which lies a collapsible metal box. This box is made to form a kind of metal hand bag in its normal condition, but by an ingenious system of hinges it can be extended to carry a large amount of luggage or shut up quite flat to form a solid carrier, or the box can be detached from the carrier by a simple spring clip. The stays of the carrier sent us for inspection were formed of twisted strip metal, but we are told that the more usual form of tubular stays will be fitted in future.



Spring Belt Rim.

Mr. J. W. C. Basnett sends us the accompanying illustration of a belt pulley which he has invented and protected.

The flange B is slotted and prevented from revolving on the flange A by the studs D. The springs C force the two flanges together, but when the belt tension is increased or diminished as when raising



A new spring belt rim in which the inner flange is adapted to take up the slack of the belt when changing gear.

or lowering the gear by means of a variable pulley, the belt drops or rises in the rim and assists still further in the change of gear. Another advantage is that belt tension is kept constant. Mr. Basnett would be glad to hear of any manufacturer who would like to make the rim.

Armagh Enterprise.

Patrons of the firm of Messrs. J. J. Millar and Co., of Armagh, will learn with pleasure that its foreman mechanic

is now at the Triumph motor cycle works, Coventry, and will for some time be put through a course of thorough tuition by an expert in the repair department. It is essential that repairs should be properly executed and finished, and all riders of Triumph machines in Armagh who may require their machines putting in order for any special event will do well to bear in mind this wise move on the part of Messrs. Millar and Co.

Agents for the Ceylon M.C.C.

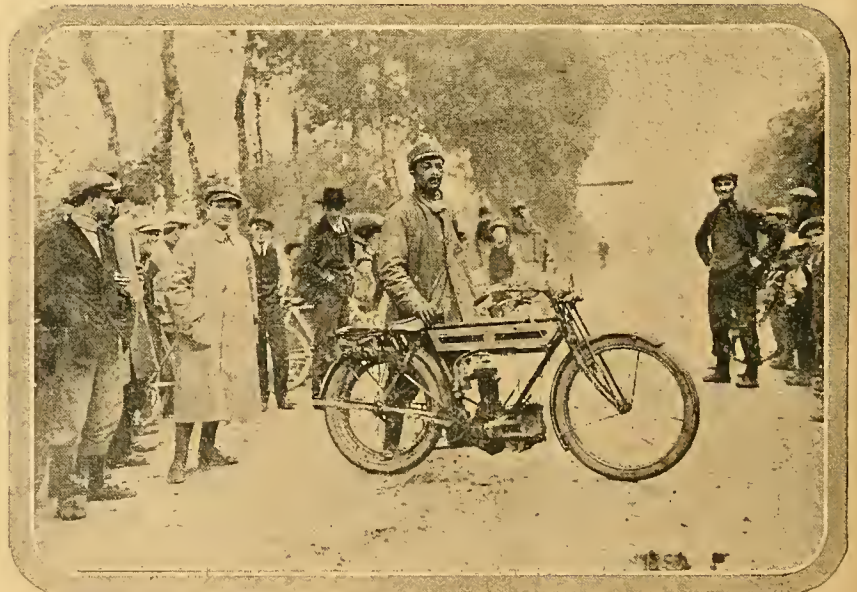
It is somewhat of a novelty for a club whose members reside abroad to appoint a home firm to act as its purchasing agents. The Ceylon Motor Cycle Club, an active body of over sixty members, which has done much towards popularising the sport in that island, has, we are told, just made arrangements with H. Taylor and Co., 21a, Store Street, W., to represent it in this country.

Douglas Depot Changes.

Gordon L. Fletcher, the well-known exponent of Douglas motor cycles, has been appointed manager of the London depot of Douglas Bros., at 338, Goswell Road, E.C. What Mr. Fletcher does not know about lightweight motor cycles is not worth knowing, so that riders of these machines who are not absolutely sure they are getting the best results from their engines, should call and consult this well-known expert rider.

Sidecar Frame Design.

The additional stay from sidecar to motor cycle which was mentioned on October 5th under the photograph of Mr. and Mrs. Jones with their motor bicycle and sidecar, is shown attached to one of the Garrard-Maxfield sprung wheel sidecars. These are all fitted with this special stay when the sidecar is intended for use with an additional front seat for a juvenile.

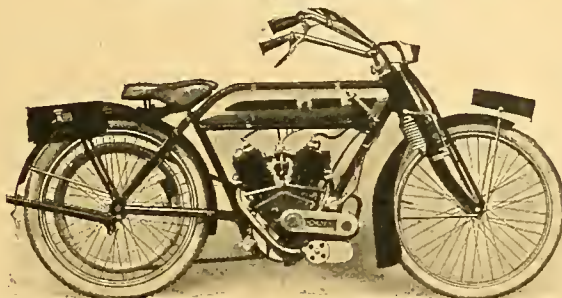


C. Pusterla (3 1/2 h.p. Triumph), winner of the Campionato Italiano road race over a course of 324 kilometres, winning the Bronze Statue presented by the Queen Mother. He was also second to finish in the motor cycle race at the end of last month held on the Brescia Circuit.

DEVOID OF TROUBLE

— MOTORS. —

**6 and 8 h.p.
Models.**



**The Finest Machine in
the world for
Design, Work-
manship, and
Finish.**

8 h.p. TWIN J.A.P. - - - - -	55 Guineas.
6 h.p. TWIN J.A.P. - - - - -	54 "
4 h.p. SINGLE J.A.P. - - - - -	45 "
4½ h.p. SINGLE PRECISION - - - - -	48 "
3½ h.p. SINGLE PRECISION - - - - -	45 "

Any of the above Models fitted with the V.S. Two-speed Gear and Free Engine at an extra cost of 10 Guineas on above prices

Orders can now be booked for early delivery in 1912. **Olympia Show, Stand No.**

MANUFACTURERS
AND PATENTEES—

H. REED & CO., Deansgate, Manchester.

P.C. will fetch Lists.

Always ask for "MILLENNIUM" Tools and Accessories—THE BEST THAT ARE MADE.



**AUTO-GRIP
SPANNER.**

This highly improved tool—spanner and pliers in one—cannot injure nuts because it cannot slip. The more force you apply, the tighter it holds. It is instantly adjustable, therefore extremely handy. Thoroughly dependable and durable. 3/- and 4/- each.



**PARALLEL
VALVE SPRING
LIFTER.**

Will not bend the Valve Stems.

The parallel action of this Tool entirely frees it from the tendency to bend the Valve Stems, a fatal yet very common fault in other Tools of this description. The lower jaw is of a novel design, which enables it to be very easily inserted between the end of the Valve Stem and the tappet. Price, made from Steel Stampings, Nickel Plated, 4/9 each.

CATALOGUE FREE.

LAKE & ELLIOT, LIMITED,

Manufacturers of 'Millennium' Tools and Accessories for Motor Cars, Motor Cycles, and Cycles, :: ::

ALBION WORKS, BRAINTREE, ESSEX.



**OLYMPIA, STAND 220
GALLERY**

THE 2-SPEED HUB

Completes the luxury of Motor Cycling by giving wonderfully easy control, such as the Car driver enjoys. It is the last word in 2-speed Hubs, being exceptionally efficient, reliable, and durable. Both gears controlled by friction clutches. Unimpaired efficiency on High Gear. Fits almost any machine.



CENTRALLY
DESIGNED.

OPERATED
BY ONE
FOOT LEVER.

DUST AND
WATERPROOF

MISTAKES
IMPOSSIBLE.

**Price
£10.
READY
TO FIT.**

See to that Spark. If your Motor Cycle shows signs of weakness, fit a U. H. MAGNETO

You can be quite sure of a great improvement in running, no matter what type of machine you own. Specify the "U.H." on a new machine and you safeguard yourself against all magneto troubles.

During the Olympia Show . . .

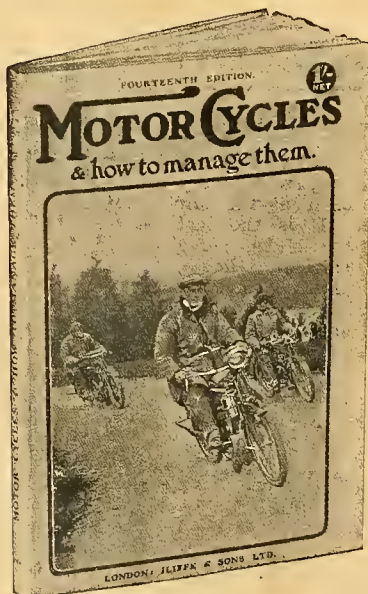
THE U. H. MAGNETO
will be exhibited at our Showrooms
15, Blythe Rd., Kensington, W.

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LONDON, S.E.

Telegrams—"Widerstand, London." Telephone—5173 Central.

C.D.C.

Useful to all Motor Cyclists—especially
beginners.



Price 1/- Net. By Post 1/2.

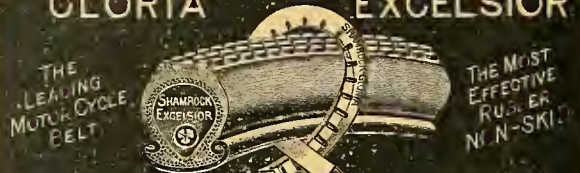
Of Newsagents and Bookstalls, or direct from
ILIFFE & SONS Ltd., 20, Tudor St., London, E.C.

OLYMPIA SHOW Stand 166, Ground Floor.

Opposite Triumph Cycle Company's Stand.

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GLORIA EXCELSIOR



OUTCLASS ALL OTHERS

THE HANOVER RUBBER CO. 29, 31 OLD ST. LONDON E.C.

A full range of 1912 Patterns
will be shown at Olympia.

**Don't miss our exhibit,
which is sure to interest you.**

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REPAIR

BEFORE
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WORKS
APPELATE
STREET
LEICESTER

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Hexagon
Studded.

Our Tread Band gives
double life to the Tyre.

TOM CANN, LIMITED,

THE NEW WALL BUILDERS.

Our New Tyres Manu-
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Process wear longer than
two others made in the
ordinary way.

Write
Immediately.

MOTOR CYCLE TYRE
MAKERS & REPAIRERS.

TOM CANN, L^{td.}, LEICESTER.



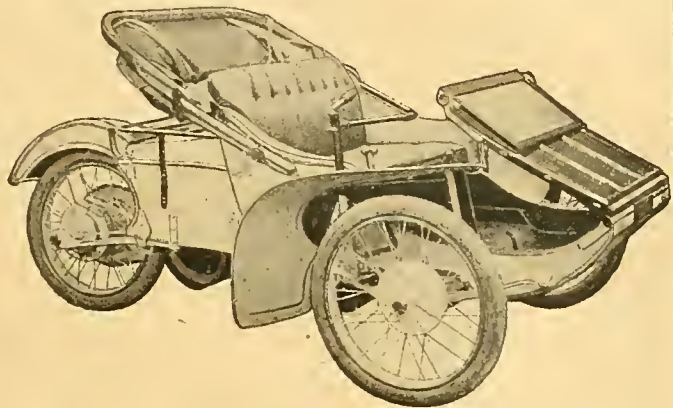
"THE MIGHTY ATOM" or SPEED SOCIABLE.

1912 MODELS.

SUITABLE FOR ALL WEATHERS.

**LOOK OUT FOR STRIKING
IMPROVEMENTS.**

STAND 34.



**REDUCED PRICE!
IMPROVED DESIGN!!**

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FERRY WORKS,

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THAMES DITTON.

THE ORIGINATORS WITH ALL THE EXPERIENCE.

DOWN TO THE LAST DROP.

"RUSOLINE" is a perfect Motor Lubricant. It has been scientifically worked out by experts 20 years in the oil business, and will not carbonise if properly used. A good oil means EVERYTHING to your motor. Don't merely ask for a good lubricant—the safe way is to say "RUSOLINE" to the dealer, and insist on it.

Sold in sealed cans or in bulk.

We have put the result of our experience into "MOTOR LUBRICATION." This booklet will be interesting to every man owning a Motor. It helps you **know** good oil. Free if you write to-day, giving your Agent's name.

TO AGENTS—Special "Help-sell" Plan.

Manufactured under the supervision of
W. RUSSELL
(Late of Price's Patent Candle Co. Ltd.),
London,

BY
RUSSELL BROS., National Oil Wks., BIRMINGHAM.

MOSELEY GROOVED



Extra strong beads, 3-ply heavy canvas.

36/- per cover, 26 x 2½ beaded.

FROM ALL AGENTS.

Catalogue free from the makers—

DAVID MOSELEY & SONS, LTD.,
Ardwick, MANCHESTER.

The Secret of his success.

Mr. B. Alan Hill, who has been awarded the Silver Cup for the best aggregate performance in the FOUR A.C.U. QUARTERLY TRIALS held during 1911, used

FIRMAX

(The Puncture Sealer)

In his tyres for each of the four trials.

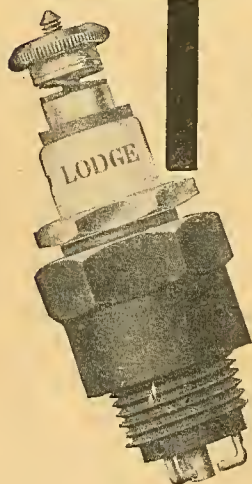
The consequent immunity from Tyre Troubles undoubtedly contributed largely to his success.

FIRMAX is a compound powder used dry, and is the FINEST PUNCTURE SEALER IN THE WORLD.

Send postcard for booklet and prices.

FIRMAX, Ltd., YEOVIL, ENGLAND.

LODGE PLUGS



are by far the most
successful ever made
for Magneto ignition

Suitable for all Motor Cycles.

PRICE 4/- EACH.

Steel gauge, copper-asbestos washer, and 'push-on' terminal, free in box with every plug.

On view at both the
OLYMPIA Exhibitions,
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Cycle Show, Nov. 20-25

Obtainable everywhere, price 4/- each, or post free, per return when remittance accompanies order, direct from the makers—

LODGE BROS. & CO., Dept. E.,
New St., BIRMINGHAM.

— THE — CYLCLEAN PROCESS.

REMOVES CARBON FROM CYLINDERS.

Simple in its use. Quick in its effect.
Satisfactory in its results. Inexpensive in its cost.
Harmless in its application.

A PATENTED DRY PROCESS.

TIME SAVED.
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Agents being appointed daily.

Write for full particulars and List of Agents.

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WE LEAD



THE RICH

DETACHABLE
AIR TUBE.

FIRST IN 1904,
FIRST EVER SINCE.

The only perfect tube
on the market.
Endless or butt-ended
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Use the Tube that
gives satisfaction.
Saves your time in
fitting, and pays you
best.

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1912.

REDUCED IN PRICE.

MOTOR CYCLE AND TRICAR TUBES
HEAVY. EXTRA HEAVY.

	26in.	28in.	26in.	28in.
1 1/2 ..	11/-	12/-	2 1/2 ..	21/-
2 ..	14/-	16/-	2 3/4 ..	24/-
2 1/2 ..	16/-	18/-	3 ..	30/-
2 3/4 ..	18/6	20/-	3 1/2 ..	36/-
3 ..	24in., 6d. less.	24in., 1/- less.		

PEDAL CYCLE 1 1/2, 1 3/4, 1 1/2 .. 7/-
TANDEM HEAVY, 1 1/2, 1 3/4 .. 8/6

Converting own Tubes.

Approx 1 1/2 2 2 1/2 3 3 1/2

Price 3/- 5/6 6/- 6/6 8/- 8/6

Pedal Cycle, 1/9. Tandem, 2/- and 2/6

Horne, Colonial, and Foreign Cyclists call or
write for booklet before ordering your Tyres
for next season. You will save money!

The RICH Detachable Air Tube Co.,
Crawley, Sussex.

Telegrams: "Rich, Crawley."

See our
COVERS.

Best value on the Market.

One Quality only — THE BEST.



Guarantee of Perfection.

This Week's Business Getter.

What about that order we are expecting?

Have you FORGOTTEN US? If so, we have not forgotten you. We are still in hopes of getting it. Without hope man cannot live. We have on the STANDS at the Olympia Show, and for immediate delivery afterwards, models of all the best machines, comprising the following:

Premiers, Scotts, P. and M., Matchless, Bradbury, Douglas, Humber, J.A.P.-Bat, Clyno, Zenith, A.C. Tri-car, Morgan Run-about, and Indian.

Don't you want one of them; if so, you will have to be very handy and let us have your order. Besides these, we have continual deliveries of the same machines all through the year. Orders can be booked for any week in any month. Don't fancy you want one in May, as they will most likely be all sold before then; get on the JUMP NOW, there is no time like the present. You can buy them on Cash, Deferred, or Exchange terms; only, please be handy and let us have your orders. We do not like to lose anything, and we do not like to miss any orders, which will sure to be the case if you come along at Easter. Get them booked now, and you will be sure of them. We have over 300 Two-speed Gear Sidecar Machines purchased for next year's delivery. These are what the boys will want, and if you get your order placed now, you will not be disappointed later when the sun shines.

We are wishful to make terms with those gentlemen who have machines at present, and are looking out to exchange for one of next year's models, and who are prepared to send it along at once and fix up the contract for next year. By doing this they will get rid of the machine while it is in good condition, and get their order booked, and he fixed up re delivery. The matter is then off their mind, and they have no responsibility in regard to keeping the machine free from rust during the winter months. Take a tip from us, and send them along at once; it will pay you to fix up now.

What about that good Second-hand Machine that you are thinking about getting. Now is the time to get them cheap, as we wish to keep the stock as low as possible, so as to find room for the dozens of new machines that we have coming through between now and Christmas. Peruse the following list, and you will be sure to find something to suit you. If you don't see what you want, write us, as it is just possible that we shall have the very thing in, as we are getting them in daily from exchange deals and for sale on commission.

By the by, have you ever noticed the similarity between our advertisement, say, this week, and those of other firms a few weeks hence? One would think that somebody copied us. They do say that "Imitation is the highest form of flattery." However, we don't mind it in the least, feeling sure that the boys will twig it quite soon enough, and give credit where credit is due, and also give their orders to the firm who are UP AGAINST IT, and are out TO TREAT THEM WELL. If we cannot do well for you, no one else can, what with the largest stock in the entire world to go at, and the most up-to-date business system behind us. We can cut out the small man, and save you pounds on the fancy prices charged by the private Motor Cycle Broker, while no other firm or private individual will send you goods, the same as we do, for you to look at, and if you don't like them, let you send them back, and RETURN YOU THE MONEY IN FULL. This game places us FAR AHEAD OF ALL OTHER FIRMS. We are the largest advertising firm in the trade, but this alone would be of little avail. It is the originality of our system of business and straightforward dealings which does the trick, finds us customers and keeps 'em.

What more can you want? If you are not satisfied, you get your money back. If you ARE SATISFIED, all that we ask of you is to TELL YOUR FRIENDS, as we believe that this form of advertising is far ahead of any other, and very much cheaper.

We have now been chipping for over two years, week by week, and still have PLENTY more TO SAY. Our stock of ideas is still green. When these run dry, we will fall back upon the thousand and one satisfied customers that we have in all parts of the world to help us to add to our fame and reputation.

DON'T call round and ask your Local Agent WHAT HIS OPINION OF HITCHEN IS BEFORE YOU SEND YOUR ORDER. Don't ask the Club Critic what he thinks about us. It won't make "tuppence" difference what either one or the other of them think. You cannot be "had," as if you don't like what we send you, you are not compelled to keep it. Send it back WITHIN THREE DAYS, and the deal is off, and you have your MONEY BACK, and have a chance to have a packet with somebody else. Someone might say that Hitchen's cannot do it; if they do it, why don't other firms do it? The answer is, that we imitate no man, while others try to imitate us in this respect, but don't go the FULL HOG, they finish up with EXCHANGING your motor cycle or accessory. We, on the other hand, RETURN THE MONEY PAID IN FULL and ask no questions. Now, boys, what is it to be? Say the word, and it's done.

NEW 1911 MODELS.

P. and M., 1911, two-speed, just in	£56 10
BAT-J.A.P., 5 h.p.	£58 0
SCOTT, 1911, two-speed, just come in	£60 0
TRIUMPH, free engine, just in	£55 0
HUMBER, 1½ h.p., single-cyl., three-speed	£39 0
TRIUMPH, standard, two in stock	£48 15
ENFIELD, chain drive, 1911	£39 0
CRESCENT Car, new, 9 h.p., with hood	£85 0

All above and any other new machine at list price can be bought on the deferred terms, with one quarter down and balance in twelve monthly payments. We are now booking orders for 1912 machines on same terms.

GOOD S.H. MACHINES

All guaranteed running order before leaving Morecambe.

ENFIELD, 1910, splendid order	£27 10
MOTO-REVE, 1911, twin	£30 0
DOUGLAS, 1910	£29 0
MOTO-REVE, twin, 1910, new	£27 0
MOTO-REVE, 1910, twin, fine order	£29 0
MOTOSACOCHE, free engine	£20 0
SIMMS, 1½ h.p.	£11 10
F.N., 1½ h.p.	£15 0
Lady's HOBART, as new, three-speed	£39 10
ENFIELD, 1910, fine order	£28 10
MOTO-REVE, 1910, single-cyl., as new	£22 0
HUMBER, two-speed, 1910	£32 10
HUMBER, two-speed, 1911	£39 0
N.S.U., 3 h.p.	£16 10
BROWN, 1909, 3½ h.p., free engine	£25 0
BROWN, 1909, twin, 5 h.p.	£29 0
BRADBURY, 1910, fine order	£35 0
SINGER, 3 h.p., magneto	£12 10
N.S.U., 3 h.p., M.O.V.	£15 0
REF, twin, 5 h.p., four-speed	£20 0
J.A.P.-CHATER-LEA, 5 h.p.	£22 10
BRADBURY, two-speed, as new	£45 0
BRAITHWAITE, 1909, 3½ h.p., two-speed	£29 0
N.S.U., two-speed, 5 h.p., twin, 1910	£39 0
N.S.U., 4 h.p., twin, two-speed	£29 0
J.A.P.-CHATER-LEA, 10 h.p., racer	£40 0
F.N., 4-cyl., 4½ h.p.	£22 10
ZENITH, 6 h.p., late 1909, Gradua gear	£40 0
J.A.P.-CHATER-LEA, 4 h.p., free engine	£28 0
P. and M., 1910, perfect order	£45 0
BAT-J.A.P., 5 h.p.	£32 10
REF, 5 h.p., fine order	£27 10
REF DE LUXE, two-speed	£35 0
P. and M., 1910, splendid order	£50 0
REF, 3½ h.p., M.O.V.	£15 0
REF, 1910, 3½ h.p., splendid order	£28 0
SIMMS, 2½ h.p., magneto ignition	£12 0
REF DE LUXE, 5 h.p., twin, 1911	£45 0
STEPHEN-CHATER-LEA, 4 h.p.	£20 0
NORTON, 5 h.p., 1910, P. & M. two-speed	£45 0
REF DE LUXE, 1911, as new	£50 0
REF, 3½ h.p.	£15 10
SINGER, 3½ h.p., perfect	£18 10
HUMBER, belt drive, 3½ h.p.	£17 10
MINERVA, two-speed, 1910	£30 0

Many of the above machines can be purchased on the deferred terms, with one-third down and the balance in twelve monthly instalments.

ACCUMULATOR MOTOR CYCLES.

N.S.U., 3½ h.p., twin	£12 10
LAGONDA, 3½ h.p.	£12 0
ARIEL, 3 h.p.	£10 0
HUMBER, 3½ h.p.	£12 0
HUMBER, 2½ h.p.	£10 0
F.N., 1½ h.p.	£10 0
F.N., 2½ h.p.	£12 0
MINERVA, 1½ h.p.	£9 10
HUMBER, 3½ h.p., free engine	£14 0

Any of the above can be had £3 to £4 down and balance at 5/- per week.

S.H. AND NEW SIDECARS.

S.H. CHATER-LEA, cane	£10 10 0
S.H. MORECAMBE, wicker	£4 0 0
S.H. Special, wicker	£4 15 0
S.H. Wicker, openwork	£3 17 8
S.H. Wicker, cheaper line	£3 0 0
S.H. Wicker Sidecar	£1 10 0
S.H. Cane Basket	£2 10 0
S.H. MILLS-FULFORD, rigid	£8 0 0
S.H. MILLS-FULFORD, rigid	£7 10 0
S.H. MONTGOMERY, rigid	£7 10 0
S.H. Coach-built, rigid	£4 15 0
S.H. Wicker, with hood	£6 10 0
New MORECAMBE Canoe	£7 0 0
New MORECAMBE, rigid	£4 19 6
New MORECAMBE, special	£5 19 6

SEASONABLE LINES.

Special Separate Generator Lamp	12/6
Special Bracket ditto Lamp	22/6
S.H. Leather Coats	13/6
Long Waterproof Umbrella Coats	5/11½
Oilskin Breeches	2/11½
100 Motor Cycle Saddles (new)	9/11½
1,000 Brand New Inner Tubes, all sizes	4/11½
Jones' 1911 Speedometer (new)	£2 15
50 Odd Tyres from 13/6 to 17/6 to clear.	
Large Side Bags	5/11½
Swan-neck Seat-pillar	2/9
Special Strong Carrier	4/5½
E.L.C. Plugs, 2/6 size	each 1/1
Parker Self-contained Lamp	15/11½
Sidecar Aprons, ready to fit	6/11½
Special Twist Horn	3/11½
Tube and Belt Cases	5/11½
Rubber Belts, 7½ ft. x 1 in.	5/11½
B. and B. Carburettors, h.b. control, 1911	23/-
Trembler Coils	6/11½
Non-trembler Coils	6/9
S.H. N.A.B. Seat-pillar	7/6
Garner's Whistles, post free	12/6
Tan Gauntlet Gloves, 4/8; lined	4/11½
Butted Tubes, all sizes, brand new	10/6
Triumph Pattern Handle-bars	5/6
Long Handle-bars	4/11½
Leather Gauntlet Gloves	2/11½
1911 F.R.S. Latest Lamps	58/8
1911 Lucas Latest Lamps	55/- and 50/-
1911 Lucas Lightweight Lamps	35/-

State wants, as we have largest stock in the world, and make good allowance for old one off Lucas and F.R.S. Lamps. Silver or ebony finish.

New Leather Coats	£2
Waterproof Suits, complete	12 11½
Covey 1911 Speedometer, new	£3 10
Ajax Heavy Tyre	35/-
MORECAMBE Studded, new pattern	19 11½
Heavy MORECAMBE Studded, new pat.	23 11½
Mabon 1911 Free Engine	£2 5
Magnetos, S.H., all sizes	£3, £3 5s., and £4
Special Bracket Separate Generator Lamp	23/8
F.I.E.N. Magnetos	£3 4 11½
New F.R.S. Generators	7/-
Exhaust Cut-outs	2/11½
Handle-bar Mirrors	2 9 and 4/6
Special H.B. Watch Holders	10/- and 1/11½
New Self-contained Lamp, large size	13/11½
Tubes, all sizes, brand new	8/11½ and 9/11½
Leather and Steel-studded Bands	19 9
S.H. Lucas Lamps, complete	30/-
Carbide Carriers, post free	1/11½
Rubber Goggles	1/3
Brass Exhaust Whistles	2/11½
T.B. Handle Starter	10/6
Lamp Brackets, all patterns	1/11½
Horn Grips	1/11½
Assorted S.H. Carburettors, h.b. control	12/8
S.H. P. and H. Generators, complete	7/6
S.H. Parker's Generators, complete	6/9
New Generators	4/11½
S.H. Whistle Belts, from 1/- to 2 9 per foot.	
Triumph Compression Domes	2/2

New Green Specification List now ready, free.

THIS WEEK'S WANTS.

1911 S.H. Douglas, P. and M., Matchless, J.A.P.-Bat with two-speed, Clyno, A.C. and Morgan Tricars, also cheap machines with magnetos. S.H. Speedometers, Whistle Belts, N.A.B. Seat-pillars, Saddles, Lamps, Horns, Leather Suits, and anything motor cyclist. Cash or Exchange. State what you have. No rubbish, please.

HITCHEN'S MOTOR EXCHANGE CO., LTD.,

Euston Road, MORECAMBE.

Telephone: 112. Wires: Motor, Morecambe.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I. Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II. York and Lancashire.

SECTION III. Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV. Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

SECTION V. Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI. Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembrokeshire.

SECTION VII. Gloucester, Oxford, Buckingham, Berks, Wilts and Hants, Channel Islands.

SECTION VIII. Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX. Somerset, Devon, Dorset, and Cornwall.

SECTION X. Scotland.

SECTION XI. Ireland and Isle of Man.

THE Daily Mail

OFFICE IN FLEET ST.

is only a few yards from our building, where we are holding—

London's Largest Single Exhibit of Motor Cycles.

Visitors up for the Olympia Show should make a point of seeing this great display, and arrange now with us to exchange their present machines for the newest 1912 models delivered at the opening of the new season. We quote lowest prices none can beat, make largest and most liberal cash allowance, and give most complete guarantee, ensuring absolute satisfaction.

ASK FOR A COPY OF OUR TO-DAY'S LIST OF BARGAINS, WHICH INCLUDES—

4575.	3 1/2 h.p.	1911 Standard	BRADBURY	£35 0
4576.	3 1/2 h.p.	1910 Standard	PREMIER	£30 0
4584.	3 h.p.	1911 F.E.	TRIUMPH	£46 10
4587.	3 h.p.	1911 MATCHLESS	.....	£37 10
4588.	3 h.p.	1911 Standard	TRIUMPH	£40 0
4589.	3 h.p.	1911 2-speed	BRADBURY	£42 10
4592.	3 h.p.	1911 F.E.	TRIUMPH	£45 0
4593.	3 h.p.	1911 F.E.	TRIUMPH	£45 0
4594.	2 1/2 h.p.	1911 2-speed	A.J.S.	£30 0
4595.	3 h.p.	1910 F.E.	TRIUMPH	38 Gns.
4596.	3 h.p.	1909 2-speed	P. & M.	£30 0
4277.	1 h.p.	1910 SINGER	Moto-Velo	£22 10
4393.	3 h.p.	1911 CHASE	Pengoot eng.	30 Gns.
4420.	3 h.p.	1911 F.E.	PREMIER	40 Gns.
3594.	1 h.p.	1910 F.E.	MOTOSACOCHE	£22 10
4308.	7 h.p.	1910 2-sp. V.S.	and sidecar	£33 10
4546.	3 h.p.	1911 KERRY	ABINGDON	£40 0
4415.	3 h.p.	1911 Standard	TRIUMPH	£37 10
4312.	3 h.p.	1910 Standard	BAT	£40 0
4229.	8 h.p.	1910 Standard	TRIUMPH	£23 0
4526.	3 h.p.	1909 Standard	TRIUMPH	£45 0
4504.	3 h.p.	1911 F.E.	TRIUMPH	£45 0
4448.	3 h.p.	1911 Standard	BRADBURY	£37 10
4539.	2 h.p.	1910 2-speed	F.N.	£26 10
4502.	3 h.p.	1908 Tourist	REX	18 Gns.
4511.	3 h.p.	1909 Standard	TRIUMPH	£30 0
4527.	3 h.p.	1911 KERRY	ABINGDON	£33 0
4533.	2 h.p.	1911 HUMBER,	Armstrong	3-speed gear
4298.	7 h.p.	1910 Twin	REX DE LUXE	£35 0
4361.	3 1/2 h.p.	1911 F.E.	BRADBURY	£45 0
4474.	3 h.p.	1910 Standard	PREMIER	£30 0
4370.	2 h.p.	1911 Standard	DOUGLAS	£32 10
4372.	3 h.p.	1911 2-speed	N.S.U.	£37 10
4425.	3 h.p.	1911 F.E.	PREMIER	40 Gns.
4552.	3 h.p.	1907 TRIUMPH	.....	£23 10
4571.	3 h.p.	1911 BAT	and sidecar	£40 0
4287.	3 h.p.	1909 TRIUMPH	.....	£32 10
4481.	5-6 h.p.	1911 4-cyl. F.N.	.....	£28 0
4542.	3 h.p.	1910 Standard	PREMIER	£30 0
4432.	5 h.p.	1909 Twin	REX DE LUXE	£32 10
3410.	3 1/2 h.p.	1908 N.S.U.	.....	£18 10
3436.	3 h.p.	1909 FAFNIR	.....	£20 0
4492.	2 1/2 h.p.	1910 DOUGLAS	.....	£26 10

WAUGHOPES

9, SHOE LANE, FLEET ST., LONDON, E.C.

Telegrams: "Opifcer, London." Telephone: 5777, Holborn.

A LAND MARK TO HELP YOU TO FIND OUR SHOW.



NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear on the advertisement. Replies should be addressed, "N 000, c/o 'The Motor Cycle,' Coventry"; or if "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown person may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pay carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Iliffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard this silence as an indication that the goods advertised have already been disposed of. Advertisers often receive many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

NEW 1911 P. and M.'s, and second-hand 1909 P. and M.'s ready for delivery.—Walkers, Fishburn, Ferryhill.

PHELON and Moore, new 1911 models, new 1910 ready for immediate delivery.—Walkers, Fishburn, Ferryhill.

1911 Touring Model 3 1/2 h.p. Humber, perfect condition, with accessories; £38.—S. F. Hill, 15 Cleveland Parade, Darlington.

1910 Premier. White and Poppe engine; 1911 Hudson, 2 1/2 h.p., J.A.P. engine, 3-speed gear; offers—Swan, New Club, Darlington.

STANDARD Triumph, late 1909, complete with all accessories and in beautiful condition; £32.—Munro, Sneyd, Windermere.

BRADBURY, 1909, perfect condition, tools, spares, trial and expert examination invited; £23/10.—Moon, Westbourne Villa, Darlington.

1910 Moto-Reve, 2 1/2 h.p.; bought sidecar machine, expert examination allowed; no reasonable offer refused.—Dawson, 31, Percy St., Stockton-on-Tees.

SCOTT, 1910, in good condition, splendid hill-climber, reliable; expert examination invited; all accessories; buying new model.—Nelson, Kenning, Kendal.

2 1/2 h.p. Minerva, h.b.c., B. and B. carburettor, adjustable pulley, new belt and tyres (hacks studded) perfect riding order; bargain, £12.—Bailey, 15a, Old Elvet, Durham.

1911 3 1/2 h.p. Standard Triumph, new June, perfect condition, lamp, horn, exhaust whistle, new and spare belt, 4 valves, tyres new; £39, a bargain.—Walton 67, Grange Rd., West Hartlepool.

6 h.p. Twin Antiope, 6-jet Amac, Brooks, Mabon, new tubes, new Michelin steel-studded back, h.b.c., good sidecar machine, fast, reliable, climb anything; £20/10 or near offer.—Manners, 95, Waterloo Rd., Blyth, Northumberland.

SECTION II.

York and Lancashire.

CLYNOS, Clynos.

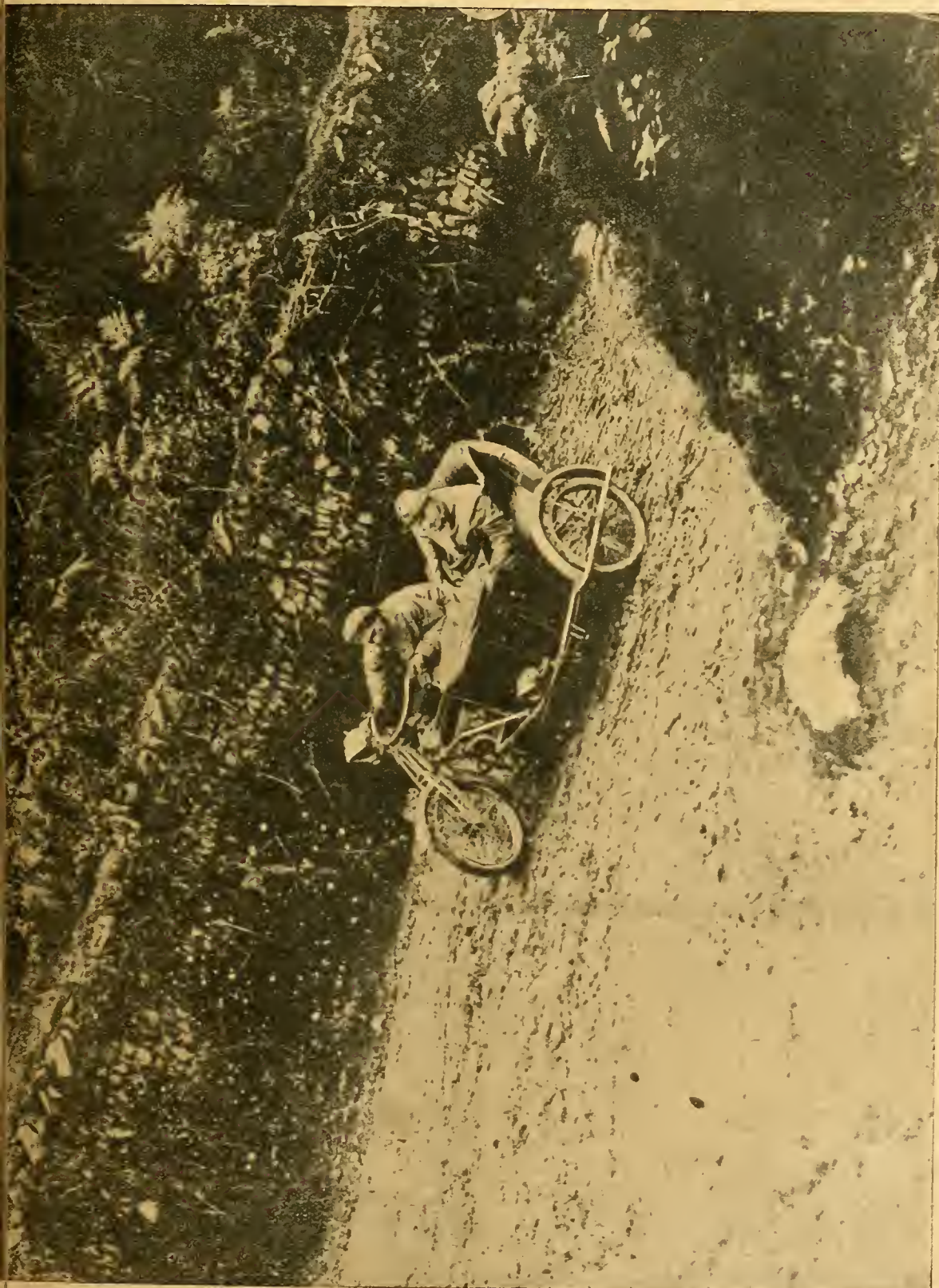
SOLE Leeds and District Agent, C. Potter, 21 Leicester Grove, Leeds. Olympia, Stand 83.

3 1/2 h.p. Rex, Amac, h.b.c., low; a bargain, £12, 92 near offer.—A. Pullen, Wigginton, York.

5 h.p. N.S.U., 1909, in splendid condition, and fast, £26, offers.—Deaham, Swires Terrace, Halifax.

REX, 3 1/2 h.p., torpedo tank, B. and B. carburettor, h.b.c.; £26/10.—Shaw, 89, Warwick St., Middlesbrough.

ROVER, 2 1/2 h.p., m.o.v., Palmers, engine, belt, every thing guaranteed perfect order, good climber, fast genuine bargain, £12.—8, Ayresome St., Middlesbrough.



The CLYNO SIDECAR on PORLOCK—at the second bend.

1912

THE REX

STAND No. 73

RELIABILITY

IS THE

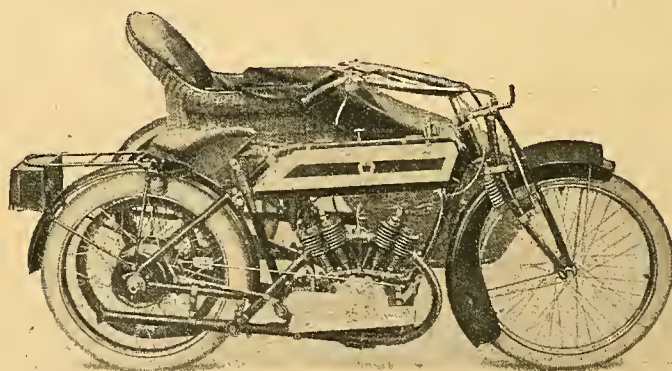
REX KEYNOTE

STAND No. 73

1912

Air-cooled Models.

	Price.
4 h.p. Speed King, single cylinder ..	£46 0 0
4 h.p. Tourist, do. ..	£46 0 0
4 h.p. de Luxe, do. ..	£56 0 0
6 h.p. Speed King, twin cylinder ..	£50 0 0
6 h.p. Tourist, do. ..	£50 0 0
6 h.p. de Luxe, do. ..	£62 10 0
4 h.p. Sidette de Luxe, single cylinder ..	£70 0 0
6 h.p. Sidette de Luxe, twin do. ..	£75 0 0



The 6 h.p. Twin de Luxe Sidette.

TWO LEAD

The 4 h.p. Water-cooled de Luxe Sidette

The Sidettes are the ideal machines for passengers, fitted with side doors—made of close woven case with double C spring and Coil springs. This makes

CATALOGUES SENT POST FREE

The REX MOTOR MFG

RANGE

1912

Water-cooled Models.

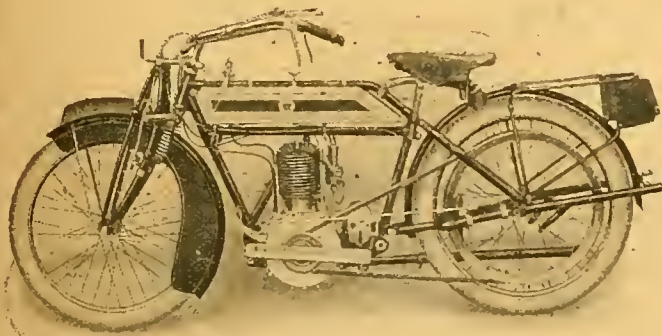
	Price.
4 h.p. Tourist, single cylinder	£50 0 0
4 h.p. de Luxe, do.	£60 0 0
4 h.p. Sidette de Luxe, single cylinder ..	£74 0 0
Tourist Models fitted with Cone Clutch, £6 10 0 extra.	
do. do. Hand Starting Device, £1 0 0 extra.	

All de Luxe Models are fitted with Two-speed Gear and Free Engine (made under Roc Patents) as standard.

Bore and stroke of new 4 h.p. $84\frac{1}{2} \times 95$ m/m, c.c. 532

“ “ “ “ 6 h.p. $77\frac{1}{2} \times 95$ m/m, c.c. 896

Valves on all Engines, side by side, M.O. Long and thoroughly efficient silencers with Cut-out fitted. High and Low Gears, and Rear Band Brake levers are now worked from front of foot-board. Magneto handle-bar control to all Models. Both Automatic drip and force pump lubrication.



The New 4 h.p. Single-cylinder Rex.

NG LINES.

6 h.p. Twin Air-cooled de Luxe Sidette.

The Bodies are of exclusive design and are exceedingly strong. The Chassis is sprung Sidette equal to an up-to-date car for comfort.

SEE ON APPLICATION.

D., LTD., COVENTRY

STAND No. 73

RELIABILITY IS THE REX KEYNOTE

STAND No. 73

1912

Turin Exhibition.

TWO GRAND PRIX

have been awarded to

Rudge-Whitworth Ltd.

- (a) for Cycles;
 - (b) for Motor Cycles and Motor Wheels.
-

The New Illustrated Art Catalogue of 1912 Models ready Nov. 18th.

Apply at once for it or you may be too late.

Orders for 1912 Models are flowing in, and our order book is rapidly filling up.

The 1912 output of Rudge Motor Bicycles will be large, but it is being heavily booked ahead.

Deliveries of the Multi-Speed Model will begin in February; all others are now ready.

Rudge-Whitworth, Ltd. (Dept. 600), COVENTRY.

LONDON DEPOTS, where demonstrations are arranged—230, Tottenham Court Road, W.
23, Holborn Viaduct, E.C.

THE MOTOR CYCLE

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Nov. 16th, 1911.

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Subscription Rates: Home, 6s. 6d.; Canada, 8s. 8d.; Foreign, 13s. per annum.

Agents for Australia: Gordon and Gotch, London, Melbourne, Sydney, Brisbane, Perth, Hobart, Launceston, Wellington, Christchurch, Auckland, etc. South Africa: Central Newsagency, Ltd.

ADDRESS: 20, TUDOR STREET, LONDON, E.C.

The Olympia Show.

THIS, the second of our Show issues contains the annual Buyers' Guide, a feature which is of the greatest interest to motor cyclists, coming, as it does, on the eve of the opening of the Olympia Exhibition. Particulars of every machine which will be on show next week will be found in the Guide. In addition there are others which for various reasons will not be exhibited; this feature, therefore, forms not only a guide to the Show, but a complete list of motor cycles on the British market, excepting the lesser known locally-built machines.

Visitors to Olympia should pay particular attention to the variable gears; more of these devices will be in evidence than in previous years. A few methods of springing the rear wheel will be on view; these should be carefully examined as a development of the future. One or two examples of a laudable desire to throw off the trammels of the usual splash method of lubrication will be in evidence as a sign of what may be eventually standardised.

The growing tendency towards the single pedal or kick starting mechanism, particularly in connection with variably geared machines, will be very noticeable; of course, it is not a novelty, but many more makers have adopted it for 1912 than previously. Among accessories the all-round improvement in adjustability of carburettors, both with regard to the regulation of air and petrol and general accessibility and the further protection of magnetos, should be especially noted. Visitors to Olympia who make a hurried survey are apt to miss the Gallery. We recommend our readers to make sure they see these exhibits, which will be composed almost wholly of accessories, among which will be the new carburettors and magnetos

A.C.U. 1912 Programme.

IN framing its 1912 competition programme, the A.C.U. has had two points to consider—the support of the trade and the avoidance of interfering with provincial club events. Consequently the 1912 programme referred to last week has been considerably curtailed. The Quarterly Trials, it will be noticed, have developed into two one-day events in the spring and autumn; the inter-club championship has been dropped, and no mention is made of the annual race meeting.

No one will regret the abandonment of the inter-club championship. It is but a recently established event, which undeniably clashed with a most important inter-club function, which was actually the inter-club championship. We refer, of course, to the M.C.C. inter-team trial, founded seven years ago, and always well supported. The annual race meeting, however, should not be abandoned. Surely the Union does not intend to give up its one and only track event, which has been run uninterruptedly for nine years, and in which perpetual challenge cups, given nine years ago, are competed for.

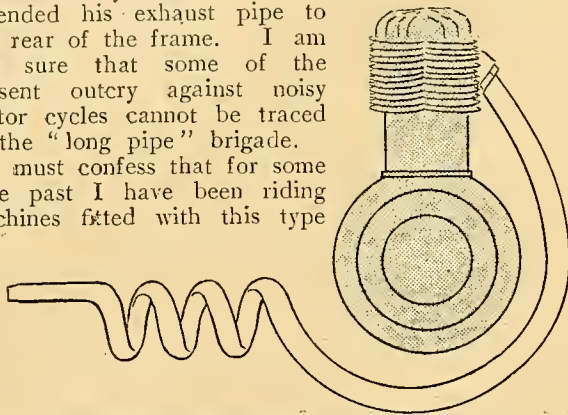
The meeting was first run by the A.C.G.B.I. under N.C.U. rules, and dates even prior to the time when the N.C.U. gave the control of the sport and pastime to the A.C.G.B.I. (now the R.A.C.), which in turn delegated it to the then A.C.C.

Lastly, reference must be made to the Six Days' Trial. All that is known about this event is that it is to be run from a centre. This centre, it is reasonable to assume, will not be in Yorkshire. But we must urge that it be found in a district where hills are many and the course is of the stiffest. The same remarks apply to the two one-day trials.

NOTES ON T.T. SILENCERS.

THIS heading may appear rather misleading, as it will be remembered that this year's T.T. regulations demanded merely a long pipe leading to the rear of the frame, no actual silencer being required. It is concerning this long pipe that these remarks are penned. Firstly, let me say that the new T.T. regulations have had an evil effect, in this way. A certain class of speed merchant who goes tearing about the country with both ends of him at about the same level is apparently under the impression that noise means speed. The class of rider I refer to, with the excuse of the Isle of Man regulations, immediately discarded his reasonably effective silencer, and in some cases extended his exhaust pipe to the rear of the frame. I am not sure that some of the present outcry against noisy motor cycles cannot be traced to the "long pipe" brigade.

I must confess that for some time past I have been riding machines fitted with this type



The longer the exhaust pipe, the more silent the engine.
Above is an amended design of spiral exhaust pipe which should prove effective.

of silencer, and have seen it in most of its many and various forms.

The two most successful forms that I have used so far consisted (1) of a pipe extending to the rear wheel, blocked up at the end, and drilled with 3-32in. holes for a considerable part of its length (probably 18in.) When throttled down this machine was extraordinarily quiet, and when opened out made only a pleasant sound to which no reasonably-minded road user could take exception. No perceptible increase of power was noticed when the end was cut off, giving a clear exhaust, so that back pressure must have been practically non-existent. The second silencer arrangement was on a twin-cylinder engine. This had the ordinary pattern separate exhaust pipes and silencers, the only outlet from the latter being along a pipe connecting the two and extending to the rear hub. The engine never got hot, an engine knock was less frequent than a puncture, and at slow speeds the exhaust was practically inaudible.

Interesting Effect of Saw-cuts.

It is curious to note that the exhaust noise from an open-ended pipe can be considerably decreased by drilling a quantity of holes, or making saw-cuts near the end of the pipe. The diameter of the pipe considerably affects both the power of the machine and the noise, and in this respect I should like to mention that a great increase of power can be procured by fitting enormous pipes permitting rapid expansion of the burnt gas. It is possible with a pipe of correct diameter and length to get a suction effect in the pipe,

caused by one charge leaving the pipe at high velocity, so causing a partial vacuum and helping out the succeeding charge.

An Actual Experience.

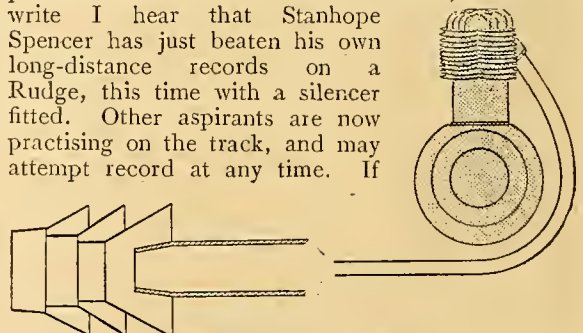
Recently while striving after this effect I reduced the diameter of my exhaust pipe from $1\frac{3}{8}$ in. to $1\frac{1}{4}$ in. outside measurement, and though the pipes were of the same length and shape I was astonished at the pronounced increase in noise. At first this struck me as curious, but the explanation is very simple, for owing to the reduction in diameter the gases leave the pipe at a higher velocity, and so cause a louder explosion. I am inclined to think that the reduction in exhaust pipe diameter has slightly increased the power of my engine, but it has been fitted so recently that I have not had time to make certain of the fact. I do not wish to advocate a general reduction in the diameter of pipes, but merely to call attention to the fact that they can be made too large as well as too small.

It does not appear to be generally known that with a properly designed silencer an engine will produce more power than when exhausting direct into the air. This fact was established at the one and only real silencer trial in Paris in 1907, and proves that a user of an exceptionally noisy machine is very inconsiderate, for he is gaining nothing. While there is such an outcry against noise, why are not trials of this description organised here? Surely we are sufficiently in need of an efficient motor cycle silencer. Only recently we heard that a certain well-known rider in tuning up at Brooklands petered out after one lap when using a really silent silencer.

The Good Effect of the Brooklands Rule.

Let us hope that the new Brooklands regulation, requiring all motor cycles to be fitted with efficient silencers for racing purposes, will induce our designers to pay more serious attention to this all-important matter.

I should like to point out that the Brooklands silencer rule has not affected the speed, as was predicted. The Humber lightweight records were accomplished since the rule came into force, and while I write I hear that Stanhope Spencer has just beaten his own long-distance records on a Rudge, this time with a silencer fitted. Other aspirants are now practising on the track, and may attempt record at any time. If



Suggested "injector" silencer.

these records are possible, why not fit efficient silencers as standard to all touring machines, and do away with the cut-outs, which are bringing motor cycles into evil repute?

There is much room for experiment in the design of the final outlet for the gas, and from my own

Notes on T.T. Silencers.—

experience I may say that a swaged down outlet causes quieter exhaust, but produces a whistling sound, while a flattened end causes still further reduction in noise and does away with the whistle.

I believe that a very efficient silencer could be constructed on the injector principle, *i.e.*, with a funnel or series of funnels fitted over the end of a long exhaust

pipe, with their large ends facing forwards. By this means the gases would be gradually cooled, and at the same time no back pressure produced. If anything, there should be an opposite effect. I am told that a silencer on these lines is being marketed, but I do not know its name. I should, however, be interested to hear of it and its effect on noise and power.
H.D.T.

The Luxury of a Spring Frame.

DISMOUNTING from a rigid framed machine we were riding the other day, we were attracted by a smart-looking spring frame motor bicycle leaning against the pavement, and the owner, by some means learning our identity, pressed us to try the machine. We did, and never remember a more convincing testimony to the luxury of a spring framed mount. Instead of the jolting we had experienced on the single-cylinder rigid framed mount every time a pothole in the road lay in our path, the spring framed mount glided over the roads, no matter whether they were rough or smooth, absorbing the road shocks in a truly surprising manner. That machine was the P.V., a comparatively little known make, which made its appearance about Show time last year, and, hearing that the machine was to be exhibited at Olympia, we arranged with the makers a more extended trial to satisfy our cravings for comfort, so that we are in a position to speak from actual experience.

The machine is illustrated on this page, and it will be obvious at a glance that the P.V. does not possess the disadvantage of many spring framed machines, *viz.*, unsightliness. The suspension of the front portion of the machine can well be left to the Druid forks; the springing of the rear wheel is the novel point. Around the seat tube long spiral springs are mounted. These springs control the movement of a pair of stays, at the opposite end of which the rear axle is supported. The stays are hinged at the point at which the ordinary rear stays meet.

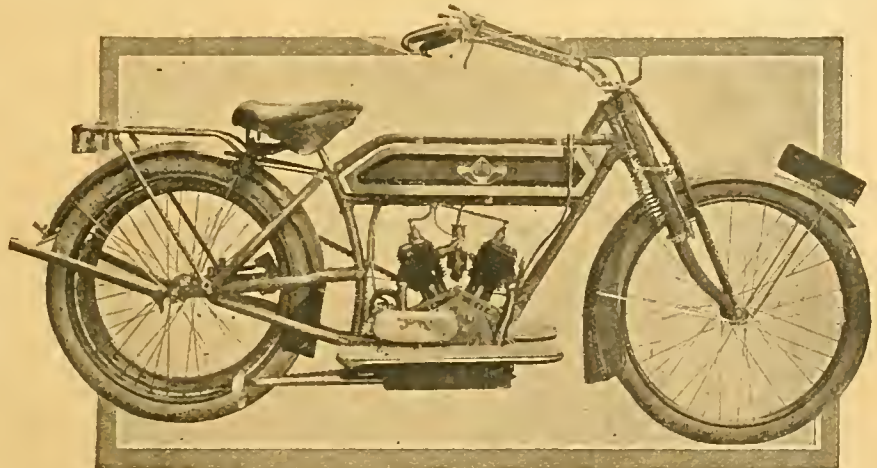
Spring Frames and Spring Seats—the Difference

This design cannot be compared with a spring seat pillar. With a spring frame the rider remains practically motionless, whereas in the case of a spring seat pillar—which admittedly is a step in the right direction—the rider is constantly moving up and down. The engine fitted to the P.V. is the new $3\frac{1}{2}$ h.p. m.o.i.v. twin J.A.P., with cylinders 60×76 mm., and this little store of compressed energy largely conduces to the extreme comfort of the machine. By that we mean that the engine is beautifully balanced, besides which the machine is a hill-climber of exceptional merit, and speedy at that.

Altogether we were very much impressed with the running of the P.V., and any reader who may be dis-

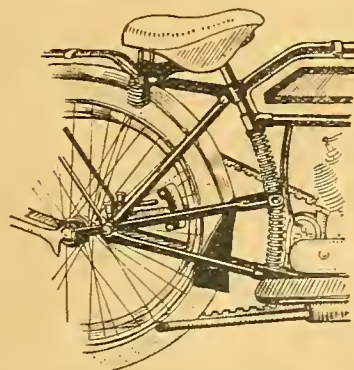
satisfied with the comfort of his mount would do well to try the machine under review. It is an object lesson in itself to glance down whilst riding the P.V. and observe the action of the wheel-supporting stays. Though the rider is unaware of it, since none of the jolts and jars occasioned by road inequalities are transmitted to his spine, the springs are never still a moment. The member of our staff who rode this machine has no hesitation in saying that it is the most comfortable of the forty-six different motor cycles he has sampled this year.

Other features of the P.V. include a dropped top tube giving a low saddle position, handle-bar con-



The 1912 4 h.p. twin-cylinder P.V.-Jap with sprung back wheel.

trolled magneto, and rubber-covered footboards. The silencing arrangement is most effective. The exhaust first enters the large-sized box under the right footrest, and the burnt gas is afterwards conducted



Showing details of the P.V. springing mechanism.

rearwards along a short spout-ended pipe. At low speeds the exhaust is practically inaudible, yet the engine remains comparatively cool on long non-stop runs, and seldom, if ever, knocks. Messrs. Seale and De Becker, Ltd., 162, Gt. Portland St., W., are the sole selling agents for the United Kingdom.

OCCASIONAL COMMENTS

G. Ixion

Clean Crank Cases.

A valued correspondent, who is a stickler for detail perfection, writes anent the above to say that there are many engines which cannot be cured of their dirty oil leaks, either by machining the surfaces, anointing the joints, smearing the faces with shellac, or inserting asbestos or paper washers. A common trouble is excess of pressure in the crank case, and if the oil deluge be checked at the faced joints, it will be exaggerated at the tappet holes. He believes that many of the crank case release valves on the market are efficient only at one speed. At any rate, he claims to have cured several engines, infamous for this propensity, merely by adjusting the lift of the non-return valve, and he personally recommends a very reduced movement for the ball, *e.g.*, $\frac{1}{32}$ in. There is obviously a great deal of sense in this. These tiny balls must be ruthlessly flung about at high speeds, and it is obvious that they may "chatter" at one speed, and be held almost constantly against their stops at other speeds—especially at those higher speeds beloved of friend Gibson's bugbears, when oiling is frequent and free. If the pressure be sufficient to hold the valve permanently shut against the egress of compressed air (or "oily fog," as somebody calls it), the pressure may well drive oil out of the most workmanlike joint. What is to be recommended—a double valve, an entry of wide bore to the valve, a small lift, or what? I leave it to the makers to experiment. I will only say that at present there are very few makes of engines that are clean by nature, without prolonged faking. I know a man who last spring paid upwards of £60 for a 1911 model, which was the worst oil-finger I ever encountered.

Side-slip.

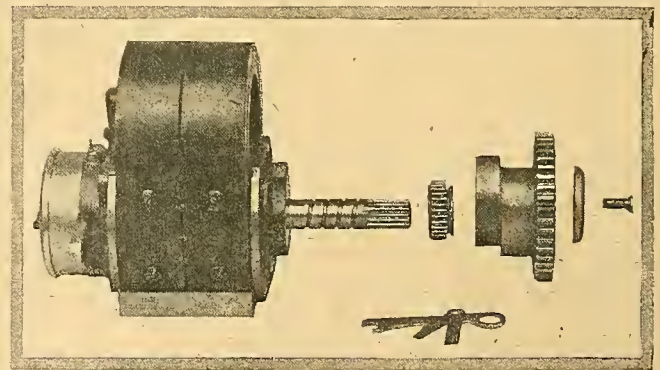
I sometimes fancy I may begin to call myself an old hand at our pet game, but within the last month or so I have made two discoveries about side-slip that are new to me. The first is that one of my machines was a great offender on grease with the saddle well back, as I usually rode it; I then lent it to a friend, who set the saddle right forward, as he was shorter in the arm. Taking the machine out without readjustment, I found it rode absolutely steadily over filmed tramlines. The man who slithers may therefore derive relief by experimenting with his saddle position. Incidentally, this experience explains a series of events which upset my pride vastly some years ago. I always fancied myself on grease, but in a certain trial, when the road surface was at its "vaselinest," I could not keep my machine straight, although several comparative novices steered a bee line, and mocked me uproariously. Query: Had I got my saddle too far astern?

The other discovery relates to wide handle-bars. I usually employ a pair of gigantically wide dropped bars, and with them I am at times rather daring around

greasy corners. Exchanging them for the usual narrow and demure upturned tourist types, I found myself slithering with the worst of them. For this winter, gentle reader, watch for a short, portly, middle-aged rider of fourteen stones careering at highly illegal speeds over the worst grease, his saddle right forward over the pump handle, and his arms akimbo over a pair of 4ft. bars. When you sight this astounding phenomenon, you will know you have solved the interesting puzzle of "Ixion's" identity.

Magneto Drive.

I wrote some while ago of the need for an improved method of adjusting the magneto timing, and specially emphasised the dexterity needed to obtain a very close adjustment, and the possibility of the friction-held sprockets and pinions to slip. These defects were admittedly small, but perfection is composed of a multitude of refinements, and the defects in question are a far greater nuisance to the average rider than to a select band of experts. The accompanying reproduction shows that one firm at least has endeavoured to eliminate these imperfections. The illustration re-



Details of the Rudge magneto timing, similar to the Vernier micrometer adjustment.

presents the Rudge 1912 drive. The spiral groove cut on the spindle is designed to conduct excess of oil away from the armature. The driving sleeve is an integral part of the axle, and has fourteen teeth or flutings cut on it; on this is threaded a driving pinion with thirty-one similar teeth or flutings, which has a little flange enabling it to be picked off by the finger-nail or a knife-blade during adjustments. The flutings afford a range of 434 settings, *i.e.*, adjustments to less than one degree. There is no springing, prising off the pinion, to be done, and the parts cannot change position when once adjusted, as is the case with the ordinary taper and lock-nut. [The Simms Co. were exhibiting a micrometer adjustment at Olympia last week, and A. H. Hunt showed a similar contrivance last year.—ED.]

A REDUCING TRANSMISSION GEAR.

An Interesting Design having Possibilities for Motor Cycle Use.

THE main characteristic of this invention, which was introduced some years ago, is a form of constant wedging action of the peripheral engagement and release of the eccentric rings, which offers the necessary resistance to slip, the noise and expense of spur gear being eliminated.

In the illustration a driven disc D is provided with a trio of rollers B, carried by the pins A. Each roller B is embraced by a wide tempered steel ring E, approximately two millimetres in thickness, and riding loose on the rollers. There is a driving sleeve C, and a stationary circular containing-case F, both of which exert pressure against opposite sides of the rings E, so being spaced that they compress the rings out of round for about one half of a millimetre. It is further to be noticed that the driving sleeve C is borne solely by the rings E. An apparatus upon this plan has been constructed whereby the sieve turns at 10,000 revolutions per minute with the disc D rotating at some 825 revolutions, immunity from any tendency to slip being claimed by the manufacturers.

COCKERMOUTH MOTOR CYCLISTS.



The solo rider is T. W. Hall (who rode in the Isle of Man races) on his Bradbury. The occupants of the sidecar are Mr. and Mrs. R. Wigham on their 3 1/2 h.p. L.M.C.

This style of gearing constitutes an epicycloidal train of friction wheels wherein the compensated elasticity of the rings E is adapted to impart rolling friction. I am inclined to believe that such a system would work well when applied to the motor cycle, and by the exercise of a little ingenuity it could be disposed to form either part and parcel of the engine or the rear hub, as might be found most convenient. The mechanism is undeniably compact, it possesses but few parts, is weather-proof, and there is little liability to get out of order.

ENGINEER.

A COMPLETE TOURING KIT.

A SIMPLE HOME-MADE VALISE.

FOR the benefit of tourists, I venture to describe a kit which is the outcome of twenty years' experience in motor cycle touring and military camping. The main idea is a canvas or holland roll, like a tool roll. Open, it measures 12in. wide x 17in. long, and rolled has a girth of 15in.; weight, 2 lbs., with two pairs of socks inside. I always keep this packed ready for a start at a moment's notice. There is a named and buttoned pocket for each article.

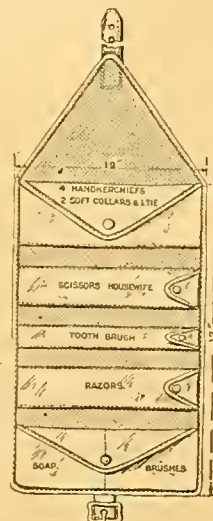
This was made for me by a little girl about twelve years old, to show her skill with the needle, so nothing very elaborate is needed.

I bought the thinnest pair of pyjamas obtainable, and a flat rubber sponge in a canvas bag—the mackintosh ones wear through so soon.

PACKING.—Place the kit at the end of the pyjamas duly folded and extended. It then forms the nucleus of a very compact and tightly rolled bundle. A small towel is rolled outside, and an old pair of evening shoes go under the strap. Weight, 4 1/2 lbs.; length, 12in.; girth, 20in. This fits into a black japanned bag known as the "Ark," and made by Lycetts. It resists wet, and does not absorb dust like canvas. It is strapped to the carrier, and remains there for the duration of the tour. On arrival, undo one all round strap, extract your "swag," and take it indoors clean and free from dust. At a pinch I can include a pair of grey flannel trousers, and can then tour in comfort for an indefinite period, having the necessities for a week-end or Bank Holiday when shops are closed or otherwise inaccessible; for a longer period I should have to buy a few things or get some washing done.

The point is that the packing can be very much closer when everything is rolled instead of folded. Likewise, the packing and unpacking every morning and evening, usually such a bugbear, are reduced to a minimum, and having a named place for all small articles ensures everything being brought away from each stopping place. Many a time have I reached home to find on unpacking my kit that I had left something behind.

TOURIST.



Letters To the Editor

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 26, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Hints on Lubricating the N.S.U.

[6044].—With regard to the letters that have recently appeared on this subject, by simply oiling my gear with thick oil I find I do not get any oil working from it. A delay of fifteen minutes once in a couple or three months to take out the clutch is amply repaid in smoothness and ease of running. Blacklead is sifted into the oil and smeared all over the clutch parts, and then grease pressed into the gearing part. I used to find the latter part almost dry after a short time if only oil were used, but the grease keeps it in fine condition for months. The oil hole provided certainly allows oil to be injected into the gearing part (where I do not require it), but not into the clutch itself unless the whole of the back part is very much over-oiled, when the clutch gets the overflow. My gear never grips suddenly with the blacklead lubrication, nor do I think it slips so readily when on top gear.

J. T. G. PHILIPS.

An American Lamp Hint.

[6045].—I have gathered from previous issues that a great deal of trouble is experienced in the maintenance of a good light for winter, and it occurred to me that the following might be of use to your readers.

A small bandful of absorbent cotton or waste placed on top of the carbide for the water to drip on before reaching the carbide will cause the flame to burn as steadily as gas from a Presto-lite tank.

The cotton should be moistened when put in to get ready service.

I have been told that two ounces of peroxide of hydrogen H_2O_2 added to one quart of soft water makes an excellent liquid for the generator, and that it almost doubles the light.

Virginia, U.S.A.

FRANCIS C. TURNER.

A Light Belt-driven Quad.

[6046].—Along with others I have been experimenting with a light quad-car to carry one person, as I am a great believer in this sort of machine for many purposes. I have adopted for preference a 4 h.p. water-cooled Fafnir motor which is placed car fashion in front with radiator and bonnet. Motor drives by chain to counter-shaft, on which is fixed a substantial leather-faced cone clutch to give free engine. This clutch is worked by pedal like that on a motor car. Back wheels are driven by side belts (Whittle). Back axle is mounted on single elliptical springs with long shackles, and so is free to move backwards and forwards, but in normal condition is held back by a strong coil spring which always keeps the driving belts at the right tension. For simplicity and lightness I have adopted tiller steering. A foot accelerator works the throttle. A simple bucket seat or any kind of light body can be fitted. The weight of the machine complete is $2\frac{1}{2}$ cwt. The frame is made of ash, and reinforced with steel flitch plates. The tyres are 26in. x 24in. I consider this machine can be made and sold for £55, and show a reasonable profit. I should be pleased to show it to any of your readers in this district (Southport) who may wish to communicate with me.

J. COOP.

B18

A Farlow Bank in the Manchester District.

[6047].—Having seen letter 6002, headed as above, I may state that I accompanied Mr. Geo. H. Shaw on the day that he failed at the second attempt. I was riding a $3\frac{1}{2}$ h.p. two-speed Bradbury and sidecar, and I climbed the hill with a passenger until I was within twenty yards from the top, when my machine stopped, owing to the slippery state of the surface. I immediately re-started and reached the top without further trouble.

As Mr. Shaw states, the first hundred yards of the hill make a gradient of about 1 in 4. I had never seen this hill until the day of the performance.

RUPERT WHITWORTH.

The Suggested Midland Racing Track.

[6048].—With reference to the proposal for a circular track for motor cycle racing in Birmingham, I may say that I was the instigator of this idea, and knowing the sporting proclivities of the Birmingham public, and also the fact that it is in the centre of the motor cycle manufacturing district, I think there is every hope of a track of this description proving a big success in the Midlands. What I would like to propose is, that a meeting of the manufacturers and all interested should be called at Olympia during the Show week to discuss this matter fully. I may say that many of the manufacturers to whom I have mentioned this matter promise financial support, so that if it is fully discussed at the Show, I should think there would be no difficulty in getting the scheme to work.

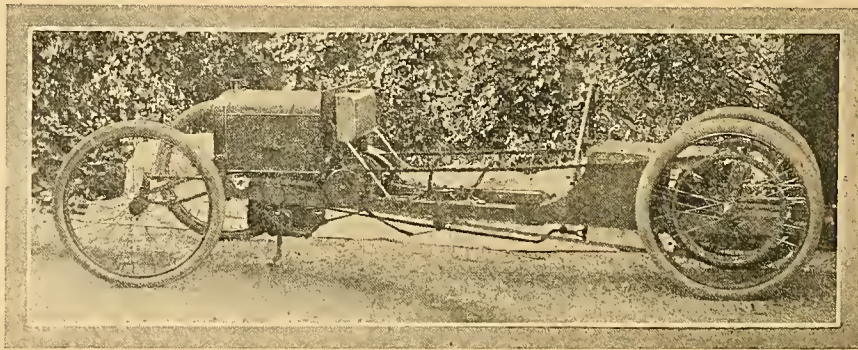
FRANCIS A. McNAB.

Up Edge Hill on a Single-speed Sidecar.

[6049].—The letter from Mr. W. G. Bower, of Zenith Motors, Ltd., in your issue of the 26th ult., seemed to me to be quite uncalled for.

I take it that the Triumph Co. had nothing to do with Mr. Brandish's attempt to climb Edge Hill single-gear.

However, since Mr. Bower has chosen to write in this strain, it would be interesting to recall how Zenith-Gradua



Novel design of spider quad referred to by J. Coop.

machines fared in the last T.T. race, which was admittedly the most severe test that the variable gear has yet experienced. If I remember rightly they were not placed very high in the list, whereas the single-gear Triumph secured the first four places of the single-cylinder machines.

TRIUMPHITE.

'CLIPPER' EXHIBITS AT OLYMPIA (STAND 25).

AMONGST THE CROWDS AT OLYMPIA

Motor Cyclists will be on the look-out for anything and everything new in the way of Motor Cycle equipment.

ALL ARE INVITED TO STAND 25

where the Clipper Tyre Co. Ltd., will have a unique display of their Motor Cycle Tyres and Accessories, Repair Outfits, Motor Clothing, General Rubber Goods, Wood Rims, etc., etc.

MAKE A POINT

of inspecting the Reflex-Clipper "Ideal" Tyre for Motor Cycles—the tyre that is built on Car Tyre lines, and which, for speed, hard wear, and security, stands high in the public favour. Two new tyres have been added to this class, viz.: the Clipper (Rubber Studded) and the Clipper (Ribbed Pattern), forming a trio of tyres equal to every demand.

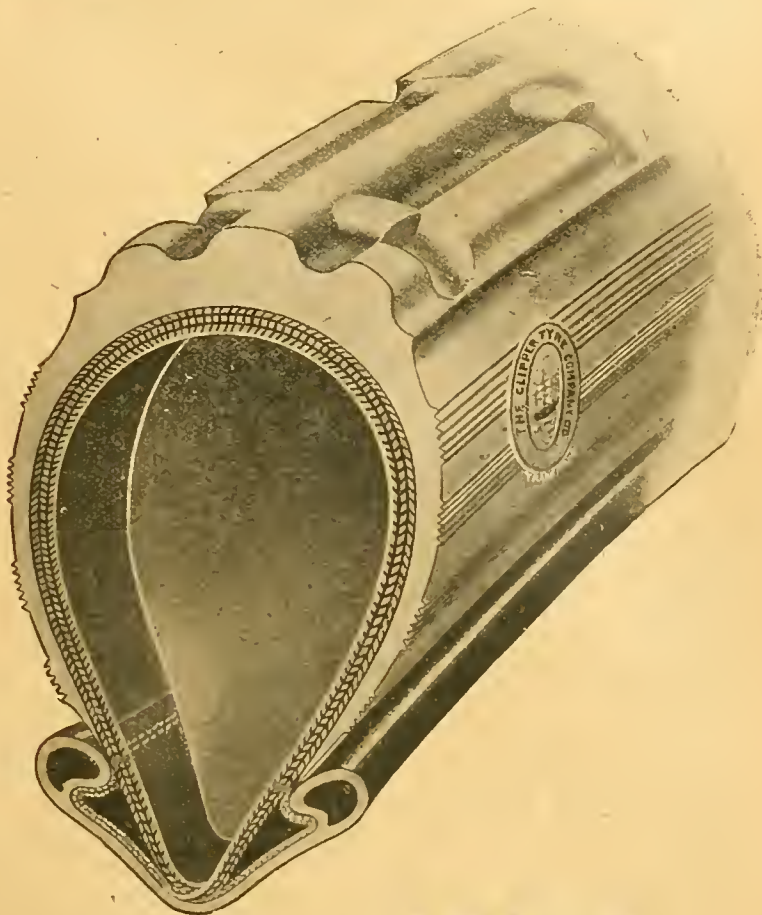
ASK TO SEE "CLIPPER" DETACH- ABLE TUBES (Butt Ends).

This latest of time savers bids fair to revolutionize tyre repairing. Can be drawn clear of the cycle repaired and replaced without removing the wheel—a great saving in time and labour.

"CLIPPER" BRAND ACCESSORIES.

This famous Line covers the whole range of necessities for Cycle and Motor Cycle Tyre repairs and replenishings. A variety of new features will be found, including the "SILENT" REPAIR OUTFIT for Motor Cycles. This is a leather roll whose numerous pockets contain every conceivable necessity for tyre repairs. Folds up surprisingly small, and is noiseless—compact and highly efficient. These are but a few of the items contained in the Clipper Company's comprehensive range on view at the Olympia Show.

**REMEMBER THE DATE—NOV. 20—25
AND THE STAND—No. 25.**



STAND No. 25.

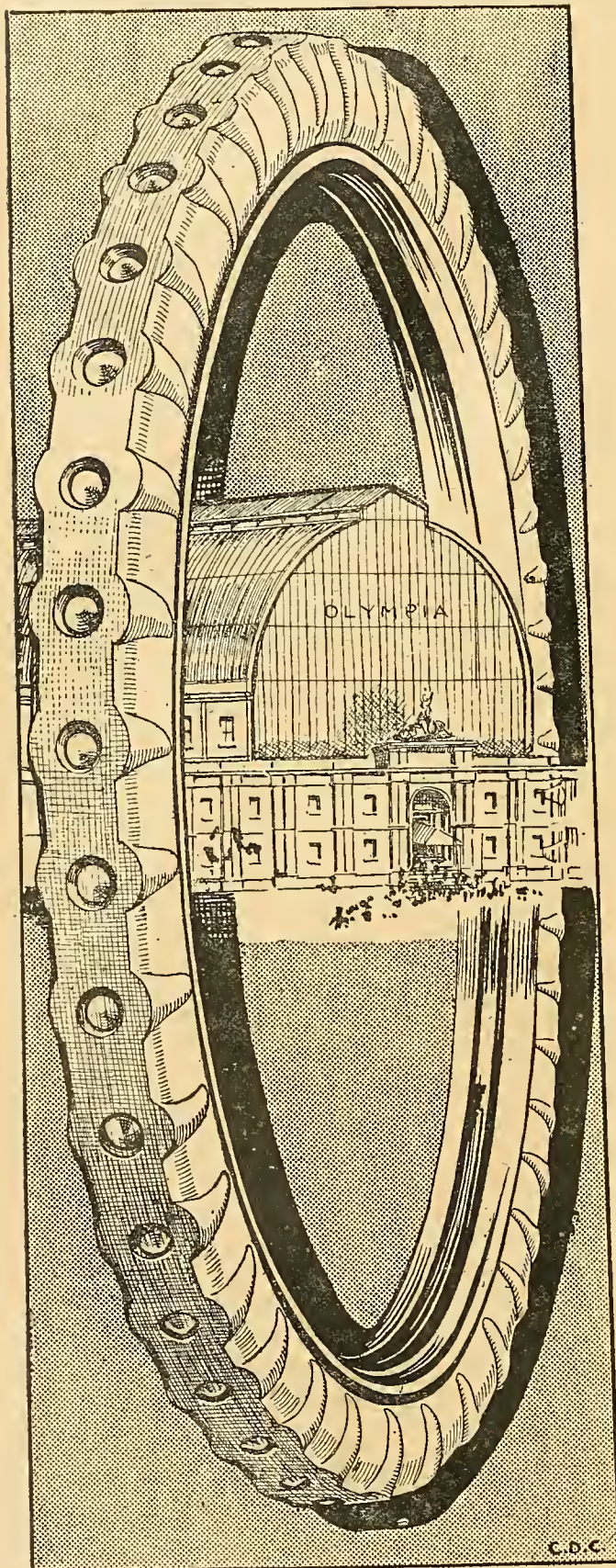


THE CLIPPER TYRE CO., LTD.,

52-60, STEELHOUSE LANE, BIRMINGHAM.

LONDON—18, Chiswell St., Finsbury Square, E.C. COVENTRY—Alma St.

In answering this advertisement it is desirable to mention "The Motor Cycle."



THE ONLY TYRE AT OLYMPIA

which offers you perfect security as well as an increased mileage is the

KEMPSHALL TYRE

Its wear resisting qualities were amply demonstrated in the A.C.U. Six Days' Trials and the Scottish Trials.

These tyres have been considerably reduced in price, and they are now made with the same materials and on the same principles as the famous "Kempshall" Car Tyres. See us at

STAND 161

The Kempshall Tyre Company (of Europe), Ltd.,
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Telephone : No. 244 Gerrard (2 lines). Telegrams : "Studless, London."

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Agents for the United States : Cryder and Company,
583, Park Avenue, New York. Cape Colony :
The Motor Supply Co., 7, New York Buildings,
St. George Street, Capetown. Sole Agents for New
Zealand : Goldingham & Beckett, Ltd., Palmerston
N., New Zealand.

Record Breaking Methods.

[6050].—I have been interested in a case recently tried at a London police court, which shows a little of the inner history of record-breaking and, incidentally, how the A.C.U. may be induced to accept some men as private owners.

In the evidence it transpired that for breaking a record a sum of £10 and a motor cycle was to be the remuneration. It is useless to expect any reduction in the price of motor cycles and accessories so long as such large sums of money are frittered away in this manner. I hope the A.C.U. will deal with such riders in the proper way by banning them.

H. E. RENDALL.

Wear of the Big End Bearings.

[6051].—I have read Mr. C. Binks's letter on this subject, and I quite agree that the arrangements made for lubricating big end bearings are ludicrously inadequate. In fact, it has always been a mystery to me how they obtain any lubrication at all, since they do not even dip into a pool of oil when the engine is running. Any oil there is in the crank case is carried round in two ridges on the periphery of the flywheels, and the "oily fog" he refers to is clearly useless for lubricating a bearing subjected to very high pressure, even if it exists at all. On the other hand, motor cycle big ends have been oiled in this way from time immemorial, and the rapid wear of which I complained is only a development of the last two years.

The forced lubrication which your correspondent suggests, together with half a dozen other features I could name, will inevitably be found on every machine in a few years' time, but manufacturers appear to have a rooted objection to fitting even the most obvious improvements until they are absolutely compelled to do so.

JOHN KENNEDY, jun.

[Mr. Kennedy is somewhat hard on the makers. The best makers are only studying their clients' interests in testing every new device and improvement before adopting it.—Ed.]

Analysis of Carbon Deposit.

[6052].—With respect to my seeming omission of figures (page 1146, November 2nd) given in the composition of the ash, the difference, in the addition of the constituents, from the total percentage, is due to the oxygen combined with the metals present not having been given to you.

To simplify the description of my analysis, I gave the results of the metals only, not the metallic oxides.

In explanation, the iron found is determined as ferric oxide (Fe_2O_3), it being present as such in the ignited residual ash.

Now the 9% of iron, plus the oxygen necessary to convert it into ferric oxide as found, amounts to 12.8%.

If about half a dozen of your readers would send me, through you, some of the deposit from their cylinders it would be a decent sample to operate upon to see if there is very much road matter present. Of course, the deposit I analysed was from *inside* the piston head, which accounts for the absence of road matter.

W. ELDER (AO 302).

Single-cylinder Machines and Sidecars.

[6053].—A good many letters have appeared on the subject of $\frac{3}{4}$ h.p. machines taking a sidecar satisfactorily.

For the benefit of those who may be perplexed, and in doubt if long journeys can be taken, I should like to say that during the early part of last August I drove my $\frac{3}{4}$ h.p. two-speed 1910 Humber from Essex to Exeter and back, and not by the most direct route, 600 miles. We rode six and a half days; the passenger I shed once only through under-estimating the gradient; weight of passenger and self $19\frac{1}{2}$ stones. It was the hottest week in the summer. A strong head wind I find the most troublesome for the machine, and it is a very formidable hill the low gear will not take the combination up—one would then like three speeds, driving against a strong wind on the middle gear.

Our only trouble was a puncture or two and belt pulling through. Since the journey I have used a 1in. belt for sidecar work. You get a larger gripping surface on the small pulley with the same gear owing to the belt not bedding itself down so much in the back pulley groove. I have not found the belt jump the pulley.

R. H. ADAMS.

[6054].—Your correspondents' letters [5985 and 5986] would lead your readers to think that none but expert riders with well-tuned engines can successfully tour with a single-cylinder machine and sidecar.

Now, I am no expert, yet I have had some most pleasant and successful tours this summer with my Bradbury (two-speed) and sidecar, for one of which tours, Lancashire to south coast of Wales, you most kindly and promptly sent me the route, and a most delightful one it was.

My machine has not been tuned up all the summer, but I have ground the valves in and cleaned out all carbon deposit after about every 1,000 miles.

If a single cylinder two-speed machine will do what my machine has done—150 to 200 miles per day—without any further trouble than tightening the belt, your readers need not fear being able to do some good touring with a single cylinder machine.

The advantages of a single-cylinder machine are: (1) Initial cost 30 per cent. less; (2) cost of running 30 per cent. less; (3) simple construction.

If your readers can afford the more expensive twin, by all means have one, but to those who are not "speed merchants" and have not a long purse, my advice is, do not miss the pleasure that can be got out of a good inake single-cylinder two-speed machine for sidecar work.

W.B.L.

[6055].—Certain enthusiasts claim that a $\frac{3}{4}$ h.p. will take a sidecar and passenger "anywhere," and do anything a 5-6 h.p. twin can do. Let them try route 746 Contour Book, Tavistock to Ashburton (Devon) with sidecar and passenger.

I was over this in the direction of Ashburton with a 5-6 h.p. two-speed (4.4 and 7.7 to 1) Bat and coach-built sidecar last week, and for a succession of steep gradients should imagine it hard to beat. I am acquainted with Birdlip, Sun-rising, and Edge Hills, etc., but none approach the climb out of Dartmeet for gradient on two humps. What say others acquainted with this hill?

I have had experience with sidecars attached to $\frac{3}{4}$ h.p. P. and M. (two-speeds), $\frac{3}{4}$ h.p. Triumph 1903 (single-gear), 4 h.p. Roc (two-speed), $\frac{3}{4}$ h.p. Triumph-Roc 1908 (two-speed), $\frac{3}{4}$ h.p. Humber 1911 (two-speed), $\frac{3}{4}$ h.p. Triumph-Roc 1910 (two-speed), but I did not find any of them equal to a good twin. Occasional sensational climbs up estimated and grossly exaggerated gradients, with highly tuned, very low geared (a factor nearly always missing or guessed at) $\frac{3}{4}$ h.p. machines have not changed my view. Also I find



Miss M. E. Fisher ($\frac{2}{3}$ h.p. Douglas), who is said to be the first lady motor cyclist in Taunton.

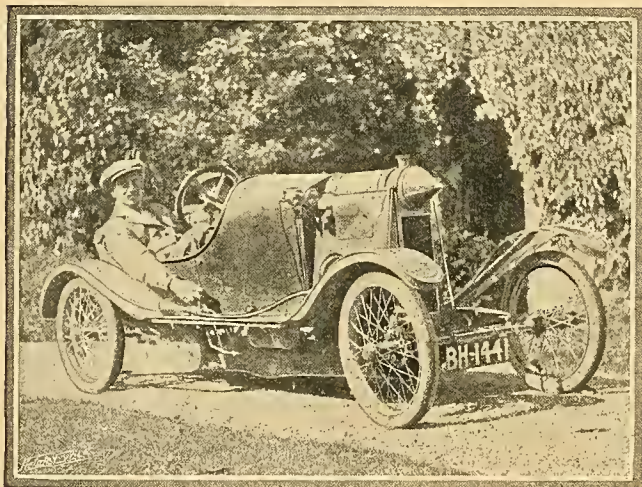
my twin more economical of the two in actual running costs. I get sixty to seventy miles to the gallon according to country and speed, and can average thirty miles per hour and take Birdlip, etc., on the run (provided my belt is tight). A 2½ h.p. Kempshall has done 1,820 on the back and 250 so far on the front, and has a lot left. The fly in the ointment is belts—a Whittle perhaps alone is up to the work, and these slip very badly sometimes on steep gradients even when properly adjusted. Chains are troublesome, unless run in an oil bath chain case. H.P.B.

The Strength of Sidecar Axles.

[6056].—Adverting to a correspondent's enquiry in the last issue regarding the strength of our sidecar axles, may we be permitted to say that during the ten years we have made sidecars we have never known one of our sidecar axles to break. We attribute this to the fact that all our axles are turned from the bar, and the hubs are made throughout in our own works. We have never used hubs or axles other than our own make. MONTGOMERY AND CO.

Appreciation of a Quadcar.

[6057].—In one of your September issues there appeared a photograph of a quadcar seen at Shanklin, Isle of Wight, describing it as having an 8 h.p. Aster engine, etc. I am sending a photograph of this vehicle with special body (which has just been fitted) at the conclusion of a 200 miles run, in the day, last month. It is a G.N., with an 8-10 h.p. J.A.P. engine, and is capable of 45 m.p.h. on level roads (by speedo-



An 8 h.p. G. N. runabout, capable of 45 m.p.h.

meter). It seats two abreast, and is extremely comfortable and well sprung. The petrol consumption works out between 50 and 60 m.p.g.

I have not yet found a hill that it would not take (two up), and in the island it roared up Ventnor's steepest hill, which is supposed to be about 1 in 4. I have had no trouble with it, except that the belt required shortening when new. It is extremely light on tyres and infinitely more enjoyable than riding a motor cycle. CECIL WHITEHEAD.

Overheating.

[6058].—With reference to letter No. 5987 entitled "Overheating" in the correspondence column of *The Motor Cycle* of October 26th last, I should like to offer my theory as to the reason why overheating takes place with either too weak or too strong a mixture.

As practical experience shows, the line of reasoning adopted by Mr. B. S. Field must be wrong. It may seem quite reasonable to a person who is not a trained engineer, but certain important points have been omitted which have a very great effect on the matter.

It should first be clearly understood that a perfect explosion (such as is obtained by a perfectly correct mixture) with a high speed engine, such as a petrol motor, gives

very nearly adiabatic expansion, that is to say, an expansion during which no heat is either added to or taken away from the expanding gas. All the work is then done at the expense of the heat stored up in the gas, and accordingly the temperature of the gas falls very rapidly during expansion. Now considering the case of either too weak or too strong a mixture.

In both of these cases a bad mixture is obtained which will, however, burn, but only gives a comparatively feeble explosion on ignition. Accordingly what happens on ignition in the cylinder is that a feeble explosion results, giving a fairly low maximum pressure. Then for some portion of the stroke burning of the mixture takes place. Now considering what happens during expansion, we have the gas expanding and doing work at the expense of its heat energy, and its temperature should drop accordingly, but, on the other hand, heat is still being added during the expansion from the burning mixture. The temperature of the gas, therefore, remains higher than it should be, making the adiabatic expansion approach more nearly to an isothermal or constant temperature expansion.

It is obvious that by suitably proportioning the mixture an isothermal expansion could be obtained. If we now consider the heating of the cylinder in these cases we can see that in the case of a perfect explosion the temperature of the gases may be high at the start, but drop very rapidly to the exhaust temperature. The mean temperature, therefore, will be approximately that of the cylinder walls, and will be fairly low.

Now in the case of a bad mixture, heat is being constantly added during expansion, and therefore the mean temperature, which will again correspond approximately with that of the cylinder walls, will be fairly high.

This is the reason why overheating takes place with bad mixtures. A proof of the correctness of the above theory is found in the fact that the temperature of the exhaust is much hotter with bad than with good mixtures, and in many cases if the mixture is excessively bad the exhaust gases will still be found to be burning. GRADUATE.

Will the Ultra-lightweight Return?

[6059].—With all due respect to Mr. Roy Walker's contentions, I think he is rather sweeping as to "flimsy frames" and "impossibilities." Many are situated like myself, living in a terrace house with many steps up to the door and as many to the basement entrance. The ultra-lightweight makes motor cycling possible to such. My own machine is a 1908 1½ h.p. Motosacoche. The frame has given no trouble. I carry this with ease up and down the steps, and while, of course, comfort cannot be a first consideration, the machine is a splendid little mount, and if kept in tune will run and average on a fifty miles journey well up to the legal limit in flat country. RAE GRIFFIN.

[6060].—I have read with much interest and a considerable amount of amusement the effusion of Mr. Roy W. Walker No. 6030. Your readers will be amused when I tell them that it was a 1½ h.p. Motosacoche attachment fitted to a light bicycle which was used by Mr. Walker's company to test and bring out the Armstrong change-speed gear. Judging by Mr. Walker's remarks, one would conclude that it was possible to test and bring out this gear with a so-called flimsy engine.

When Mr. Walker states that "every attempt to make a complete roadster motor bicycle at under £30 and 75 lbs. weight has failed dismally, etc.," he is apparently in ignorance of the motor bicycles that have been on the market during the last five or ten years. Has not the Motosacoche proved that it is possible to turn out such a machine?

I have not the slightest doubt that the thorough lightweight will again become popular, much more so than the 140 lbs. weight machine, for the following reasons: There are an enormous number of people who are tiring of pedal cycling and want a motor cycle. They want a thorough lightweight, but their "knowing" (?) friends have advised them that lightweights are not reliable, so these people have bought and are buying the heavier machine, but it will not be for much longer; the speed craze will end just as surely as did the scorching and long distance touring on pedal bicycles. One day the public will know which is the suitable machine; Continental folk have discovered this to their advantage long ago. OSBORNE L. DE LISSA.

CHAIN DRIVE

has been the standard form of transmission on the _____

Indian
MOTOCYCLE.

for the past eleven years, and its designers have found no reason to make any alteration in this respect.

It is significant that in the recent A.C.U. Quarterly Trials, out of the 12 machines with a perfect score, representing 11 different makes, no fewer than 9 were chain driven.

This testimony to the efficiency of the form of drive which has been standard on the INDIAN from its inception is worth your careful consideration when deciding upon your mount for 1912.



Designed for British needs—and equal to all conditions.



STAND 107 OLYMPIA.

See the new 1912 models fitted with Free Engine, Two-speed Gear, Forced Lubrication, Handle-bar Control, Foot Starting Device, etc., etc.

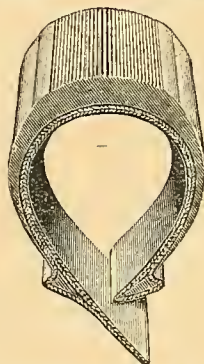
THE HENDEE MANUFACTURING CO.,
178, GREAT PORTLAND STREET, LONDON, W.

Goods and Repairs: 89, Bolsover St., W.



S. & H.

The Michelin "Light" Cover



for "Lightweights," "Sidecars," and front wheels only
of machines of $3\frac{1}{2}$ h.p.

so I have every reason
to be satisfied with the
Michelin that took the drive
of the powerful Rudge engine
& my weight 11 stone
The back tyre had been
on for some hundreds of
miles previously part of
which was with side car.

Wishing you success in 1912.

Yours truly

Leslie H. Brown.

THE BUNGALOW,
PROMENADE,
HOYLAKES.

per Oct 21st 1911.

Mrn Michelin Tyre Co

Sirs,

I have been awarded a
medal for reliability, in the
trials held by the Liverpool A.C.C.
I came through the 200 odd
miles without a single puncture
Part of the course led over
Welsh mountain roads(?) which
bounded with knolled flints -

The cover in question is a Michelin "Light" cover, constructed for **FRONT WHEELS ONLY** of machines such as the above.

The price is 18/6!

Comment is needless.

Write for price list and illustrated booklet.

The Michelin Tyre Co., Ltd.,
89-91, Fulham Road,
Chelsea, London, S.W.

Telegrams: "Pneumelin," or "Bibendum," London
Telephone: 4400 Kensington (6 lines).

The Position of Counter-shaft Gears.

[6051.]—Your correspondent, "Long Belt Drive," is evidently working out what should occur in theory. My experiences on the road with a counter-shaft two-speed gear and short belt drive are exactly in opposition to his views. I have now driven my new two-speed $3\frac{1}{2}$ h.p. Singer over 600 miles, with and without sidecar, without adjusting the belt or even removing it at all. It is a 6ft. 3in. x 1in. Lyso, was put on new, and looks like running another 600 miles before shortening is required. This mileage has always been impossible with the average belt drive, without attention, in my experience. I may mention that the machine carried me through the last Quarterly Trial and the Midland Trial on the 28th ult., also in pouring rain, and the belt has never shown signs of slipping yet. I put the success of this form of drive down to two factors, viz., the large diameter of pulleys and the low speed at which the belt travels. Anyhow, your correspondent can order a rear counter-shaft two-speed machine at the Show with perfect confidence.

J. J. WOODGATE.

The A.C.U. and Provincial Clubs.

[6062.]—The members of the Newcastle M.C. have watched during recent weeks the correspondence in your columns with mixed feelings, and recent events bring home to us again the feeling that the conduct of the A.C.U. is "a comedy to those who think, and a tragedy to those who feel."

In view of the publicity which has been given to the dispute between some Northern clubs and the A.C.U., I consider it a public duty to acquaint the motoring world with the treatment accorded to the Newcastle M.C. early this year when applying for direct affiliation to the A.C.U.

I will briefly make public the particulars of our case and leave motor cyclists to judge as to what little practical support or sympathy a small provincial club may expect from the A.C.U.

The Newcastle M.C. has for some five years been affiliated (through the North-Eastern A.A.) to the A.C.U., but in December last year we decided to apply for direct affiliation, which latter privilege has been and is still enjoyed by several clubs in the Northern Centre. An application for affiliation was made to the R.A.C. (the club consisting of motor car members as well as motor cyclists), and this body advised us to deal with the A.C.U. on the dual affiliation agreement, and the same post brought us a letter from the A.C.U. giving full particulars and sending blank agreement forms. On the 15th December we advised the A.C.U. that we had previously been affiliated through the N.E.A.A.; and asked if by joining direct our car members would have the same benefits as before, and in a letter dated December 17th the A.C.U. replied: "In the event of your club affiliating to the Union, your car members would enjoy the same privileges that they now enjoy through being affiliated with the N.E.A.A." On the 11th January we advised the A.C.U. that we had decided to affiliate, and on the 14th January the agreement signed by our committee was posted and an acknowledgment received stating that the same would be laid before the A.C.U. committee on 2nd February. Meanwhile a rumour circulated in the North that the N.E.A.A. was opposing our direct affiliation, upon which I proceeded to London and interviewed the chairman and secretary of the A.C.U., and was much surprised to hear that the N.E.A.A. claimed that all affiliation of clubs in the Northern territory must go through it. As our club had received no notice of any such agreement and being no party to it, although affiliated members of both organisations, we repudiated this. A proposal was, however, made to us with a view, I suppose, of settling our dispute with the N.E.A.A., but this proposal I indignantly rejected, and confirmed the rejection in a letter to the A.C.U. on 21st January. I could find no trace in the A.C.U. rules or N.E.A.A. rules giving power to make any such agreement, and was at that time at a loss to know how, if such an agreement were in force, the Cumberland, Westmorland, and Aspatia clubs could have direct affiliation. (Cumberland and Westmorland were included in the Northern Centre when same was formed in January, 1909.) A request was made to the A.C.U. for particulars of the alleged agreement, but the application was met with silence. On pressing the point of direct affiliation we got the admission "that the club rules of the Union permit direct affiliation of any club within

the sphere of a local centre, but that an exception had been taken to the policy of so doing, for, in some cases, it might be held that the principle of local government might be prejudiced by such an act." A further proposal was made to us which we refused, and in a few days came the intimation that the A.C.U. was unable to accede to our application for affiliation.

On the question of principle, we were inclined to press the matter, but meeting with poor support from the other affiliated clubs we decided to "stand outside the pale," and, instead of remitting a large sum in fees to Piccadilly, we purchased a handsome trophy for competition.

I should suggest that a strong Northern Association should be formed composed of clubs in Northumberland, Durham, Cumberland, Westmorland, and Yorkshire.

WILLIAM DUNN.

Hon. sec. the Newcastle Motor Club.

SUMMARY OF CORRESPONDENCE.

If "A.E." (Godalming) will forward stamped addressed envelope several replies to his query are awaiting him.

G. Gilbert writes in strong praise of the way he was recently treated by Zenith Motors, Ltd., in connection with a repair undertaken during the rush of Show work.

"A Victim" wishes to warn readers of the ten-mile speed limit in Stony Stratford, a village on the London-Birmingham Road about fifty miles from London.

R. Walker writes in strong praise of the 1911 Scott for use with a sidecar.



THREE PASSENGERS UP NETHERHALL GARDENS.

A $3\frac{1}{2}$ h.p. standard P. & M. with standard gears of 5 and 9 to 1, taking two passengers and the driver—W. Prait—33 stones 2 lbs. in all, up the 1 in 7 gradient of Netherhall Gardens. This is probably the best known of the London test hills. (1) The right angle bend immediately at the foot of the rise. (2) hearing the summit. Such a performance proves the efficiency of the $3\frac{1}{2}$ P. & M. as a sidecar machine.

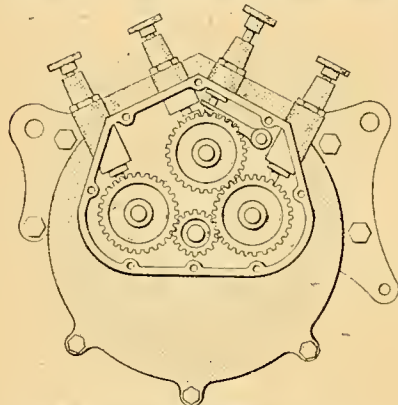
NEW DESIGN MOTOR CYCLES

1912 MODELS

TO BE EXHIBITED AT OLYMPIA.

A.J.S.

A 5 h.p. twin-cylinder A.J.S. machine is to make its bow to the public at Olympia. This is quite a new type, and presents several novel features. The twin-cylinder engine has a bore and stroke of 70 x 82 mm. respectively, and has its valves lying side by side and carried in detachable cylinder heads.



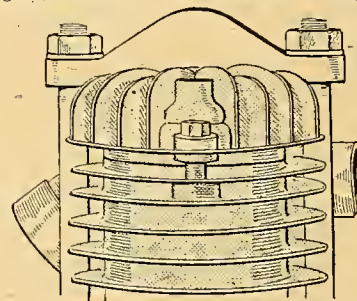
Details of the valve gear on the new 5 h.p. A.J.S.

These heads are held on by a forging which bears on a central boss and is held down by two swing bolts (see sketch). A dowel pin is placed on one side, so that the head can only be put on in the correct position. Separate cams operate the exhaust valves, while one is made to serve both inlet valves. A U.H. mag-

neto supplies the current, and an Amac carburetter lies between the cylinders. A simple counter-shaft two-speed gear on the lines of this year's 2½ h.p. A.J.S. gear, but enlarged and simplified, is employed, in conjunction with a clutch consisting of a single plate carrying cork insets, gripped by a plain steel plate on either side. A new feature for this machine is the simple kick down starter. Chain drive is employed throughout, the chains being amply protected from mud by metal shields. The gear is actuated by a lever carried on a quadrant which is brazed to the top tube. The clutch lever lies on the left handle-bar. The A.J.S. gear was described in a recent issue, so it is only necessary to repeat that it, with the clutch, is particularly easy to dismantle, and the merest novice could make no mistakes in re-erecting it. The pistons have two top rings and oil grooves cut in them right up to the gudgeon pin boss. The gudgeon pin is held in position by brass washers.

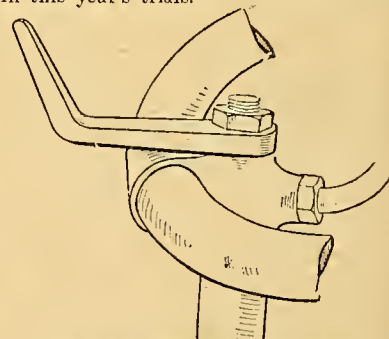
The 1912 frame is fitted with a dropped top tube, and the tank has all the fittings on one side, so that it is very easy to remove in case of damage. A very neat toolbox is carried in a steel case below the carrier. The back of this case forms the number-plate, while a strap fixed to the carrier descends and acts as a mud-guard support. The foot brake pedal is carried on a separate lug, and the shoe acts above the chain stay, and is pivoted so as to come into action evenly. Druid spring forks are employed, and a neat

head lug is fitted with provision for a lamp and generator. All the above remarks apply to the 2½ h.p. A.J.S. with the exception of those concerning the engine, which in this case is a single-



Showing details of the detachable cylinder head on the 2½ h.p. and 5 h.p. A.J.S.

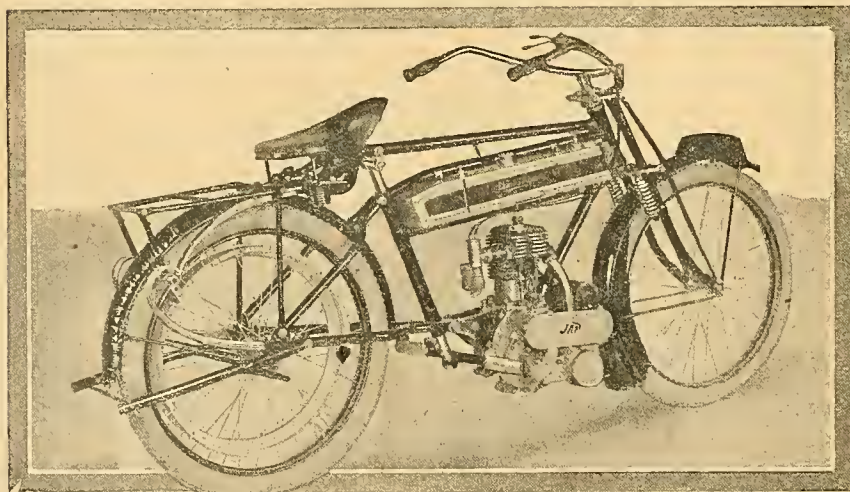
cylinder 70 x 82 mm. Both these models are well made and neatly finished, and the 2½ h.p. has performed extremely well in this year's trials.



A.J.S. special lamp and generator bracket.

Edmund Spring Frame.

This machine, which was exhibited last year, will again be shown by Charles Edmund and Co., of Chester, at Stand 100. The spring seat has been designed to enable both saddle and footrests to work in unison, both being supported by laminated springs. The saddle is attached to an upper member pivoted at the front to the head of the rigid frame nearest to the rear wheel axle. The footrests are attached to a member which passes through the seat tube of the rigid frame and are connected by means of link motion to the seat tube. The luggage carrier is situated on and supported by laminated springs, and by means of an adjustable link motion the tension of the springs against the carrier can be increased or diminished.



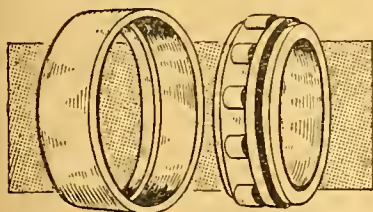
The Charles Edmund-Jap spring frame machine to be shown at Olympia.

Next Week's Issue of this Journal will contain a complete Show Report, with profuse illustrations.

1912 Models.—

Rex Patterns.

The alterations from the 1911 Rex models are not drastic, but they are sufficiently important to warrant a fairly lengthy description. For example, overhead valves have been discarded in favour of those side by side; large diameter valve springs are employed, and the shape of the cylinders has been slightly altered. The cylinders are secured to the crank case by two swinging bolts, which are hinged on the crank chamber connecting bolts, and pass through holes in the head, thus the cylinder casting is in compression to some extent, and can really be made slightly lighter in the walls than if held down by studs and nuts at the base of the cylinder.

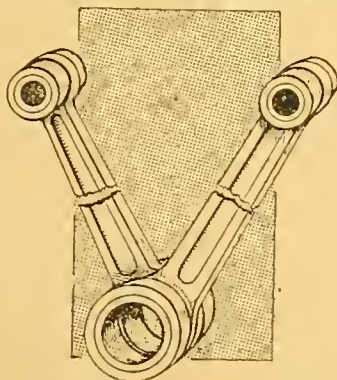


Type of roller bearings used in the Rex engine.

One of the most novel alterations is the eccentric rim to the flywheels, recently illustrated. This has been adopted to secure not only a better balance without bob-weights, but the makers also claim that they can obtain a higher engine speed owing to the lessened friction due to air resistance in the crank case when ordinary bob-weights are fitted with angular projections. The internal cams have been discarded in favour of the usual type of outside cam. In place of ball bearings to the crankshaft, Hoffmann roller bearings have been adopted, and it is claimed that there is no more friction with this type of bearing, and line instead of point contact is obtained, the former being considered an advantage by the makers.

The taper gudgeon pin in the piston is retained, but a set-screw is added which

locks the pin in position and renders it absolutely secure. The magneto is chain driven, and is carried at the rear of the crank case, the timing gear cover plate and one-half of the magneto driving chain cover being cast in one as in the 1911



Showing design of connecting rods of the new Rex twin.

models. Arrangements have been made for re-timing the magneto by providing a special nut which screws on to the end of the armature-shaft. This nut is screwed externally in such a manner that when it is removed from the shaft and reversed

endwise, the externally screwed part engages with a thread cut on the inside of the sprocket wheel. The nut is then screwed inside the recessed sprocket until it butts against the end of the armature-shaft, when the force exerted by the screw draws off the sprocket, which is fitted on the coned end of the shaft in the usual manner. Of course the sprocket need not be entirely removed; the moment it is loosened the magneto can be re-timed and the nut reversed.

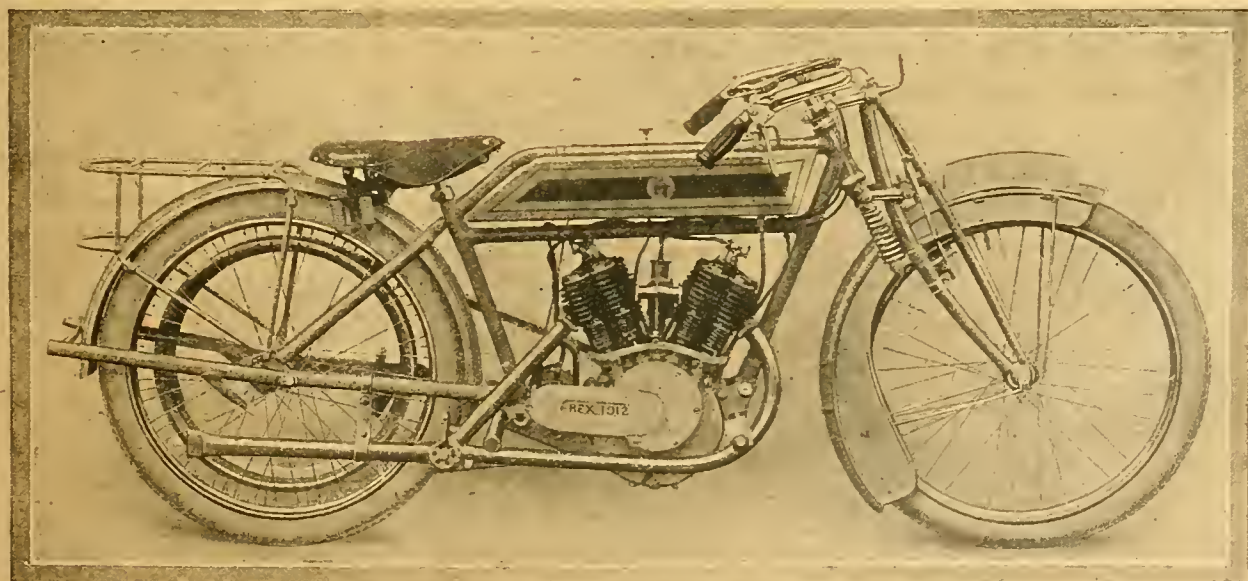
The Rex firm was one of the first to adopt the vapour pipe from the crank case to the combustion head, *via* the carburetter, and it has now been decided to fit this pipe direct from the crank case to the inlet port in the cylinder. The oily vapour which is forced up this pipe every time the piston descends assists in lubricating the top portion of the cylinder walls.

There are practically no alterations to the bicycle itself, except that the aluminium footboards have been replaced by neat wooden boards, which will be fitted on springs and covered with rubber matting. The arrangement of the exhaust pipes on the twin is neat. The end of the tube is merely flattened, and the result is not by any means noisy.

Singles and twins, air and water cooled, will be staged at the Show in racing and touring trim.



Showing the new 7-9 h.p. twin M.M. handlebars, and control arrangement from the twist grips.

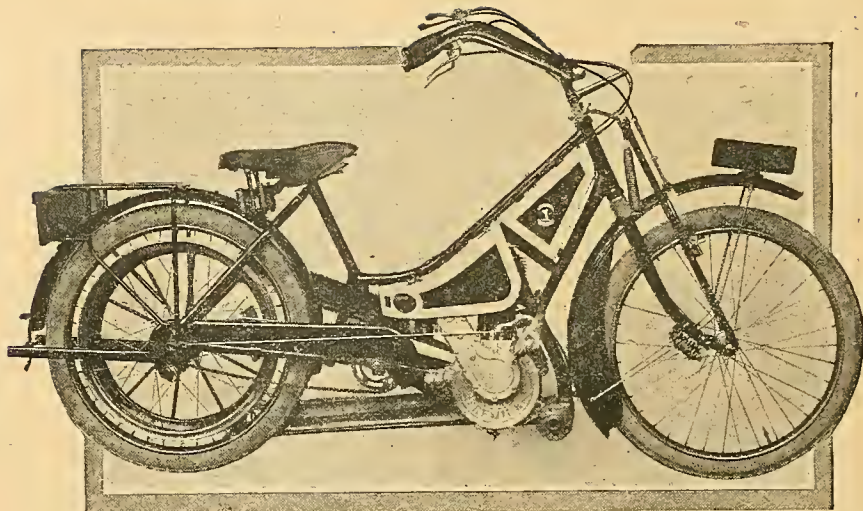


The first of the new 6 h.p. Speed-King Rex machines.

1912 Models.—

A.S.L.

"Ixion" has lately drawn attention to the desirability of spring frames. Those readers who agree should on no account miss Stand No. 103, where the luxurious riding A.S.L. will be exhibited. $3\frac{1}{2}$ h.p. single and 5 h.p. twins are standard for 1912. Quite recently we had the opportunity of testing an A.S.L. $3\frac{1}{2}$ h.p. J.A.P. engined motor cycle. The machine started very easily, and declutching (the Albion engine clutch was fitted), we took our seat on the comfortably padded cushion supplied. On letting in the clutch the machine went away smoothly, and we were surprised at the absence of road shocks. Our first impression was that we were riding on a partially deflated back tyre, but the feeling passed off after the first few minutes. Although we intentionally found all the worst bumps in the road, we suffered from no unpleasant jars, and only in the worst pot holes did we find the small wheels affect the smooth running of the machine. It is certainly the best sprung motor cycle we have ever ridden, and the action of the air springs should go far towards prolonging the life of the engine and frame fittings. Magneto, throttle, and air levers are placed one above the other on the right handlebar, and come easily to the hand; in fact, we were able to control on the throttle lever only most of the day, as the Amac carburetter fitted was almost automatic in its action. By way of a hill-climbing test, we took the machine to Sunrising, and succeeded in climbing it at the second attempt with a little clutch slipping, the first failure being due in all probability to the control being new to us. Regarding the effect of the springing on belt tension, we noticed no belt slip, and as the springing forms a comparatively large angle with the chain stays, we see no reason to expect slip from this cause. The A.S.L. is sure to attract visitors to the Show.

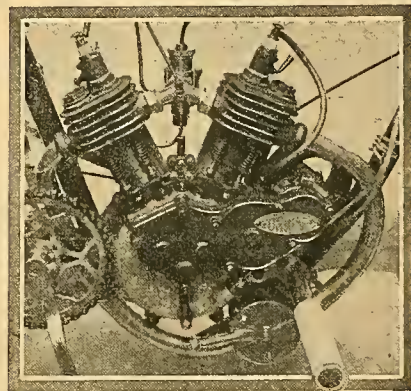
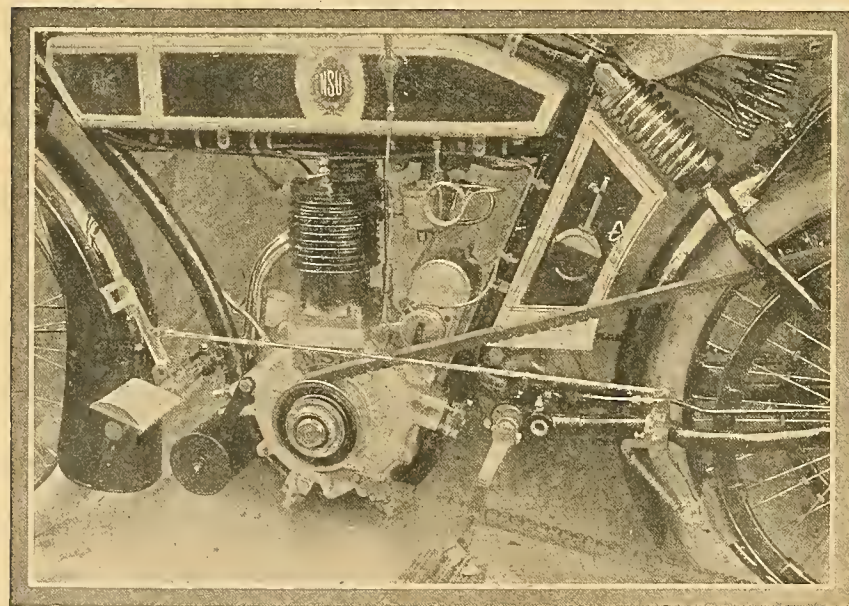
Valve side of the new $3\frac{1}{2}$ h.p. lady's Premier, a new departure for next year.**Osmond.**

This is a new firm in the motor cycle industry who will exhibit on Stand No. 20 two Osmond-Precision models, one with fixed and the other with free engine. Both machines will be fitted with Bosch magneto ignition and B. and B. carburetters.

Hobart.

The Hobart Bird Co. are listing four models for 1912, two of which are quite new. The $2\frac{1}{2}$ h.p. 70 x 76 mm. ladies' machine remains much as this year, except that the dressguards are more easy to detach, as they slide on in one piece (for each side), and are held by wing nuts all fitted in accessible positions. The Armstrong three-speed hub will be fitted as standard, and foot-rests are now brazed to the frame in a convenient position. The 4 h.p. twin also remains unchanged

in its main features, but is now fitted in an improved frame specially constructed to withstand the strains of passenger work, and having sidecar lugs brazed to it. On this model the Lake and Elliot two-speed and Brown and Barlow carburetter will be standard fittings. The $3\frac{1}{2}$ h.p. single is quite new, and has an 85 x 88 mm. vertical engine, with side by side valves fed by a B. and B. carburetter, and carrying either a Bosch or Eisemann magneto in front. This power unit is carried in a strong frame with dropped top tube, and allows a very low

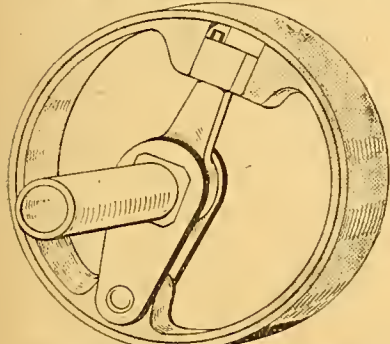
 $2\frac{1}{2}$ h.p. twin-cylinder Forward power plant.The new $3\frac{1}{2}$ h.p. 85 x 88 mm. N.S.U., which has a new design spring frame.

saddle position. The Villiers hub clutch is fitted, and instead of being operated by the usual long rod, which is liable to fracture through vibration, two short rods joined by a double lever pivoted on the rear engine plate are employed. The $2\frac{1}{2}$ h.p. gentleman's model has a vertical 70 x 76 mm. engine. This is a very neat little machine on standard lines, and may be classed as a lightweight. In this case the magneto is fitted behind the engine. Druid forks, side flaps carried right up to the crown head, handle-bar magneto control, and a foot-operated cut-out are standard on all models. As will be seen, the firm market a very complete range of machines, and great care in design and attention to details is noticeable in all four types.

1912 Models.—

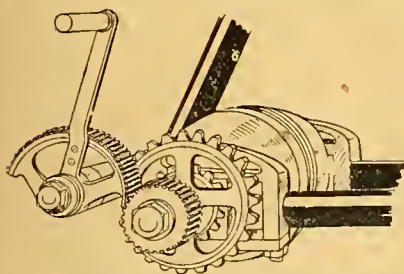
Clyno.

In a recent issue we described a long run over severe hills and roads on one of the new 5-6 h.p. Clyno passenger machines, and we are now in a position to give details of the latest mount. The engine has two cylinders set at an angle of 55° of 76×82 mm. bore and stroke. The valves are placed side by side, closed within neat aluminium covers, and are operated by two cams only. Very large diameter flywheels are employed, though, as the weight is well in the rim, they are comparatively light. The lubricating oil



Clyno expanding clutch mechanism used for the high and low gears.

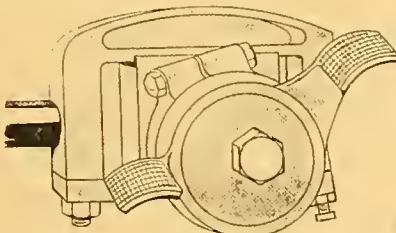
is led into grooves round the bottom of the cylinders, into which the pistons dip, and by this means the oil is led first to the cylinder walls, which are most in need of it. A two-speed gear is standard, and consists of two chains, one on either side of the rear wheel, which are brought into engagement by means of large expanding clutches placed between the rear stays and operated by a sliding wedge. The whole of this gear can be easily detached or adjusted, as it is held in position by four bolts (see sketch). It runs on ball bearings throughout, and is actuated by a double pedal working on a quick thread screw. When desired, this gear can be converted to a four-speed by



Mechanism of the Clyno foot starter, also showing neat appearance of countershaft two-speed gear.

a system of double chains from the engine to the counter-shaft, the change being made by means of dog clutches. All chains are enclosed, and a kick-down starter is fitted which works as follows: On what is usually the bottom bracket is fitted a toothed quadrant and a crank mounted in an eccentric bush (to allow of chain adjustment). This engages with a gear wheel mounted on the counter-shaft and driving it through a ratchet. To start, the crank is pressed sharply down by the heel, and when the engine starts the quadrant is left out of engagement

with the gear wheel, which is therefore free to revolve with the counter-shaft. A strong carrier is fitted, and an ingenious stand which gives three positions and allows the machine to stand approximately vertical even on a cambered road. The tank is held well away from the frame, and has rounded edges. It is fitted with very large spring-joint filler caps and an outside glass-barrelled oil pump, while the tool bag is placed on top of the tank. The exhaust gases pass to separate silencers which are connected to a common pipe leading to the back of the frame and flattened at the end. An Amac multiple jet carburettor feeds the engine, while a Bosch magneto set high up behind the engine supplies the current for ignition purposes. The 1912 model has been so arranged that both cylinders can be detached without dismantling the engine. The saddle remains the same height from the ground. Druid forks are employed, and the front mudguard has large side flaps. Both wheels are shod with 26in. \times 2 1/2in. Palmer Cord tyres. The Clyno sidecar is supported from four points instead of three, there being an extra stay to the side of the front of the car. In future all sidecar lugs will be

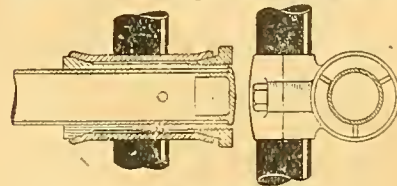


The toe and heel pedal operating the Clyno two-speed gear.

braced to the frame, though the Show models may not have this feature. The machine is extremely well finished both inside and out, and the buffed aluminium crank case gives an extremely smart appearance to the machine. For the running and hill-climbing powers of the Clyno we must refer our readers to our issue of the 2nd inst., in which the run previously alluded to was described, also to our reports of reliability trials.

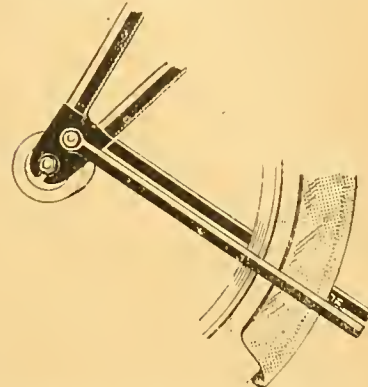
Macbeth.

The Colmore Depot, Birmingham, will exhibit on Stand No. 102 a number of well known makes, including Scott, Douglas, Matchless, Zenith, Premier, Enfield, and Chater-Lea. In addition they will also show two examples of the Macbeth motor bicycle, a $3\frac{1}{2}$ h.p. machine built upon standard lines. One will be a fixed gear model and the



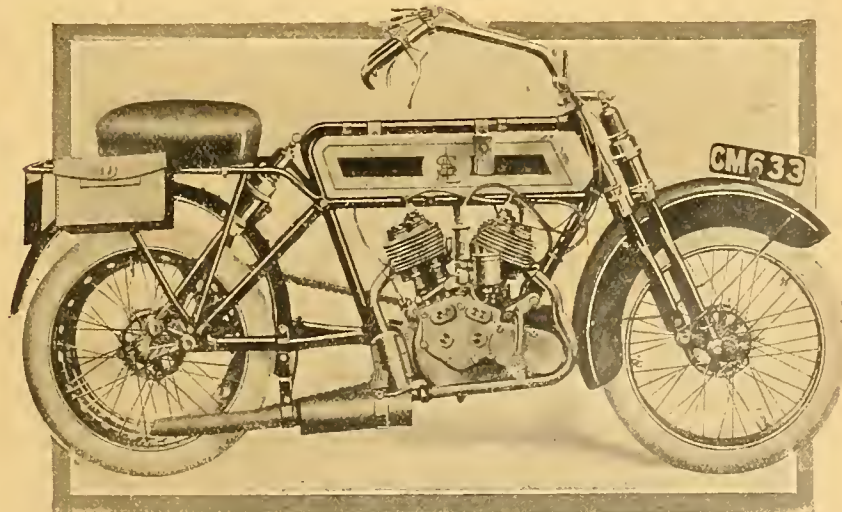
Section of the special front tube fixing of the Canoelet sidecar, described in our last issue.

other a two-speed. This is another case of a well known name in the push-cycle trade being applied to motor bicycles, the Macbeth machines having been known for several years to the cycling public, particularly to London



Front wheel stand, the legs of which serve as mudguard stays, fitted to the 1912 Singer, also showing the one piece mudguard with side extensions.

cyclists. We welcome the Macbeth machine as an addition to the industry, and have no doubt that in the hands of the Colmore Depot it will soon achieve a name for itself.

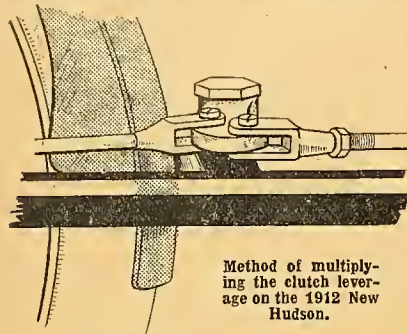


Latest design of the $3\frac{1}{2}$ h.p. A.S.L.-Jap.—an exceptionally comfortable machine to ride.

1912 Models.—

3½ h.p. Three-speed New Hudson.

The design of these successful machines has not been altered in any vital manner for next year, as they are already quite up to date. In consequence, the alterations are chiefly in connection with de-



Method of multiplying the clutch leverage on the 1912 New Hudson.

tails. For example, the rear mudguard and carrier can now be detached complete, leaving nearly the whole of the rear tyre accessible for repairs. The method of detachment is to unscrew two or three turns a nut on the mudguard bridge, when a slot in the clip allows for its removal. The same method is followed where the carrier stays are attached to the frame, the stay ends being slotted, thereby obviating the complete removal of the nut. The carrier and rear guard are riveted together and come away as one unit.

The method of carrying the pannier bags has been strengthened, and the interior of each bag is now provided with a metal framework which encircles the bag inside, thus strengthening it and preventing sagging; the fastening is a strong spring hook, and compares most favourably with the flimsy locks fitted to some bags, and the screws for attachment enter the metal band in the bag, and do not protrude inside, as in many cases. On the rear of the carrier is a special bag in which is carried a Lucas force feed oiler for lubricating the three-speed gear and other parts where oil should be injected.

The method of locking the axle of the

Armstrong hub to the back fork ends is as follows: The jaw of the back fork is made from a very strong steel stamping. The axle is provided with flats which prevent it turning in the jaw, and, in addition, a shouldered washer with a square hole fits inside the fork end. The face of the washer has holes which register with similar holes in the locking nut, and when all is screwed up firmly a grub screw passes through the nut and the washer, thus obviating the bursting strain on the jaw of the fork end, and relieving the axle of part of the stress to which it is subjected when the high and low gears are in operation.

The engine lug at the extremity of the down tube is now extended to take the clutch pedal, so that all strain is removed from the foot rests, and the pedal is not likely to be damaged in case of a fall. Where possible the lugs to which the engine is attached are brazed to the frame and not merely bolted. This has been found particularly necessary in the case of the variable speed geared machines where there is a heavy torque passing through the transmission and frame when the gears are in use.

On the New Hudson engine, which, by the way, is being made with extreme accuracy, the magneto drive is now provided with a chain adjustment, the mag-



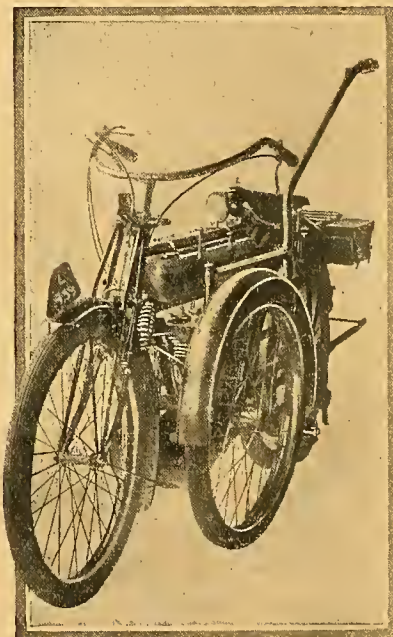
Brazed-on lug carrying change speed lever of the Armstrong gear on the New Hudson.

neto machine sliding upwards at an angle. Slots are provided on the magneto table on the crank case, the drive being by means of an ordinary roller chain, the silent chain being discarded. The makers thought that in the event of a chain breakage (a remote possibility), riders would be able to obtain an ordinary link of ½ in. chain anywhere, whereas difficulty would be experienced in obtaining a link of silent chain, which

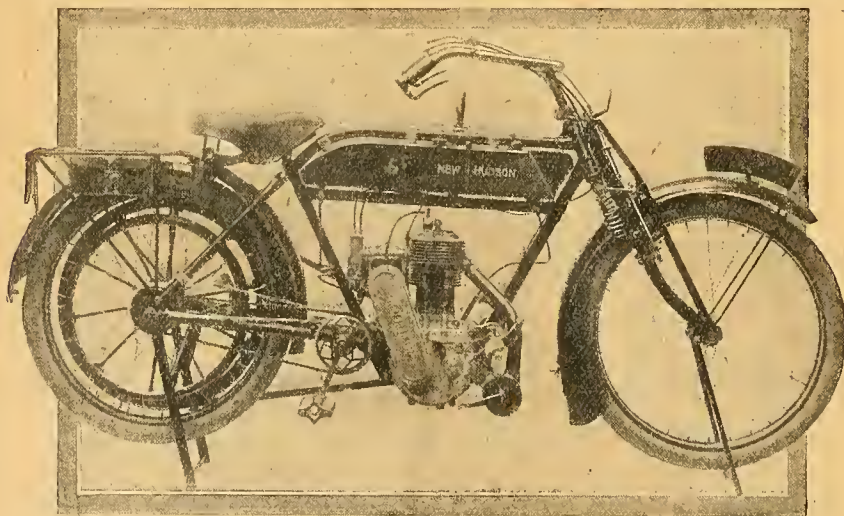
is not always stocked at garages. The new clutch-operating mechanism, which we illustrate, is now provided with an improved system of leverage, enabling the clutch to be operated with less pressure. The gear control bracket on the top tube is brazed to the frame. Nail catchers are fitted to both wheels, magneto control from handle-bar, and a front wheel stand.

Sidecar Self-aligning Stand.

A novelty in the form of a self-aligning stand for sidecars will be exhibited by the New Hudson Co. The ordinary stand when in use with a sidecar causes the machine to tilt at an angle owing to the sidecar wheel not being raised at the same time as the rear wheel of the bicycle. This new stand enables the back wheel to be jacked up off the ground without the base of the stand assuming a slanting position in relation



Browning's patent collapsible sidecar.



Valve side of the 1912 pattern 3½ h.p. three-speed New Hudson.

to the sidecar. All parts of the New Hudson 3½ h.p. engine are made to Government limit gauges which are within one-thousandth part of an inch. We recently examined the engine parts which were going through the works and came to the conclusion that greater accuracy is not employed in any factory where motor cycle engines are manufactured. Next year's New Hudson should give even a better account of itself than it has done during 1911.

Win-Precision.

The Wincycle Trading Co., Ltd., will show at Stand 16 two 3½ h.p. Win-Precision motor cycles, one of which will be fitted with the Villiers hub clutch. As the name implies, the engine will be a Precision, while Druid forks, B. and B. carburetter, and Bosch magneto will be fitted. The company will also show a patent collapsible sidecar, made under Mr. Browning's patents, which will appeal to those readers who have only restricted storage room.

1912 Models.—

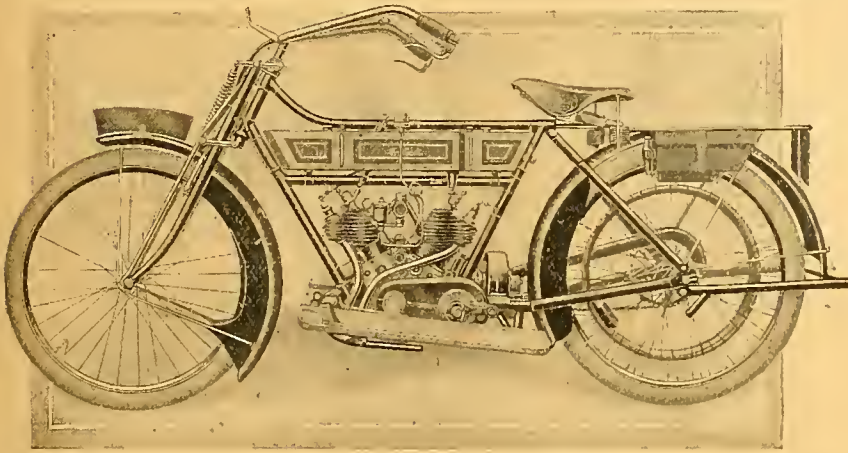
2½ h.p. Enfield.

Very few alterations have been found necessary in the 2½ h.p. Enfield; in fact, refinements only are noticeable. Long footboards are fitted, and the two-speed gear will be operated by pedals. A new

be withdrawn while the rider takes her seat. An auxiliary dressguard has been fitted over the engine, and a cushion drive is employed. This is also standard on the 6 h.p. sidecar machine, and can be fitted as an extra to the 2½ mount. It consists of six rubber blocks divided by arms, through which the drive is taken. Three

days and Onions, Ltd., Birmingham.

This new runabout possesses several interesting features, particularly in connection with the springing. The frame and two-seated side by side body are supported on laminated springs which extend both sides of the single rear driving wheel, and are there coupled to a lever and rod system which enables the rear wheel to rise and fall and yet keep perfectly vertical. The engine, which is at present a water-cooled 7.8 h.p. twin m.o.v. J.A.P., is fitted between the body and the rear wheel mud-guard, and drives through an epicyclic gear carried alongside the engine, providing two speeds forward and a reverse. The transmission from the gear box shaft to the rear wheel is by a roller chain running in an oil bath, metal-cased. Side radiators are placed between the body



Left-hand side of the 1912 Model 2½ h.p. Enfield, showing the new sight-feed lubricator.

silencer with no cut-out is now used, and the crank case relief valve has been moved to the right hand side of the rear cylinder, and from it is led an overflow pipe, so that any surplus oil serves to lubricate the rear driving chain. An improved exhaust valve lifter is employed, having a very neat and simple action. The gear ratios have been raised to 5½ to 1 and 7½ to 1 instead of 6½ to 1 and 9 to 1. Lubrication is by a sight-feed drip, a hand pump being fitted for emergencies. Side flaps are fitted to both front and rear mud-guards.

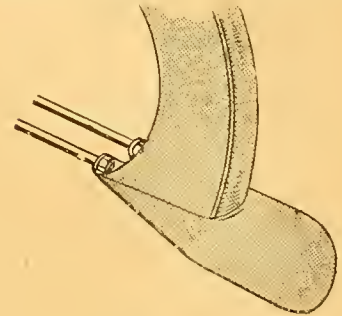
The 2½ h.p. open frame has two or three extra refinements. A lever is fitted on the handle-bar, by means of which, when the engine has been started, the gear can

of these arms lie in the hub shell and three in the corresponding case on the driven sprocket. We rode a 2½ fitted with this device, and though the machine was exceptionally highly geared (4½ to 1), we noticed not the slightest jar even when running slowly.

We have already dealt with the new 6 h.p. Enfield-Jap sidecar combination which will be a feature of the exhibit.

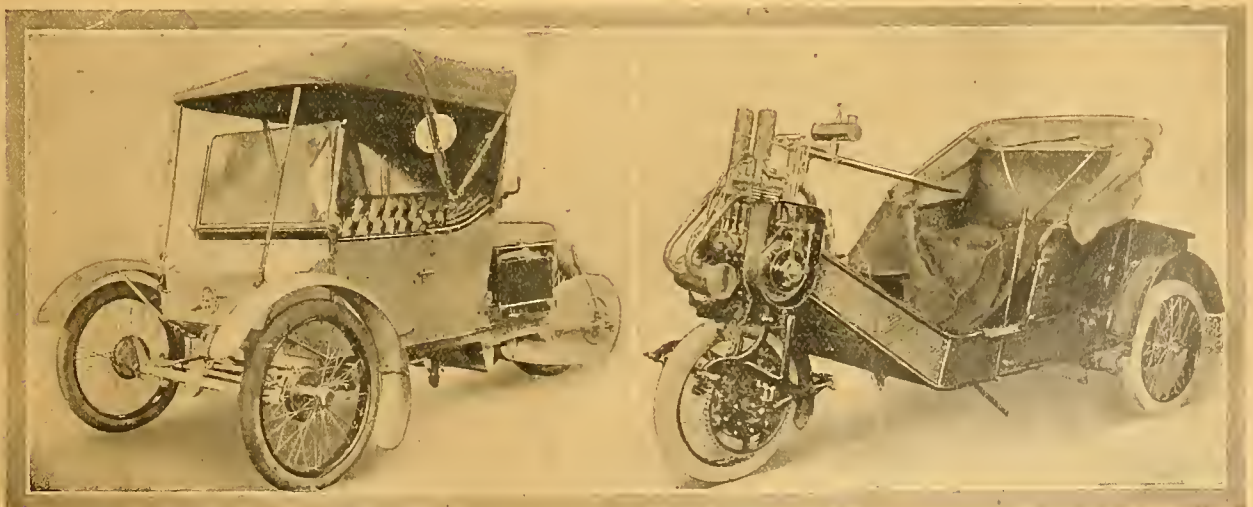
Autorette.

The Autorette, which is a new two-seated three-wheeled runabout manufactured by the Enfield Autocar Co., Ltd., of Birmingham, and illustrated on this page, will, we understand, be on view next week at Stand No. 38, All-



Enfield rear mud flap.

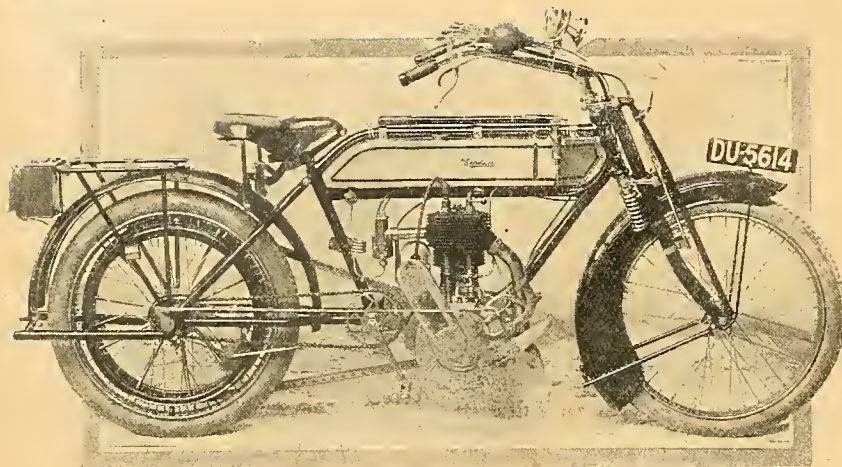
and the rear mudguard, one on each side of the engine, and the whole mechanism is enclosed by a metal case provided with a sliding top panel. The steering is by wheel with inclined steering column like a car, and there is also a Cape hood and wind screen. The wheels are 650 x 65 mm., with plain tread to the front and steel studded to the rear; a butt-ended tube is fitted to the rear tyre. Two brakes are provided, one on the rear hub operated by a hand lever at the side, and one on the front wheel operated by pedal. The whole machine is finished

THREE-WHEELER PASSENGER MACHINES AT OLYMPIA.

(1) The Enfield Autorette with hood up. This machine has a water cooled two-cylinder engine.

(2) The Cyclonette which is propelled by a two-cylinder air-cooled engine, situated over the front wheel. The exhaust valve caps have special radiators.

1912 Models.—

Valve side of the new pattern $3\frac{1}{2}$ h.p. clutch model Excelsior.

in French grey, and the body is well upholstered, side doors being fitted exactly the same as on the larger four-wheeled vehicles made by the Enfield Autocar Co.

Excelsior.

One day last week we saw one of the new Excelsior motor cycles. This model has a $4\frac{1}{2}$ h.p. 86×112 mm. single-cylinder engine, and it presents several interesting features. A $3\frac{1}{2}$ h.p. 85×88 mm. machine is also built, but, as practically all the details are the same, a description of the $4\frac{1}{2}$ h.p. model will suffice.

The valves are placed side by side and have adjustable stem ends. They are operated by tappets through rockers, and these rockers are slightly offset to the cams, so as to get a more direct lift. The lubrication is ingenious, the oil being led from the new Best and Lloyd semi-automatic sight-feed lubricator to the cylinder walls and hollow gudgeon pin direct through the side of the cylinder, while a branch pipe lubricates the main crank case bearings through a system of ducts. The air release passes through the crankshaft. The frame is on standard lines with a dropped top tube, and is fitted with Druid forks, a strong carrier, and front and rear wheel stands.

Wulfruna.

The Wearwell Cycle Co., Wolverhampton, will exhibit several Wulfruna motor cycles on Stand 59. One will be a $1\frac{1}{2}$ h.p. machine with vertical engine, Bosch magneto fitted at the rear of the engine instead of in front, Druid spring forks, luggage carrier, stand and number plates. A machine with similar equipment will be the $2\frac{1}{2}$ h.p. model, but this will be fitted with a two-speed gear and free engine. A $2\frac{3}{4}$ h.p. and $3\frac{1}{2}$ h.p. single cylinder, also a 4 h.p. twin cylinder with two-speed gear and sidecar will be on exhibition.

Ariel.

Components, Ltd., Birmingham, have decided to list next year seven Ariel models. These will comprise $3\frac{1}{2}$ h.p. touring, $3\frac{1}{2}$ h.p. roadsters, and $2\frac{1}{2}$ h.p. lightweights. The Ariel engine-shaft, variable gear, and free engine will be fitted

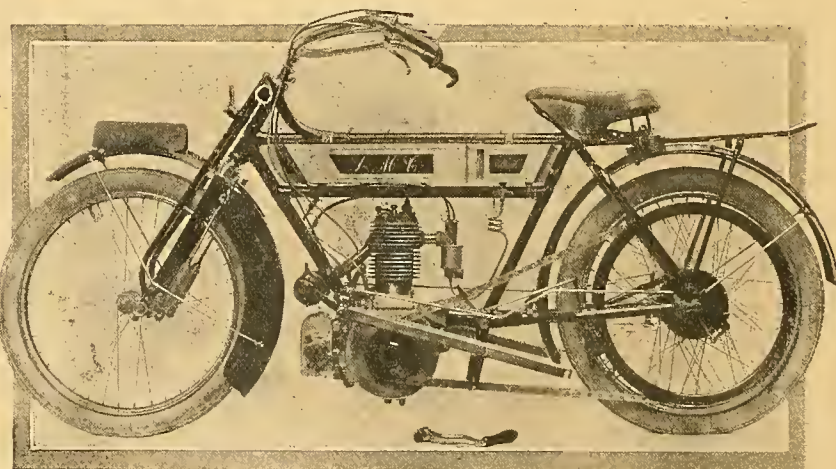
to the touring patterns; the same machine will be sold with an adjustable pulley, and, if required, a similar model will be offered with a three-speed hub gear. The T.T. roadster models will be fitted with an adjustable pulley and no pedals, also a similar machine with Ariel patent variable gear and free engine pulley minus pedals. The two last-named will have dropped frames, and will follow the lines of the T.T. Ariel, which was the second fastest make of single-cylinder machine in the 1910 and 1911 T.T. races. The lightweight models are entirely new. One machine will be fitted with an adjustable pulley and the other with the Ariel variable gear and free engine.

Among the improvements for 1912 on the $3\frac{1}{2}$ h.p. models may be mentioned a new front wheel stand, new type rear stand and carrier, and improved rear brake. The half compression device for easy starting has also been redesigned, and will be found even better than before. Quite a novelty on the roadster Ariel machines will be a detachable tank and middle tube, enabling the tank to be bodily removed in a few moments, considerably facilitating the valve grinding.

and naturally without any obstruction the usual engine adjustments can be made with far greater ease. It also enables the cylinder to be lifted off quite easily without any risk of injury to the thin edge of the piston, which requires somewhat careful handling.

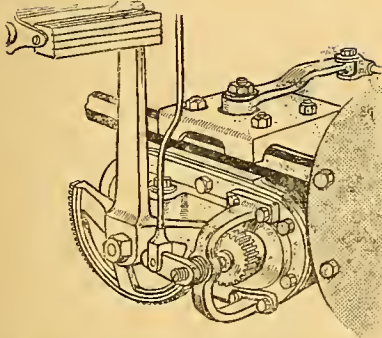
L.M.C.

We have recently had an opportunity of examining one of the new 4 h.p. L.M.C. sidecar motor cycles. The power unit is much on the lines of the standard L.M.C. $3\frac{1}{2}$ h.p., but the engine has had the bore and stroke increased to 89×92 mm. The compression is medium, and the radiating fins have been extended. The engine is fed either by a B. and B. or Amac carburetter, while a new type Bosch magneto is carried on a platform cast on the front of the crank case, and is driven by a train of gears. Handlebar control is used for both carburetter and magneto. The Roc type two-speed gear is employed in conjunction with an adjustable pulley. The left foot operates the high gear and emergency brake, while on the right footboard are placed the low gear and band brake pedals. Long rubber-covered footboards are fitted pivoted at their front ends and sprung towards the rear. The wheels are specially heavy, and shod with $2\frac{1}{2}$ in. \times 26 in. tyres. A new silencer and cut-out are used, and a plate is fitted over the end to protect the rider's trousers from the exhaust gases. All fittings are very substantial, and the front mudguard is fitted with side wings right up to the fork head. In the 1912 models the front wheel can be dropped away by removing two split pins and slacking off two nuts. As is usual on L.M.C. machines, a universal joint is fitted near the small end of the connecting rod, and a foot-operated exhaust lift is used as well as the usual hand lever. The spring up stand is prevented from rattling by a spring clip on the mudguard. B. and L. lubrication can be supplied. The 1912 T.T. and Tourist models have drop frames, and the front wheel is more readily detachable than previously. With these exceptions they remain almost unaltered. The engine has a bore and stroke of 85×88 mm., and the Autovaria gear can be fitted if desired.



4 h.p. L.M.C., with L.M.C. two-speed gear, made under Roc patents.

1912 Models.—

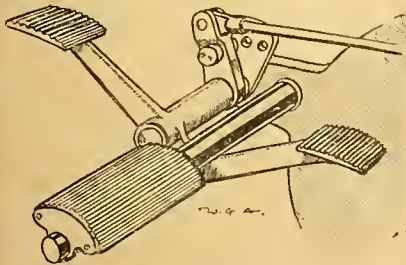


Bradbury foot starter, two-speed gear and clutch operation.

Bradbury.

The principal item of interest in the Bradbury models will be the well-tried two-speed gear. The following models will be marketed, all having the same sized engine, and differing only with regard to the gear employed: Two-speed chain-driven with Bradbury gear, two-speed belt-driven with N.S.U. gear, three-speed belt-driven with Sturmey-Archer gear, single-gear with belt-drive, and single-gear with Villiers free engine clutch.

We illustrate the new Bradbury two-speed gear and kick starter, the gear box being placed on the chain stays immediately behind the engine. The drive both from the engine to gear box and from gear box to back wheel is by chain. The gears are always in mesh, and are thrown into engagement with dog clutches, the top ratio giving a direct and the bottom an indirect drive. The clutch, which is arranged on the left-hand side of the gear box, is a very simple type, and consists of a metal-to-metal cone, which is operated from the handle-bar through a rod. This rod is connected to a crank carrying a quick thread screw, the nut for which is ormed by a bracket bolted inside the gear box. This quick thread screw



Toe and heel rocking gear pedal on the new Bradbury.

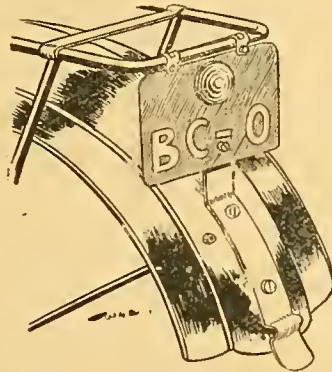
operates a plunger rod which passes through the primary gearshaft, at the further end of which the clutch is situated. The adjustment of this push rod can be controlled by a small grub screw, placed, as shown, concentrically in the quick thread screw.

The box is supported by a very simple form of bracket, by means of which it is readily removable from the chain stays: all that is necessary for this purpose being the undoing of five bolts and the disjoining of the engine chain and clutch rod.

The gear is lubricated through a sensibly large cap screwed into a special lug cast at the side of the gear box.

The kick starter consists of a semi-circular gear wheel, formed in one with a pedal crank, which is returned to its normally upright position by a helical spring wound round its supporting pivot. The semi-circular gear wheel meshes with a pinion carried loosely on the primary gearshaft and engaging with a couple of under-cut ratchet pinions. The engine is started by kicking the pedal downwards and backwards.

The control of the gear is by rocking pedal, this being placed on the rear side of the machine, and, although not formed integrally with the footrest, is nevertheless well protected by it. Both are carried in an extension lug from the side of the aluminium crank chamber, one of the best points of the arrangement being that in the event of a "spill" the footrest would



Bradbury new design double width mudguard and back number plate.

take all the brunt, and derangement of the two-speed pedal gear become very unlikely. The pedal gives the low gear when rocked forwards and high gear when rocked backwards. Free engine position is obtained midway, and is easily felt for, since the crank to which the gear control rod is fixed works over a quadrant and carries a plunger which engages with notches cut therein. This is shown in the second sketch. The engine chain is contained inside a quick detachable casing. Handle-bar control of the magneto is only

one of the refinements of the 1912 Bradbury.

The combined lamp and generator bracket has been thoroughly webbed for strength. A lubricating oil squirt intended primarily for use with the gear box is supplied. The foot brake is of commendably large size, and is arranged above the chain stay. This brake acts on a special belt rim spoked to the off-side of the back wheel. The rear mudguard, with its double extension, is fitted as a standard to all models, and contains also a combined number-plate and reflector tail light, which we illustrate on this page.

N.Y.E.

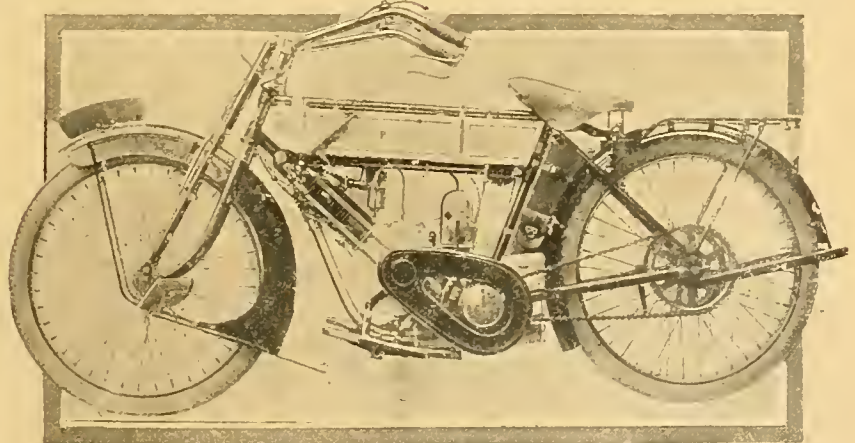
Nye and Co. will stage on Stand 62 the new Italian S.I.A.M.T. lightweight, a Triumph with Mabon two-speed gear on counter-shaft which will be shown as a working model driven by electrical power, a 6 h.p. Enfield sidecar combination, a Moto-Rève, a P.V., and a Stuart Turner two-stroke; the last two named have already been described in previous issues. In addition, a Polkey-Jarrott electric generator lamp set adapted for motor cycles will be on view.



Stuart drip feed lubricator.

Further P. and M. Details.

In our last issue we outlined some of the more important P. and M. improvements. We are now enabled to illustrate a few of the special details for 1912. The kick starting device consists of a semi-circular drum, at the corners of which are anchorages for a short length of chain, which passes over a small sprocket supported by a projection cast on the timing gear case. Internally this sprocket carries a ratchet free wheel with under-cut teeth, a similar ratchet forming the end of the engine-shaft. The under-cutting of the teeth prevents the two disengaging themselves so long as pressure be applied to the foot crank. The manner in which the free wheels are engaged is ingenious. Normally a short spiral spring holds them out of engagement, but on the crank is

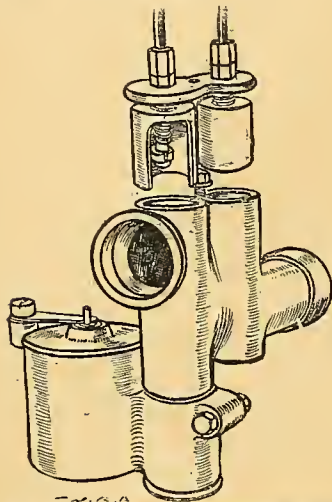


Latest model 3½ h.p. two-speed P. & M., which now has a kick starting apparatus.

1912 Models.—

a U-shaped flat spring, the inner face of which, when the crank is pressed forward in order to start the engine, rubs against the end of a small sprocket, and in doing so forces it inwards, thereby engaging the two free wheels. A helical spring, not shown, is wound round the shaft on which the semi-circular drum is mounted, and when pressure of the foot is relaxed it returns the drum to its original position.

The new carburetter contains several improvements, notably the ready detachability of all parts, including the float chamber, the throttle and air slides;

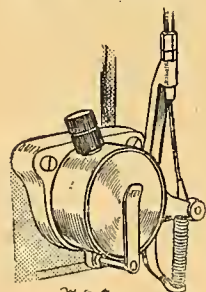


P. & M. new design single jet carburetter with piston control.

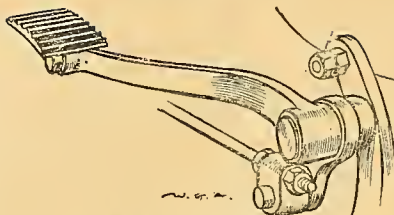
the latter are depicted withdrawn from their tubes. The float chamber is formed with a concentric boss in which is turned a groove for the reception of a peg on the flat spring which holds it in position. Upon lifting the spring and turning it slightly sideways, the lid is free to be removed. Another item is the new P. and M. exhaust lifter, which consists of a short crank hinged to a projection cast on to the aluminium cover of the tappet guide.

The arrangement of the foot brake has been entirely re-designed, the pedal being now operated by the heel. The footrests also carry a very practical and neat front wheel stand. The magneto advance is now operated from the handle-bar. The bracket, which forms both the guide for the Bowden cable and an anchorage for the return spring, is bolted to the

magneto itself, from which it is rendered detachable, the fixture being an extremely neat and simple one. The other refinement is a petrol priming device. Owing to the inclined position of the cylinder, a specially turned-up compression tap is required, and in order to make this operation



Handle-bar controlled magneto advance of the P. & M.



P. & M. foot brake pedal.

easy, the cock-plug is considerably extended forward so that the handle of the cock does not foul the cylinder support. A short tube from the tank leads to the tap, the outlet being controlled by a screw-down needle valve. With regard to the 2½ h.p. lightweight, this will have the latest B. and B. carburetter and handle-bar control to the magneto.

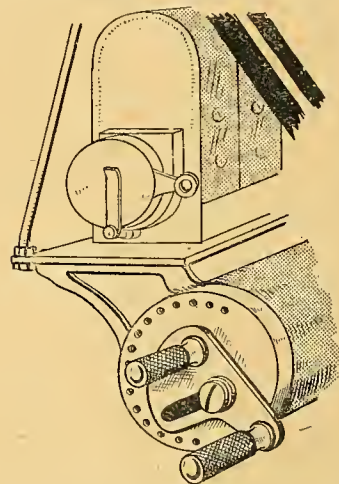
Armstrong Gears.

A few days ago we were given an opportunity of thoroughly inspecting the manufacture of the Armstrong three-speed hub for motor cycles. Accompanied by Mr. Reilly (works manager), we made a tour of the splendidly equipped works, and one of the first things we noticed was the special machinery for cutting the pinions. A row of these machines has been laid down, and no drifting or broaching of the pinions is allowed in the manufacture of this gear. All the pinions of the Armstrong gear are milled, and subsequently gauged to a thousandth part of an inch. Our visit was of absorbing interest, and we feel confident that, equipped as the Armstrong Gear Co. is, no inaccurate part can issue from its works.

For next year a few slight alterations have been made, as the firm will market two types one called the Mark 2, which

is suitable for machines up to 3½ h.p. solo, and the other Mark 3, which is intended for 3½ h.p. sidocar machines. The latter model will have a slightly increased number of plates in the friction clutch, and they will be made alternately of phosphor bronze and steel. The total number of plates in this hub is fourteen, and the added weight 2 lbs. All the hubs before being sent out are subjected to an extremely severe test to prevent any possibility of clutch slip.

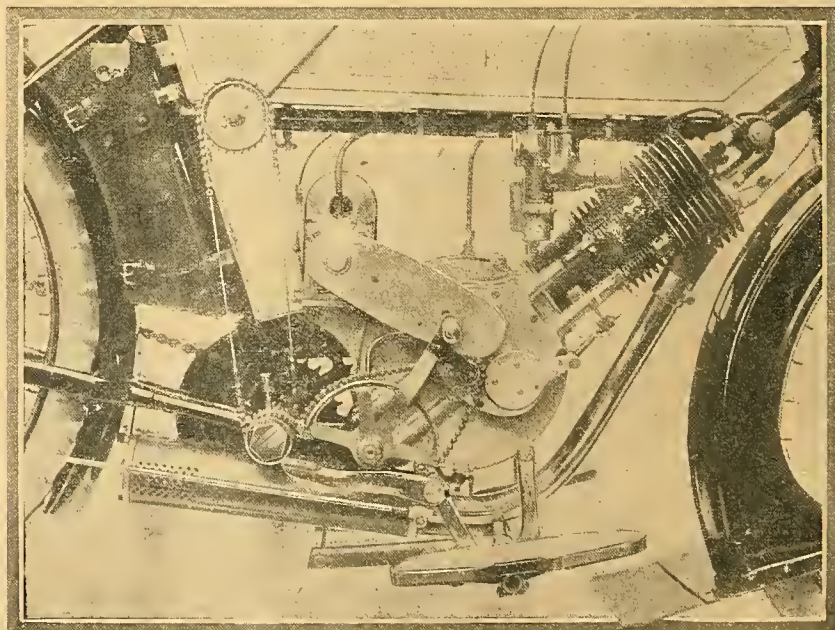
The best way to lubricate the hub is to disengage the clutch, and to lubricate on the clutch side with thin lubricating oil such as is employed for push



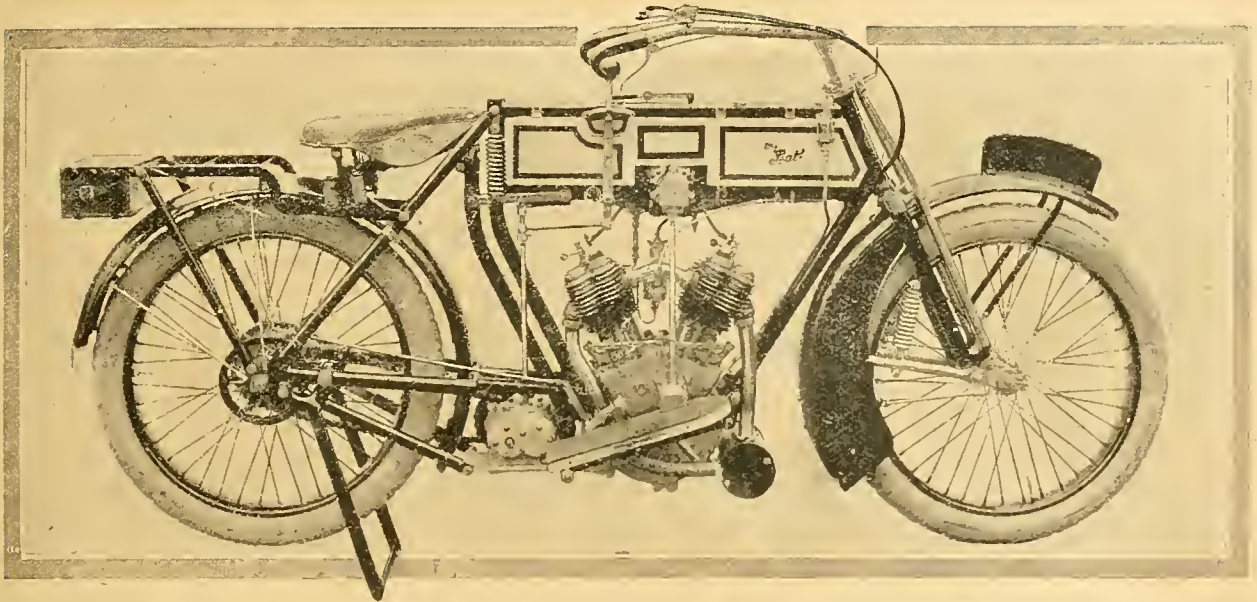
B.S.A. new Bosch magneto bracket and exhaust cut-out.

cycles. If this be done the oil will reach the clutch plates more readily.

At the Armstrong stand, No. 33, will be found sections of the gear and other interesting items.



Power plant of the 3½ h.p. P. & M., showing kick starter and gear control.



The 1912 chain-driven twin-cylinder Bat-Jap, showing method of operating the new pattern two-speed countershaft gear.

Bat.

As may be expected, the exhibit of the Bat Motor Manufacturing Co. will be an imposing one. The chief novelty consists of the sidecar machine, which is fitted either with a 5-6 or 7-8 h.p. J.A.P. engine.

In the first place, the transmission is by chain through a counter-shaft gear box of the sliding dog clutch type. Ball bearings are fitted throughout, and on the sprocket side of the driven shaft double ball bearings are used. The clutch is in the rear wheel, and is one of the internal expanding pattern. The expanding segments are made from the solid metal and are operated by means of wedges. Powerful spring coils pull these wedges into the splits in the phosphor bronze and expand the segments against the drum on the sprocket. Normally, therefore, the clutch is in engagement. To disengage the clutch the operating mechanism is put into action by means of inclined planes on the exterior of the clutchshaft. A ball bearing thrust is provided. The gears are changed by means of a lever on the top tube, surmounted by a wooden knot working in a quadrant. The clutch is operated by a pedal situated close to the rider's left foot. The attachment of the gear box is interesting. It is suspended on a slotted aluminium plate, webbed to add

to its strength, fixed in front to the rear end of the crank case and at the rear by stays running from the ends of the back forks. The engine chain is adjusted by sliding the gear box along the slots, and the back chain by the usual type of chain adjusters. A further improvement in this machine is the re-designing of the spring frame. It will be remembered that in the Bat spring frame both saddle and footrests are inter-connected. In the new type the moving portion of the frame is suspended at its lower end, forward of the crank case, and it will be seen from the illustration that there is ample provision for large footboards, which provide a very comfortable position. The movable portion of the frame is held on two powerful coil springs, which not only give to the road shocks but also take the rebound. One spring is carried on each side of the top tube. The spring forks have been slightly altered, and the girders are now brazed solidly to the lugs. Side shields are fitted to the front mudguards. A crossbar is fitted to the handle-bar to add to its strength, and for the purpose of carrying accessories. 650 x 65 mm. grooved Dunlops are fitted.

The engine, with its well-known magneto drive, remains unaltered, and the B. and B. carburetter is fitted in all cases. Altogether the machine is well designed throughout, and the finish is excellent.

The single-cylinder 3½ h.p. Bat continues to be fitted with the P. and M. gear, and the latest type control is now employed. On this the spring frame follows the 1911 lines, but a new and improved type of spring is used.

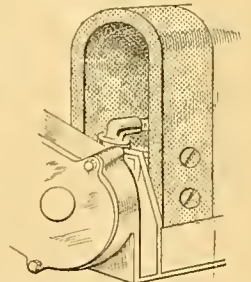
The Bat exhibit will include all the models the firm manufacture, including a new 8 h.p. T.T., 90 x 77½ mm., fitted with overhead valves, and a 5 h.p. T.T., 85 x

65 mm. In these T.T. models the magneto is carried low down in front of the engine.

Lincoln-Elk.

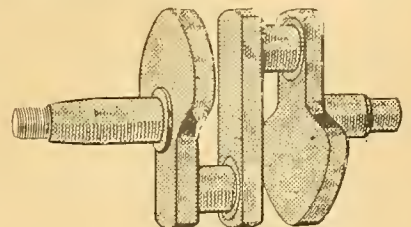
Kirby and Edwards will have a comprehensive exhibit of ten Lincoln-Elk machines at Stand No. 84. The model A is a 3½ h.p. machine fitted with the firm's own 85 x 88 mm. engine, Bosch magneto, B. and B. carburetter, and Druid spring forks. Palmer tyres are fitted, and this model will be supplied with the Lincoln-Elk two-speed gear and free engine, free engine clutch alone or fixed gear. The

3 h.p. model B has a 79 x 82 mm. engine and the same specification as above. The 2½ h.p. model C is a lightweight, 70 x 72 mm. engine, and is sold at a remarkably low figure. All machines are

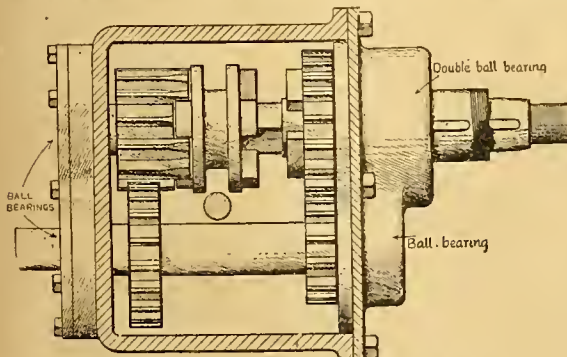


The inside chain casing and magneto platform of the Trump-Jap is cast in one piece as shown.

manufactured complete on the firm's own premises. Visitors to the Show should not fail to inspect the new two-speed gear and free engine clutch, which are also made in the same factory and claimed to be novelties.



New design balanced Douglas crankshaft.



Horizontal section through the dog clutch gear on the Bat.

1912 Models.—

B.S.A.

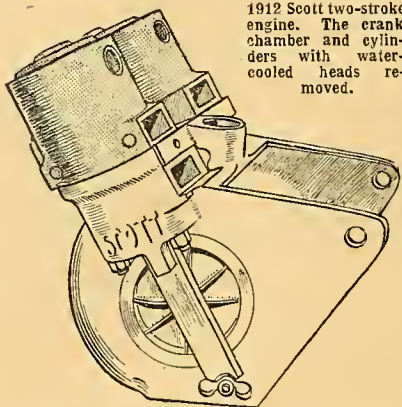
The B.S.A. Company will list four models for the 1912 season. They are a roadster, a free engine, a two-speed, and a T.T. model. All these types will be fitted with the 85 x 88 mm. engine, which has undergone practically no alterations. A dropped top tube is now employed on the frame. Inverted levers are used for the brake and exhaust lifter, and the B.S.A. spring fork, which has given great satisfaction, is retained. The new type Bosch magneto is used, and the metal magneto cover fitted to this year's machine is dispensed with, as the efficient front mud flap protects the magneto from mud, while the construction of the new type Bosch guards against shorting by rain. The tank is similar to this year's, but a screw petrol tap is fitted, and the T.T. and two-speed models are fitted with Best and Lloyd sight-feed lubricators. In all types the new B. and B. carburetter is used. The front wheel can be detached by removing a central bolt on which the hollow hub spindle is carried. Pedalling gear is fitted to all except the T.T. model, and in this case it is replaced by a second pair of footrests. The foot brake is carried on a special lug. A new carrier has been evolved, having pannier tool-bags carried in metal pockets, which protect the ends, backs, and bottoms of the bags from mud splashed from the rear wheels. It will be remembered that the B.S.A. clutch, a sketch of which was published in a recent issue, consists of a double ended and double-faced cone gripped between corresponding side pieces. A new and very neat two-speed gear is fitted in the hub. It is small and light, but smooth and positive in its action. Its operation is as follows: The gear is of the epicyclic type controlled by a double-faced clutch, and is placed in the rear hub. Normally, the springs S

force the cone A into engagement with the corresponding cone B, which is splined to the hub shell H, thus locking the belt rim to the hub shell, and giving the high or direct gear. By depressing a pedal the rod K forces A out of engagement, and the gears revolve idly, giving the free engine position; but by further depressing the pedal the inner face of A is forced into engagement with the cone C, which is anchored to the frame, thus holding the sun wheel S (to which A is splined) from revolving, and causing the hub shell to be rotated through the planetary pinions P at a reduced ratio (in this case 38%).

From a short trial spin, we are satisfied that the gear is extremely simple to manipulate, and very smooth in action, and when once engaged we noticed no tendency to slip.

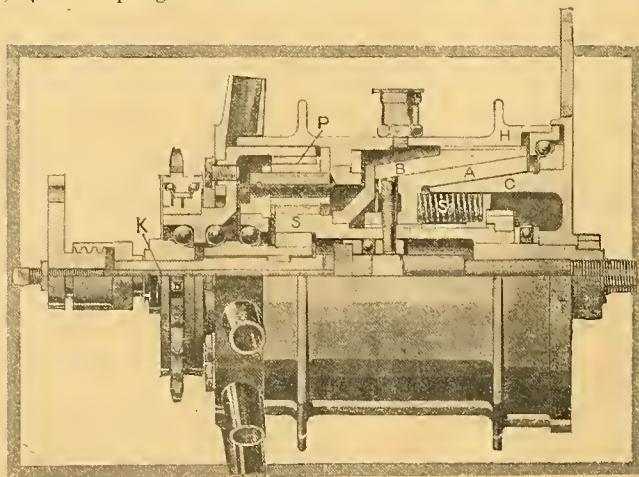
The Scott Two-stroke.

Although none of the modifications which will distinguish the 1912 Scott from that which has performed so creditably during the past season are very obvious, they are worthy of note, because they are the outcome of practical riding tests by the designer who has carried an original type to success.



1912 Scott two-stroke engine. The crank chamber and cylinders with water-cooled heads removed.

Foremost in interest naturally comes the engine. To start with the bore has been increased $\frac{1}{4}$ th of an inch and now measures 2 $\frac{1}{2}$ in. with a stroke of 2 $\frac{1}{2}$ in., the cubic capacity of the cylinders being 555 c.c. as against the previous 485 c.c. The cylinders themselves have been completely remodelled, and are now a wonderfully smooth casting from which all dirt catching nooks and crannies have been entirely removed. This is indicated by the first illustration, which shows a pair of cylinders without the water jacketed head, mounted on the aluminium crank chamber. The latter has a rounded front instead of the previous square section.



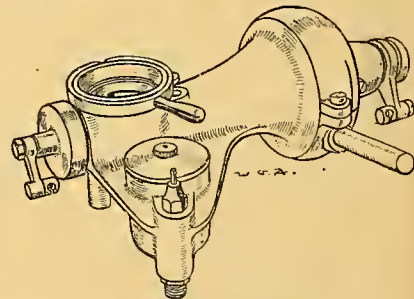
Section of the new B.S.A. two-speed gear. (See accompanying description.)

whilst it has been further strengthened by numerous reinforcing webs. Between the upper transfer port, which is on the side of the cylinder, and the lower transfer port, which is in the crank chamber, is a ridge of metal, which is machined to act as a guide for the transfer port covers and gauzes. It is, therefore, impossible to put these latter in any but

the right position, and choking of the port following upon their incorrect situation is thereby avoided.

The joint between the cylinder casting and the crank case is formed by machined cups in the last named, into which rings turned on the base of the former register, the packing being made by a narrow linen washer.

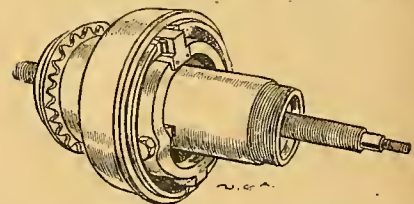
An exceedingly clever and thoroughly practical device has been introduced to take the place of the usual holding-down bolt, the use of which necessitated four pockets for the nuts in the side of the casting. Instead of the usual bolt is a shouldered stud, the smaller diameter of which passes through a lug on the side of the crank chamber, and is threaded for its bolt in the ordinary way. The larger cylindrical shoulder lies inside a blind hole drilled in the water-jacket casting, where it is held in position by a knob-headed pin. In order to remove the cylinders all that it is necessary is



The new Scott carburetter.

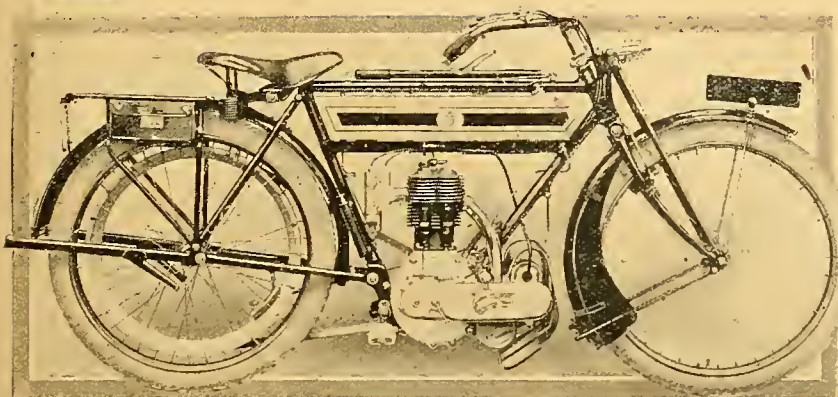
to slacken the underneath nuts to a slight extent, when the securing pins are withdrawn and the cylinders free to be lifted clear.

The carburetter has been remodelled. The second illustration indicates that the arrangement remains the same. All the air for the mixture is taken past the jet (except that which may in special circumstances be allowed to enter through the jet cover), and it all comes from the space between the crank chamber walls, where it is not only warmed but free from dust. An automatic valve with an air cylinder dashpot controls the main air admission, and to allow for additional air adjustment the whole of this valve with its circular brass seating can be lifted to a certain extent above a second seating, this movement being accomplished by a screw action and operated by the lever shown on the right of the sketch. The spring against which this lever works is contained within a closed brass cylinder, fixed on the near side of the air valve drum, which effectively shields it from dust, dirt, and water. A similar cover is used for the throttle sleeve.



Scott two-speed gear, showing one of the drums and its expanding clutch

1912 Models.—



The new Triumph T.T. roadster, the improvements in which were enumerated in our last issue.

The throttle valve consists of two concentric sleeves moving in opposite directions and giving a central cut-off immediately behind the jet. The moment the throttle is closed two air ports come into register and deliver fresh uncarburetted air to the inlet pipe. This air is also drawn from the crank chamber, the ports (the top of which can be distinguished in the sketch) opening out into a cast-in duct which leads thereto. The sleeve and handle controlling the jet cover have been strengthened as shown.

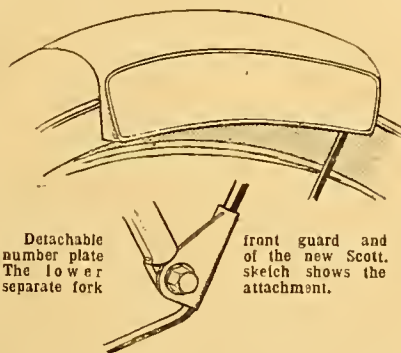
Not only has the appearance of the engine been made neater by the hiding of the carburetter control springs, but a further effect in the same direction has been gained by having the control cranks pointing downwards, the Bowden wires to which they are attached being anchored in special lugs cast on the crank chamber (see sketch on previous page). The extra air valve and its seating can readily be removed by slackening the nut on the side of the drum which is partially split for locking purposes.



The Scott detachable spring footboard (shown upside down).

Turning now to the two-speed gear, this has been entirely re-designed and now runs on four large diameter ball races with 9.32in. diameter balls. Apart from this point, however, the wedge action, which is used to expand the hardened steel clutches, has been considerably improved, and is now so easy to operate that either gear can be put in (and will remain in) with the pressure of a finger. The sketch on the previous page illustrates half of the gear, showing the wedge action. The ends of the expanding rings are inclined towards one another, and into this converging gap are thrust a couple of hardened steel rollers supported in a cage. The peripheries of these rollers bear together, and as they roll upon one another the friction in producing the expanding action is very slight indeed. Their housing is carried by a sliding ring keyed to the

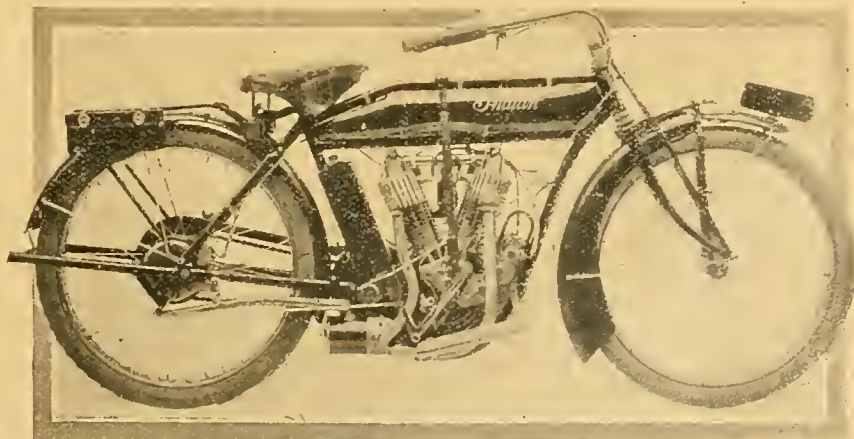
centre spindle and operated by an internal push rod. The drive between the spindle and the expanding ring is, however, not taken through the wedging



Detachable number plate. The lower separate fork

front guard and of the new Scott. sketch shows the attachment.

rollers but through a tongue made integral with the sliding ring, which engages with a key slot in the expanding ring. (In the sketch this tongue and slot are shown at the bottom of the clutch and the roller-wedge at the top.) The expanding clutches are fitted with specially hardened end pieces, and are ground perfectly cylindrical, so that their pressure of contact with the outer drum is uniform around their periphery.



Valve side of the 1912 clutch model 7 h.p. Indian.

Sidecar attachment lugs are brazed to the frame at the steering head and also immediately in front of the back axle slots. The down tube, which forms the oil tank, has been increased in diameter, and the filler placed lower down, so that spilling out of the back tube is impossible.

An excellent point is that the spring footboards are now made completely and almost instantaneously removable (see sketch). In the rear the footboard is supported upon a sprung D tube, to which it is secured by a spring latch and a couple of claws on a brass lug. In front it is supported and also suspended by a single leaf spring which slips on to the end of the cross tube. It will be seen that, although the boards are detachable—a very handy thing in cleaning or adjusting—the machine can be safely leant upon them, as they cannot shift in an upward direction.

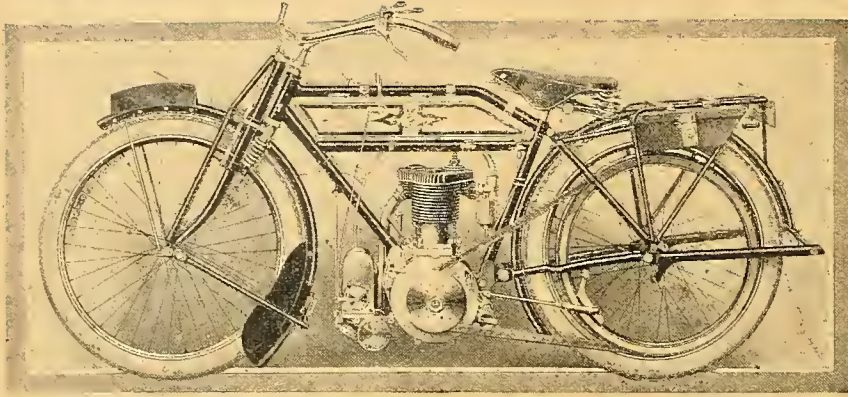
Amongst other minor improvements are: Petrol tank increased to two gallons capacity; adjustment of automatic oil-feed made quicker and self-locking; recessed pannier tool-bags in carrier; side wings of curved form, die-stamped, and therefore quite rigid (these protect the front of the engine completely and are fitted with a bright stout aluminium beading which will stand any amount of scraping, etc., and look little the worse for it); larger diameter back wheel bearings, stronger spokes, and heavier rims; chain guard covers entire upper part of chain; enclosed magneto; shorter wheelbase (this is now 54in.); kick starter put forward of back axle, so as to be independent of driving chain adjustment.

Altogether the 1912 Scott will be in general considerably nearer perfection than the 1911 model, and this is high praise indeed. We are informed that the past somewhat restricted output is to be doubled next year.

E.L.I.

The E.L.I. Motor Mfg. Co., Bristol, will show at Stand 54 an example of their motor bicycle which is named the E.L.I. The machine has a Precision engine. The same exhibit will also include a Superbe sidecar with sprung axle and special luggage carrier, several samples of a new registered spring front fork, a provisionally protected sidecar stand, and the E.L.I. mudshields.

1912 Models.—



The 1912 T.T. model Ariel, which now has a dropped frame.

Matchless.

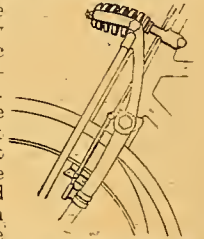
Messrs. Collier and Sons will exhibit ten Matchless motor bicycles and two sidecars, also C. R. Collier's famous red 7 h.p. racer, on which he has made world's records for the kilometre, mile, and five miles. The lady's 2½ h.p. m.o.i.v. is fitted with a three-speed gear, and the engine is vertically placed in a new open frame. The following men's machines will be on view: A 3 h.p. twin, m.o.i.v., 60 × 76 mm. engine; a 3½ h.p. single-cylinder, 85½ × 85 mm., m.o.i.v., free engine clutch; a similar machine with three-speed gear; a 5 h.p. twin, 85 × 65 mm., overhead valves, fitted with the Matchless six-speed gear, as used in the T.T. races; a 6 h.p. twin, 76 × 85 mm., m.o.i.v., with free engine clutch hub, and special touring equipment. In addition to the above there will be six standard models fitted with the latest ball bearing Bosch magnetos, spring front forks, adjustable pulleys, stands to both wheels, number plates, bags, and tools.

The principal improvements introduced by Messrs. Collier are the six-speed gear already referred to, stronger mudguards with metal side shields to front wheel, and back mudguard fixed without stays.

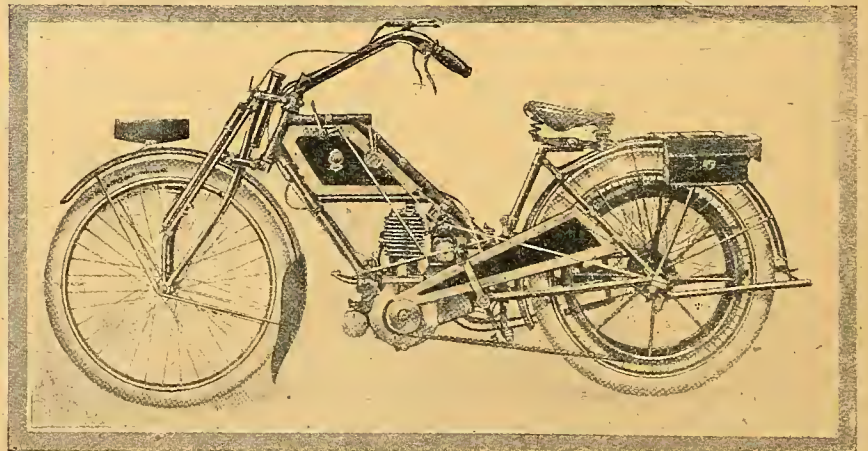
The Matchless engine will make its first appearance. Several notable improvements will be noticed in this engine especially the timing gear, valve lifting mechanism, and compression taps, whilst all running parts will be absolutely inter-

changeable with the J.A.P. engines, which Messrs. Collier have previously used so successfully. The adjustable pulley has a positive locking arrangement.

twin 76 × 85 mm., at 8 h.p. twin 35 × 85 mm., and a 4 h.p. single-cylinder 35 × 85 mm. The back wheels of the sidecar machines are fitted with 650 × 65 mm. voiturette tyres, and the front wheels with extra heavy 26 × 2½ in. non-skids. Lubrication in the case of all these machines is by J.A.P. automatic lubricator and auxiliary hand pump. Mud shields are fitted over the belt rim, and the front wheel can be quickly detached by means of a hollow spindle. The two-speed gear and clutch is in the back hub and operated by two pedals which prevent any possible mistake being made in changing gear. A racing model will also be on view fitted with an 8 h.p. twin-



New design fork and front brake stirrup on the 1912 Triumph.



New model ladies' Matchless-Jap, with three-speed gear.

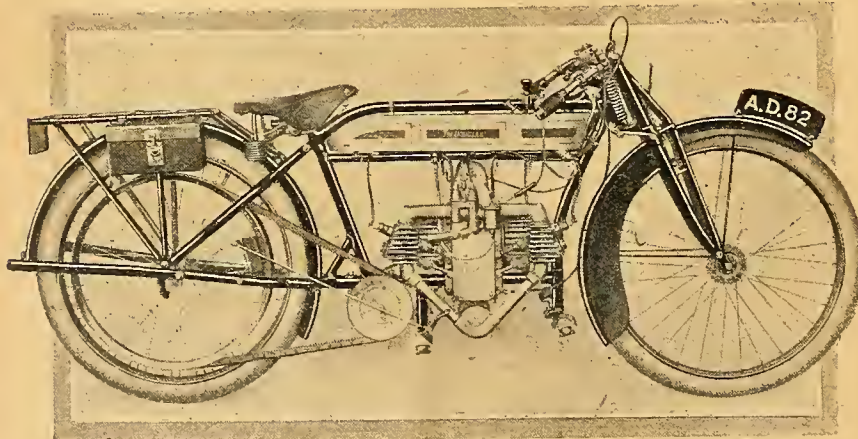
P.M.C.

The Premier Motor Co., Ltd., Birmingham, will exhibit, in addition to the Rex-Jap, illustrated last week, several De Luxe models specially designed for sidecar work. Among them are a 6 h.p.

cylinder J.A.P. engine. The P.M.C. Motorette will, of course, be staged.

A.C. Sociables.

For next year two types of the A.C. sociables will be manufactured—the Standard and the De Luxe. An improved form of two-speed gear has been introduced, the design of which is exceedingly neat, even the brakes with which the changes are effected being enclosed. The new gear control is by two pedals, that on the right when pressed down engages the low gear, and when up allows the high speed to come into engagement. The left-hand pedal controls a ratchet brake, and when pressed down releases the clutch before applying the brake. The steering tiller is now hinged direct to the steering column, which turns on ball bearings, and all steering connections are of the ball and socket type. The stub axle pivots are provided with a ball thrust beneath, and an oilproof and wet-proof central pivot steering is provided, which includes front wheel brakes of the external type, the wearing parts of which are interchangeable with the gear brakes. Sankey detachable steel artillery wheels will be fitted both to the front and rear.



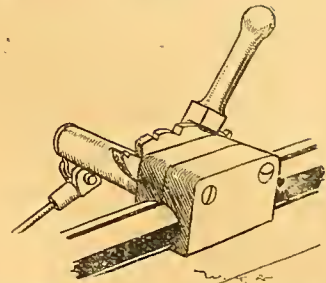
New model 2½ h.p. T.T. m.o.i.v. Douglas with two-speed gear.

New Sturmey-Archer Three-speed Gear.

A combined hub gear and clutch of great ingenuity is being placed upon the market for 1912 by Sturmey-Archer Gears, Ltd., Lenton, Nottingham. The device is conceived on quite original lines, and as will be seen possesses certain advantages, among the most important of

second sun-wheel J can be looked to the drum A in a precisely similar manner, and by means of dog clutches cut on their faces, the two sun-wheels G and J can also be locked together.

The high gear, in which none of the pinions transmit any power, is obtained by locking one sun-wheel J to the ring A and the other sun-wheel G to the ring H. At the same time G is locked to the sun-wheel J. The whole of the hub, therefore, revolves solid. To obtain the second speed, the sun-wheel J is locked to the hub spindle. In this case the driving pulley A, to which is spoked the belt rim, drives the ring B, which carries round with it the planetary pinions CC. These take round with them the ring D, which drives the flange H directly through the



The change-speed lever and quadrant on the top tube. In the forward position shown, the low gear is engaged.

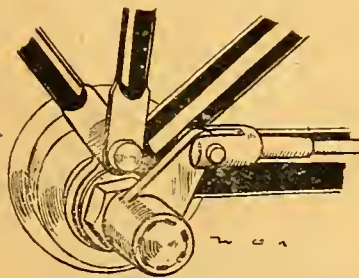
clutch is accomplished by means of a quick-thread drum operated by a pedal.

The gear is changed by a lever on the top tube working in a notched quadrant, the lever contains a small wedge-shaped spring plunger. When the lever is pulled right back the gear gives the direct drive; in the middle notch the second speed, and in the position shown in the sketch the lowest speed. Between the

second train locked solid.

The Low Gear Action.

To obtain the lowest gear both sun-wheels are locked to the spindle, then the ring A drives the ring B, which carries with it the planet pinions CC, which accordingly revolve the ring D exactly as before, there being a fifty per cent. reduction be-

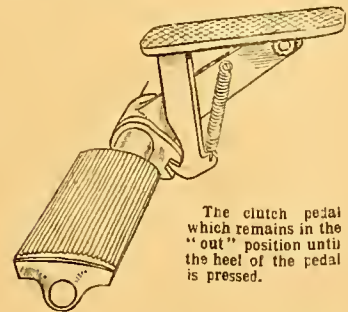


The quick thread drum and clutch-rod.

tween A and D. D, however, is in one piece with the ring E, and as this rotates the planet pinions FFF follow it round and roll upon the fixed sun-pinion G. In doing so they carry round with them their bracket H, from which the power is taken to the clutch.

Ingenious and Simple.

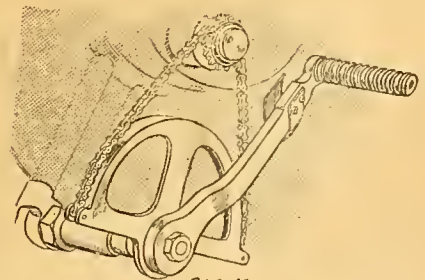
The operation of the gear is carried out entirely by means of the two sun-pinions, which are arranged in a very ingenious manner, so that they perform their three functions at three different positions along the hollow spindle. An intermediate free engine position is provided between the direct drive and the second gear, but this is only incidental, the clutch being used for this purpose in the ordinary course of events. A free wheel clutch is fitted outside the hub shell, and allows the engine to be started by pedalling with the wheel on the road. The second illustration shows the internally-grooved outer hub and two of the clutch discs, of which there are forty-one, made alternately of phosphor-bronze and steel. The operation of the



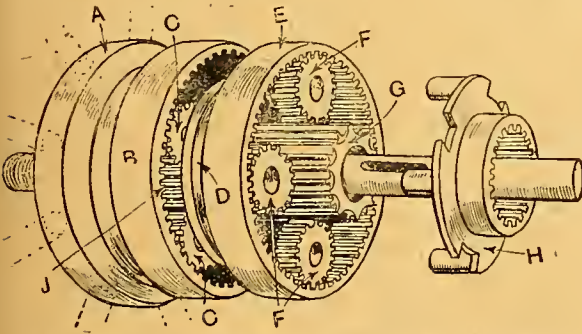
The clutch pedal which remains in the "out" position until the heel of the pedal is pressed.

top and second gear notches is a half-notch which represents the free engine position which has already been mentioned. This notch is provided for the purpose of adjusting the controlling rod. The clutch pedal is furnished with a neat ratchet device which allows the clutch to be locked either in or out. When the clutch is disengaged by pressing the pedal forward with the foot, the ratchet automatically comes into operation and holds the clutch in its "out" position. Upon pressing the heel of the hinged pedal the ratchet is disengaged until the pressure is released.

A 1912 P. & M. IMPROVEMENT.

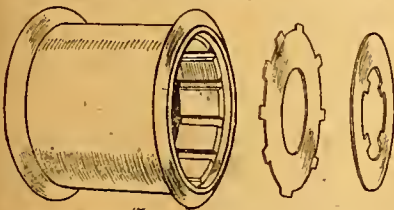


Details of the new P. & M. foot starter. The crank is pressed forward, the small chain wheel being mounted on the half time shaft.



The Sturmey-Archer three-speed hub gear shown with gearing withdrawn from the hub shell.

which may be mentioned the fact that upon the highest gear the power is transmitted direct, the two lower speeds both being indirect. This allows the use of a large diameter engine pulley. In addition to containing a multiple disc clutch, the hub comprises two separate, but inter-connected, trains of epicyclic gearing. The top gear being direct, the second drives through one train of epicyclic pinions, and the lowest through both trains. Reference to the first illustration, which shows the gear portion of the hub withdrawn from its shell, will make the arrangement clear. The hollow spindle is a fixed one; running on it on ball bearings is the hub A of the spoked belt rim; the spokes are shown dotted. This hub is integral with the epicyclic drum B, which also runs on ball bearings. Meshing with the internal teeth of B are four planet pinions CC, which revolve loosely on pins fixed to the carrier D, which, in turn, forms part and parcel of the second epicyclic drum E. This last again has four internal planet pinions FFF which mesh with a sun-pinion G. The planetary pinions CC mesh with a similar sun-wheel J, and both of these sun-wheels are capable of being locked in turn to the driving ring H, the flange



The S.A. hub shell and two of the clutch plates.

of which is recessed to engage with the driving members of the multiple disc clutch. The locking between H and G is effected by an internally-toothed ring, the teeth of which, like the teeth of G, are backed off in a very special manner to facilitate very rapid engagement. The

CURRENT

CHAT

TIME TO LIGHT LAMPS.

Nov. 16th	...	5.7 p.m.
" 18th	...	5.5 p.m.
" 20th	...	5.2 p.m.
" 22nd	...	5.0 p.m.

Next Thursday.

The *Motor Cycle* report of the Olympia Show. The descriptions will be written and illustrated by our own staff of experienced motor cyclists after a stand to stand inspection of the exhibits.

This Issue.

To-day's issue, the second of our Show specials, contains advance descriptions and illustrations of a number of 1912 models, the majority being exclusive to this journal. From a study of the pages, a reader may gain an insight into the new departures in next year's design of motor cycles before the opening of the Show.

1912 Improvements.

Alterations in 1912 pattern motor cycles generally are not sweeping, the improvements being confined mostly to detail work. The "kick" starter, the change-speed gear, brakework, and sprung pan seats have made the most headway.

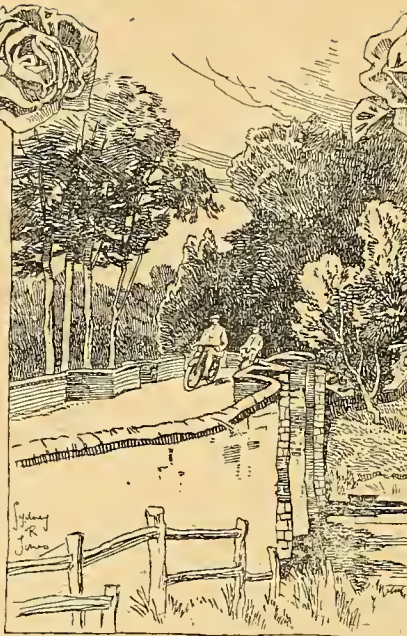
The Number of Motor Cycles.

From *The Motor Cycle Buyers' Guide* it will be seen that there are 323 different patterns of motor cycles on the market, of which 215 are single-cylindered motor bicycles. Below we give the percentages of the various types of mounts:

	Number.	% of total.
Single-cylinder cycles	215	66.6
Multi-cylinder cycles	62	19.2
Passenger machines	12	3.7
Ladies' machines	12	3.7
Sidecar combinations	22	6.8
	323	100.0

Tied Houses in the Tyre Trade.

The A.A. and M.U. has addressed a letter to its officially appointed agents and repairers throughout the United Kingdom drawing attention to the action of a firm of tyre manufacturers who have inserted a clause in their agreement to the effect that retailers of their tyres under exclusive arrangements shall not hold tyres of any other make on sale or return. The A.A. and M.U. committee expresses a hope that firms holding its appointments will not enter into any such contract, giving as the reason that the arrangement is inimical to the interests of its members in that the proposed arrangement is practically an attempt to create tied houses in the tyre trade, and it feels that the Association's appointment should not be granted to firms whose power to cater for the various needs of its members is so restricted. The above is of interest to motor cyclists, as undoubtedly the clause in the agree-



ment would apply to motor cycle tyres, and although the Manufacturers' Union has decided to adopt a standard size of tyre rim there are thousands of motor cycles in use with rims of various sizes.

Australia's First Motor Show.

This show, which was a great success, concluded, last month, with a gymkhana. The motor cycle events were as follows: Tilting at the Ring.—1. R. Readford (5-6 h.p. F.N.); 2. A. C. Searl (5 h.p. B. and B.-Jap).

Novice Race.—1. W. Meldrum (3½ h.p. T.T. L.M.C.), 45 yards; 2. W. Miller (3½ h.p. L.M.C.), 50 yards.

Obstacle Race.—1. R. B. Archer (5-6 h.p. F.N.); 2. A. C. Searl (5 h.p. B. and B.-Jap).

Speed Race.—1. A. Levi (3½ h.p. L.M.C.); 2. R. Robinson (3½ h.p. T.T. Speedwell).

Lifebelt Race.—1. J. E. Yee (3½ h.p. T.T. Triumph); 2. A. C. Searl (5 h.p. B. and B.-Jap).

Potato Race.—F. Holmes (3½ h.p. T.T. Speedwell); 2. R. B. Archer (5-6 h.p. F.N.).

SPECIAL FEATURES.

GUIDE TO THE SHOW.
NUMEROUS ILLUSTRATIONS AND DETAILS OF 1912 MODELS.

T.T. SILENCERS.

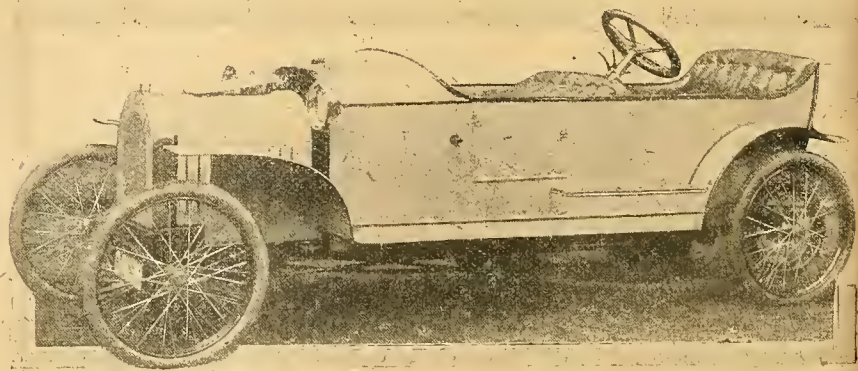
COUNTER-SHAFT GEARS AND
VARIABLE PULLEYS.

O. C. Godfrey Convalascent.

We received a letter from Mr. O. C. Godfrey on Tuesday last which shows that he is back at business once more. He tells us that he has every hope of being well enough to attend the Show. The winner of the Senior T.T. wishes to thank all the kind friends who made enquiries as to his progress while at the Hampstead Hospital, as he finds it quite impossible to write to them all.

An Easy Road out of Lynmouth.

Commenting on an article in *The Motor Cycle*, "Kuklos" writes as follows in *The Daily News*: "A capital road leads into Lynmouth (or out of it) by gradients so easy that they present little difficulty to the bicyclist and none to the auto-cyclist of any power whatsoever. It leaves Lynmouth between the two horrors referred to, winds easily and beautifully up the Watersmeet Valley as far as Hillsford Bridge, where it breaks away from the Brendon and Oare Road, turns right and north over the 'new motor road,' and climbs with only one sharp pitch to Simonsbath, on Exmoor. There you either turn right and west for Challacombe, Blackmoorgate, and Ilfracombe or Barnstaple, of left and east for Exford, Wheddon Cross, and Exeter or Minehead or Taunton. The latter is the way to Lynmouth for all those ordinary autocyclists who are not out to ruin their tyres or twist their frames." "Kuklos" adds, "It goes nowhere near the Doone Valley, where there is no road at all." Perhaps the Uxbridge motor cyclist who regularly uses this road will enlighten "Kuklos."



The 3 h.p. Rollo tandem-seated quadcar, which weighs 4½ cwt. The transmission is by silent chain and two Whittle belts. This machine will be further described in a future issue.

British Imports of Motor Cycles.

The Board of Trade returns show that the imports of motor cycles for the month ended October 31st for the last three years were as under:

	1909.	1910.	1911.
Motor cycles—			
£	£	£	£
3,221 ...	1,390 ...	1,709	
Parts thereof—			
3,014 ...	4,559 ...	3,018	
Total—			
£6,235 ...	£5,949 ...	£4,727	

For the ten months ended October 31st for the three years the figures were:

	1909.	1910.	1911.
Motor cycles—			
£	£	£	£
35,364 ...	40,655 ...	37,739	
Parts thereof—			
24,027 ...	47,032 ...	54,847	
Total—			
£59,391 ...	£87,687 ...	£92,586	

British Exports.

The exports of British-made motor cycles for the month ended October 31st for the last three years were as follows:

	1909.	1910.	1911.
Motor cycles—			
£	£	£	£
9,295 ...	15,906 ...	33,020	
Parts thereof—			
2,552 ...	2,847 ...	7,844	
Total—			
£11,847 ...	£18,753 ...	£40,864	

For the ten months ended October 31st our exports are represented by the figures hereunder:

	1909.	1910.	1911.
Motor cycles—			
£	£	£	£
46,945 ...	93,346 ...	198,293	
Parts thereof—			
26,722 ...	32,063 ...	56,568	
Total—			
£73,667 ...	£125,409 ...	£254,861	

From the above statistics it will be seen the exports for the ten months of 1911 are just over double what they were for the corresponding period of 1910, and nearly four times the amount in 1909.

A.C.U. Notes.

Subject to confirmation by the General Committee of the Auto Cycle Union, the Competitions Committee has decided that the dimensions of the engines to be used in the 1912 Tourist Trophy Races shall be as follows:

SENIOR T.T.—Capacity limit up to 500 c.c. (viz., Class C) for any type of engine; that is to say, for single and multi-cylinders or two-strokes.

JUNIOR T.T.—Engine dimensions to be up to 350 c.c. (Class B) for any type of engine. Race to be held one day in June or September, according to when permission can be granted by the island authorities. Every effort is to be made to get this date settled at the earliest possible moment. Naturally it depends upon permission being granted whether or not the race will be held in the Isle of Man, and consequently in this preli-



iminary announcement no idea of a definite date can yet be given.

As regards the two one-day trials. The Spring trial is to be held on March 2nd over a course to the south of London. The Autumn one-day trial will be held on October 26th over a course in the Midlands. The regulations governing these trials will be discussed at a meeting of representatives of the A.C.U. and the Motor Cycle Manufacturers' Union.

SIX DAYS' TRIALS.—It has been decided to hold these from the 12th to the 17th of August, radiating from a centre which has not yet been settled.

LAMP TRIALS.—The A.C.U. considers with favour the holding of a lamp trial during the winter, and the matter will be placed before a joint committee of the A.C.U. and the Motor Cycle Manufacturers' Union.

A permit has been granted to the North-west London M.C.C. to hold an open winter run to Gloucester and back on December 30th.

Abandoned.

The Auto Cycle Union inter-club championship, and also the annual race meeting, are to be dropped. The former event was instituted in 1910 when the Coventry and Warwickshire Motor Club won, this year the Oxford M.C.C. proved victors.



Latest design Lea-Francis warning triangle, fitted with Lea reflex lights in the corners. It would be well if some such lighting device were compulsory. This and other reflector warnings will be exhibited at Olympia.

The Motor Cycle in Canada.

The pastime is gaining favour in Canada, and it is estimated there are 600 motor cyclists in Toronto alone. The Toronto M.C.C. at their last meeting decided to affiliate to the Federation of American Motor Cyclists.

40,000 Miles in Forty Weeks.

It should be noted that Harry Long's ride of 40,000 miles on a free engine Triumph occupied only ten months, although, as the ride began in January and finished in November, eleven different months came partly into the total time.

Railway Facilities to Olympia.

The London and North-Western Railway Co. have consented to grant special cheap bookings to London, on Wednesday, November 22nd, from Stafford, Rugeley, and Lichfield. The train leaves Rugeley 7.57 a.m., and returns 4.5 o. 5.35 p.m. from Euston. Return fare 7s. 6d.

Speed Limits in Sussex.

The Sussex County Council have made application to the Local Government Board for a ten miles speed limit over a considerable area of road at Petworth. The A.C.U., R.A.C., and Legal Departments, being of opinion that some of the roads comprised in the application do not necessitate any such limit have given notice of opposition. The L.G.B. inquiry will be held on December 2nd at 11 a.m. at Petworth. Motor cyclists acquainted with the district should communicate with the secretary of the Union, Mr. F. Straight, R.A.C. Buildings, Pall Mall, S.W.

Meeting of Club Secretaries.

The committee of the Auto Cycle Union has convened a meeting of hon. secretaries of clubs to be held in the Press Room, at Olympia, during Show week on Saturday, 25th inst., at 6.30 p.m., for the purpose of arranging dates of events to be held during 1912. Hon. secretaries are, therefore, requested to bring the question of next year's events before their committees in order that they may attend this meeting with a list of such events, together with the suggested dates. At the conclusion of this meeting, a discussion will be held on the relations existing between the Auto Cycle Union and the provincial clubs. Owing to the limited capacity of the Press Room, clubs will only be entitled to send one delegate, and it is recommended that he be either the hon. secretary or the chairman of the club.

The Army and the Motor Cycle.

It will be remembered that some time ago the Auto Cycle Union submitted a scheme to the Army Council for the provision of a number of motor cyclists in cases of extreme emergency. Nothing much has been heard of the matter since, but an advisory committee, consisting of representatives of the War Office and the Auto Cycle Union and the Automobile Association, have held many meetings to draft and prepare a scheme likely to be acceptable. This scheme has now been completed, and as soon as finally approved by the Army Council will be published. Interested readers can leave their names and addresses at Stand No. 172, Olympia.

SOME SIDECARS FOR OLYMPIA.

Millford Sidecars.

Mills and Fulford will exhibit at Stand 65 examples of all their Millford sidecars. These will be found suitable for all pockets, as their range of designs starts with a very low-priced sidecar called the Herald, the most expensive one embodying all the latest ideas such as the radial castor wheel, with spring wheel and coach-built body. Among the other designs which will be exhibited are the rigid Millford sidecar with several distinctive designs of chairs in cane and wickerwork. Several will be specially made to enable a child as well as the passenger to be carried. Among the refinements which will be found on these up-to-date sidecars for 1912 are wind screens, luggage carriers, petrol carriers, etc.

In the new models it is now possible to bring both sidecar wheel and motor bicycle wheel absolutely parallel. This is provided for by all-round adjustability, which allows the sidecar to be lined up with the bicycle in any direction, both vertically and horizontally. Wicker and cane chairs with side doors will be quite a feature of the Millford sidecars for next year, the very latest type with torpedo-shaped front and side door being exceptionally taking in appearance. The side-door type of sidecar will be extremely popular next year, as with it all trouble of buttoning up and unbuttoning the apron is obviated. At present few sidecar passengers can leave their seats till the driver has dismounted and unbuttoned the apron at the top and bottom. With side door the passenger can descend whilst the driver remains seated, often a great convenience.

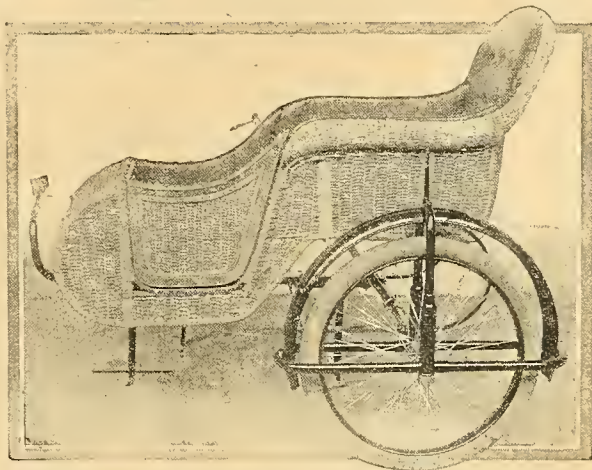
Gloria Sidecar.

The Gloria sidecar has been designed to meet the demand for a high class attachment for a motor cycle. The patent spring wheel suspension insulates the passenger from road shocks, and the makers claim that it imparts a free trailing movement to the wheel, so that there is no binding or dragging action.

The quick attachment method is designed as follows: The head attachment, instead of being a fixed clip to the down tube of the motor cycle, is connected at the head to the top and bottom frame tubes by means of two clips clamped to the framework and connected by a steel spindle, which also carries an arm for coupling to the sidecar connecting tube. The bottom clip has a swivel joint which enables the device to be adjusted at any angle to suit various makes of machine. The rear attachment is in the same form, the clips clamping to the rear and chain stays. The patent attachment described above is suitable for Matchless, Rover,

Triumph, L.M.C., and Bradbury motor cycles, and for those for which it is not suitable a single tube clip method of attachment can be supplied.

Three sidecars will be shown fitted respectively with standard cane body, coach body, and cane torpedo body. A fourth one will be a special registered design, and will be fitted with cane torpedo body and accommodation for petrol tank and small touring trunk. This last was illustrated last week (see page 1199).



Millford spring-wheel sidecar with latest form of cane chair with rolled front and side door.

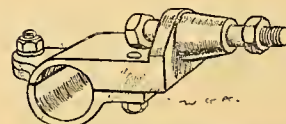
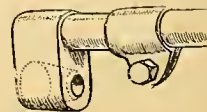
Montgomery Sidecars.

On Stand No. 60 in the Annexe will be shown a full range of the well known Montgomery castor wheel, spring wheel, and rigid sidecars, which have been practically redesigned for next season. One of the features of these sidecars is a patent spring under the foot of the chair, which greatly adds to the passengers' comforts. The Montgomery patent attachments are provided with a security device which prevents the connections working loose, and stands are being fitted to support the car when it is detached from the bicycle; it also facilitates tyre repairs. All except the cheapest model have luggage carrier, petrol carrier, and tool box embodied in the construction of the chair. The castor wheel frame has been considerably

strengthened in view of it being used on high powered machines. A new model will be introduced at the Show with sprung frame, but of lighter construction than the 1911 pattern, and for use with standard $3\frac{1}{2}$ h.p. motor cycles. A patented method will also be shown for bringing the sidecar axle in line with the driving wheel of the motor bicycle. Sections of the sidecar hubs, axles, ball races, cups, etc., will be on view. The aim of W. Montgomery and Co. is to make sidecars for use on long journeys, and particular attention is paid to the comfort of the passenger both in seating and springing and protection from the weather. Luggage carrying capacity, general convenience, and ease of steering have all been carefully considered. This exhibit will comprise one of the most representative displays in the Show.

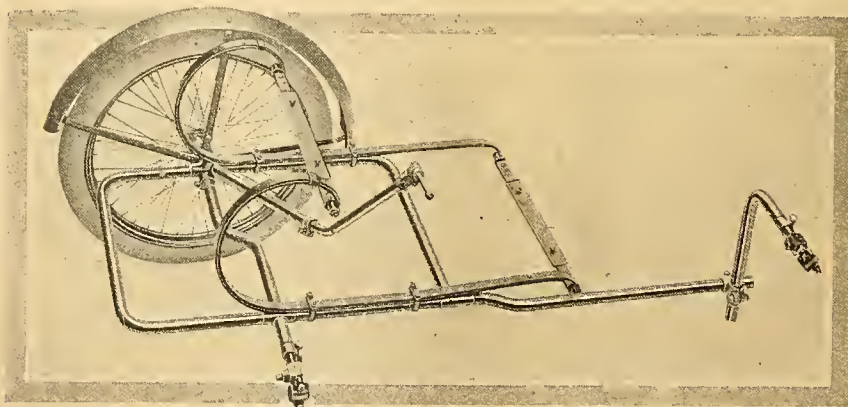
The Bradbury Sidecar.

Improvements have been made in the Bradbury sidecar, the first of which relates to its fittings. The lug, which is fitted to the down tube of the bicycle frame, terminates in a cone which fits into an internal cone machined in the sidecar bracket. These cones relieve the security bolt of all direct strain, and form a very neat and quickly detachable device. In the sidecar itself special attention has been paid to accommodation for luggage and tools, the vehicle being exceptionally well provided in this respect, there being



Quickly detachable sidecar fixings on the latest Bradbury.

first a D-shaped basket clipped to the back of the seat, a flat box underneath the cushion, a shelf inside the torpedo front, a deep and commodious pocket in front of the passenger's seat, and a couple of small baskets on each side of the chair, situated under the elbow rests.

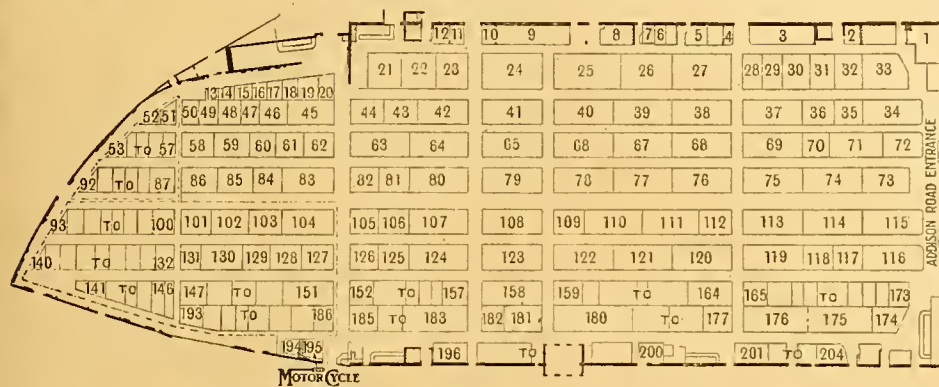


Chassis of the Chater Lea standard sidecar, which has quickly detachable joints.

OLYMPIA.

LIST OF MOTOR CYCLE EXHIBITORS WITH PLANS OF THE STANDS.

BELOW will be found a complete list of exhibitors of motor cycles and accessories at the second annual exhibition of motor cycles and cycles, with their stand numbers. The approximate position of any exhibit may be traced by reference to the reduced plans of the Show stands in Main Hall and Gallery. The exhibition will be open each day next week from 10 a.m. to 10 p.m. Readers journeying by train should alight at Addison Road Station.

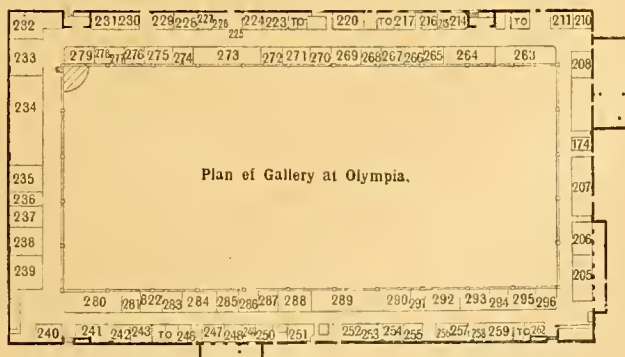


Numbering of the stands in the Main Hall and Annexe at Olympia. For guide see accompanying list.

Stand.		Stand.	
A.B.C. Mfg. Co. ... 19	F.N. Agency ... 126		
Allday and Onions ... 38	Forward Cycle Co. ... 95		
Armstrong Gear Co. ... 33	Gloria Cycle Co. ... 37		
Arno Motor Co. ... 61	Goodrich, B. F. Co. ... 22		
A.S.L., Ltd. ... 105	Gorton Rubber Co. ... 169		
Auto-Carriers ... 34	Grandex Cycle Co. ... 57		
Auto-Cycle Union ... 172	Hall and Sons, S. ... 136		
A.A. and M.U. ... 162	Hanover Rubber Co. ... 166		
Avon Rubber Co. ... 150	Hazelwoods, Ltd. ... 43		
Bat Motor Co. ... 63	Hendee Mfg. Co. ... 107		
Bates, W. and A. ... 28	Higgs, G. N. ... 85		
Bayliss, Thomas, and Co. 71a	Hobart Bird and Co. ... 105		
Binks, C., Ltd. ... 139	Hopper, F., and Co. ... 67		
B.S.A. Co. ... 122	Humber, Ltd. ... 40		
Blumfield, Ltd. ... 55	Hutchinson Tyre Co. ... 26		
Bluemel, C. W. ... 205	Iiffe and Sons, Ltd. ... 152		
Bradbury and Co. ... 116	James Cycle Co. 20 and 69		
Brown, J. T. and Sons 87	Kempshall Tyre Co. ... 161		
Calcott Bros. ... 80	Kirby, James ... 84		
Centaur Co., Ltd. ... 123	Kynoch, Ltd. ... 74		
Chater-Lea, Ltd. ... 112	Leicester Rubber Co. ... 151		
Clipper Tyre Co. ... 25	Lloyd Motor Co. ... 81		
Clyno Eng. Co. ... 83	Macintosh and Co. ... 159		
Collier and Sons, H. ... 35	Mead and Deakin ... 190		
Colmore Depot ... 101	Michelin Tyre Co. ... 24		
Comfy Sidecars ... 96	Midland Rubber Co. ... 30		
Components, Ltd. ... 124	Mills-Fulford ... 65		
Constrictor Tyre Co. ... 171	Minstrel and Rea Co. ... 77		
Continental Tyre Co. ... 163	Monovo Co. ... 144		
Corah Motor Co. ... 2	Montgomery and Co. ... 60		
Coventry Chain Co. ... 208	Morgan and Co. ... 127		
Cyclists' Touring Club 155	Moseley and Sons ... 45		
Dallison Gearing Co. ... 133	Motor Réve Co. ... 44		
Douglas Bros. ... 114	Motosacoeche, Ltd. ... 36		
Dunkley, W. H. ... 138	New Hudson Cycle Co. 75		
Dunlop Tyre Co. ... 158	New Imperial Cycle Co. 42		
East London Rubber Co. 21 and 76	Newman, S. A. ... 99		
Edmund and Co. ... 100	N. British Rubber Co. 27		
Eisemann Magneto Co. 18	N.S.U. Motor Co. ... 104		
E.L.J. Motor Co. ... 54	Nye and Co. ... 62		
Elwick Co. ... 102	Palmer, A. C. ... 98		
Enfield Cycle Co. ... 39	Palmer Tyre, Ltd. ... 164		
Firmax, Ltd. ... 142	Pedley, J. Son ... 25		
	Peter Union Tyre Co. ... 29		

Stand.		Stand.	
Phelon and Moore ... 70	Rover Co. ... 113		
Pilot Cycle & Motor Co. 56	Rudge-Whitworth ... 115		
Premier Cycle Co. ... 64	Rushmore Lamps ... 191		
Premier Motor Co. ... 108	Scott Eng. Co. ... 125		
Price and Son ... 145	Self-sealing Co. ... 165		
Puch Agency ... 90	Service Co. ... 129		
Quadrant ... 93 and 94	Shelley, R. T. ... 50		
Rex Motor Co. ... 73	Singer and Co. ... 110		
Roberts Motor Tyre Co. 146	Stevens, A. J., and Co. 128		
Rom Tyre Co. ... 157	Sturmer-Archer Gears ... 173		
	Sarridge, R. ... 140		
	Swan Motor Co. ... 91		
	Swift Cycle Co. ... 41		
	The Motor Cycle 194 and 195		
	Tormo Mfg. Co. ... 211		
	Triumph Cycle Co. ... 119		
	Trump Motors, Ltd. ... 135		
	Union Rubber Co. ... 238		
	Veloce, Ltd. ... 50		
	Vorley, H., and Co. ... 148		
	Wall, A. W. ... 111		
	Warrick, John ... 86		
	Wearwell Cycle Co. ... 59		
	Wilkinson, T. A. C., Co. 44		
	Wilton C. and Motor Co. 117		
	Winecycle Trading Co. ... 16		
	Wood-Milne ... 46		
	X.L. All ... 117		
	Zenith Motors ... 79		

GALLERY.			
Amac, Ltd. ... 254	Hunt, A. H. ... 229		
Baker, F. E. ... 253	Lake and Elliot ... 220		
Beard-Brown and Co. ... 261	Lucas, J. ... 235		
B.S.A. Co. ... 234	Lycetts, Ltd. ... 228		
Bosch Magneto Co. ... 284	Markt and Co. ... 223		
Bowden Wire, Ltd. ... 263	Merkham Trading Co. ... 219		
Brampton Bros. ... 237	Micrometer Co. ... 296		
British Hub Co. ... 244	Middlemore & Lamplugh 240		
Broadhurst, R. ... 216	Miller and Co. ... 239		
Brooks, J. B., and Co. 279	Moebius and Son ... 272		
Brown and Barlow ... 277	Powell and Hammer ... 233		
Brown Bros., Ltd. ... 207	Prices' Candle Co. ... 210		
Components, Ltd. ... 280	Renold, Hans ... 236		
County Chemical Co. ... 293	Rich Air Tube Co. ... 227		
Coventry Rubber Co. ... 295	Riley, J. A. ... 231		
Cowey Eng. Co. ... 221	Seabrook Bros. ... 241		
Cuthbe and Co. ... 287	Service Co. ... 292		
Dover, Ltd. ... 264	Smith, S., and Sons ... 265		
Dunhill, Alfred ... 232	Sphinx Mfg. Co. ... 252		
East London Rubber Co. 273	Terry and Sons ... 230		
Elephant Chemical Co. 274	Vacuum Oil Co. ... 226		
Hill, F. H. ... 215	Victoria Motor Co. ... 217		
Hobday Bros. ... 269	Villiers Co., The ... 275		
Hoffmann Mfg. Co. ... 276	Wakefield, C. C., and Co. 266		
Humphries and Dawes 289	Weill Bros. ... 278		
	Woodgates Bros. ... 214		

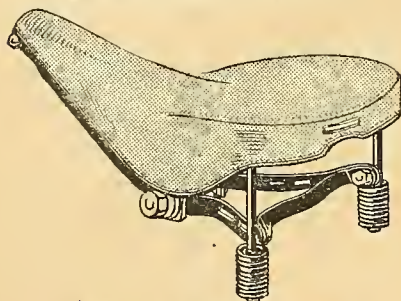


ACCESSORIES OF THE SHOW



John Bull Tyres.

The Leicester Rubber Co. will exhibit at Stand No. 151 the John Bull motor cycle cover. This cover has a cross-grooved tread and is made by a new process by which it is subjected to great compression during vulcanisation. This has the effect of making both tread and foundation absolutely inseparable. The cover is claimed to be a perfect non-skid without the disadvantage of throwing extra strain on the beads. The same firm will exhibit a motor cycle belt under the same name as the cover.



A new pattern Brooks-Triumph saddle for 1912, with anatomically shaped seat and springs in tension and compression.

Dover Specialities.

The Dover exhibit will be at Stand No. 264. The celluloid motor cycle foot pump is the standard pattern, 18in. long by 3in. diameter, fitted with a sprung in the handle, which makes it suitable for use with brazed-on clips. The foot piece is formed from sheet steel, and the portion that connects the foot piece to the barrel of the pump is also arranged to take the connection; this effects a slight saving in the weight and makes a very firm fixture.

The Dover handle-bar grip has a rounded back portion, enabling the fleshy part of the palm of the hand to fit comfortably, and the enlarged front of the grip enables the first finger to be placed in front of this excrescence without fear of the hand slipping backwards.

Dunlop.

For 1912 the central rib of the Dunlop tread has been replaced by a row of rubber studs, making three rows altogether. This triple-studded tyre is made in two weights, light and heavy, and while the heavy type will carry a 5 h.p. engine and sidecar, for higher powers light car tyres, grooved or steel-studded, are recommended for the driving wheels. The ordinary ribbed pattern, in wired-on and beaded edge covers, is retained, and if a cheaper tyre be required, the Warwick motor cycle tyre will be found to be excellent value at the price. Butt-ended as well as ordinary inner tubes will be shown, also the Dunlop motor cycle belt, which has been used by several successful competition riders this year, notably by Harry Martin on the track and Sam Wright on the road.

(Continued from page 1184, Nov. 9th.)

Speedometers and Watches.

The firm of S. Smith and Sons will be exhibiting on Stand 265 the well-known Smith speedometer for motor cycles which was introduced in the early part of this year, during which time it has been most successful. One of the latest models will be shown in combination form, with an excellent watch in a case over the top of it forming a part of the speedometer case.

In addition to the above there will be shown the Smith "Goldenlyte" motor cycle lamp with gilded lens mirror, intended to be supplied with gas by the "A.L." generator, one of the simplest types of motor cycle generators known. This has been slightly improved by the addition of a bracket at the side, allowing it to be fastened on to the usual combined lamp iron and generator holder.

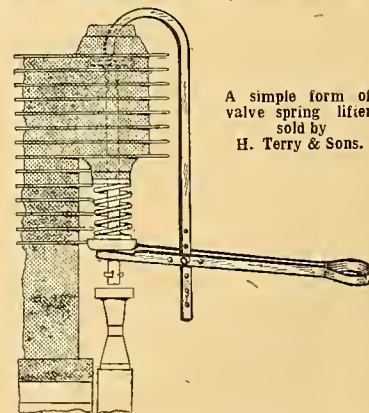
Good motor cycle watches are often hard to obtain, and it is interesting to note that this well-known firm of watch makers has introduced two or three types of well-made handle-bar watches, fitted into cases which can only be opened by means of the owners' keys.

Among the other interesting exhibits shown by S. Smith and Son will be a well-made handle-bar mirror, which is provided with an exceedingly ingenious universal clip. This clip allows an absolutely universal movement and is secured merely by screwing up one nut. The portion which clips on to the handle

bar and controls the up and down and the lateral movements of the mirror itself is controlled, as regards the clip by tightening it, and as regards the mirror by pressing the ball into the cone which engages with it on the clip.

Jones Speedometer.

Markt and Co., on their stand No. 223, will exhibit the three famous types of Jones speedometer, which have been eminently successful from the first time they appeared on the market. These types, we may remind our readers, are: Model 32 with maximum hand, Model 31 without maximum hand, and Model 26.



A simple form of valve spring lifter sold by H. Terry & Sons.

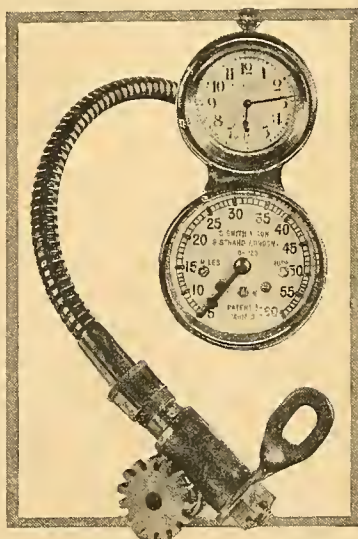
which is slightly cheaper than the others. All these models are supplied with trip mileage recorders. The chief innovation for 1912 will be the rear wheel drive for the speedometer. Markt and Co. will also show the Veeder motor cycle cyclo-meter, alarm bells for lightweight motor bicycles, and the Goodlad speed indicator, an instrument which is sold at a good deal cheaper price than the Jones.

Continentials.

The Continental Tyre and Rubber Co., Ltd. (Stand No. 163), have a variety of models which are to be retained for the coming season, amongst which we may mention the standard type, which is of the ordinary corrugated form and tread, suitable for small powered machines; the "Modèle de Course," which is now far more substantially made, and is suitable for medium powered machines; the basket pattern non-skid tyre, and a model similar to the latter, but made extra heavy; a combination rubber and steel-studded tyre, and the "Autobi" basket pattern and steel-studded types for high powered sidecar machines.

The Continental Tyre Co. are introducing a new tyre cover made especially for Indian machines.

Continental tyres have been extremely successful during the past season, as machines shod with them won both T.F. races, and on Brooklands track and elsewhere numerous successes have been gained.



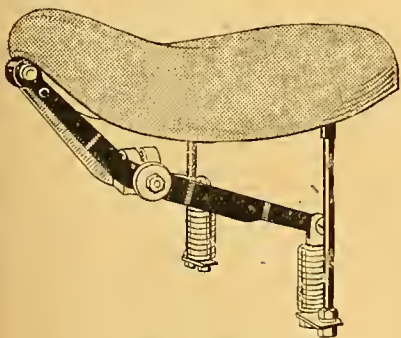
Smith's combined speedometer and watch for the handle-bar.

Accessories of the Show.—**Gorton Tyres.**

The new Gorton motor cycle tyre, the pattern on the tread of which gives the effect of the studded pattern, will be found on Stand No. 169. The studs are of such a shape as to overcome the difficulty of rapid wear. In the new pattern the studs are elongated, so that they withstand the wear considerably better. The same firm will also show two other qualities of motor cycle tyres in cheaper grades.

Clincher.

Thanks to the instalment of a new physical and chemical laboratory, considerable improvement may be anticipated in Clincher motor tyres in 1912, and the North British Rubber Co. may be expected to have several new models for the coming season. Such well-known types as the A Won have been improved and strengthened, while the rubber studded pattern is now made more substantial, and the famous "Dreadnought" cover will be retained. Various types of Clincher tyres are also made suitable for lightweight machines. The above are only preliminary details, and further improvements will be notified in our report of the exhibits.



Lycett's new pan seat.

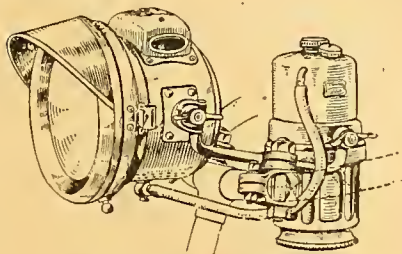
A Leather Mudshield.

Beard-Brown and Co., Northampton, will show at Stand 261 the "College" patent leather mud-shield, which protects magneto, engine, and rider. The shield is made from leather, which is enamelled both sides, supported at the top by a metal rod, this is inserted through a small aluminium lug, which can be instantly attached to the top tube of the machine. To prevent heating of the leather a metal protector is supplied at the bottom, and adjustment is obtained by means of a leather strap. It is suitable for most standard makes of machines.

Lubricating Oils.

The Vacuum Oil Co., Ltd., will be showing on Stand 226 samples of the numerous oils and greases which bear a world-wide reputation. Among these we may mention T.T. Mobiloil, introduced in the early part of this year. This is a fatty compound lubricant, which has been supplied to the best known makers, and with this oil it is claimed that there is less tendency to carbonisation. The best known oil for air-cooled engines made by this firm is Vacuum P.

On Stand 266, C. C. Wakefield and Co. will be showing samples of Castrol, the lubricant for air-cooled engines of which they make a speciality, on which many successes have been gained during the past season. Machines finishing first, second, and third in the Senior T.T. Race used this oil.

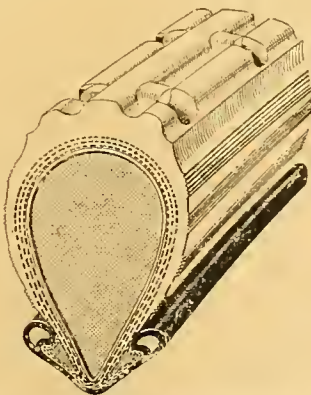


1912 Lucas lamp and generator set.

On the stand of Price's Patent Candle Co., Ltd., No. 210, there will be on view samples of the various oils and greases which have made this firm pre-eminently famous in the motor cycle world. The well-known "Huile de Luxe" is now sold in two grades. The present form is retained for use in the winter time, while the new grade, which is a good deal heavier, will be more suitable for use in the hot weather. A speciality will be made in 1912 of castor oil and various compounds of castor oil for racing machines.

Bowden Control.

There are very few motor cycles which do not make use of the Bowden method of control either for magneto, carburetter, gears, or some other portion of the mechanism. Magneto control from the handle-bar will be a very popular feature next year, and this method of control is now standardised and will be exhibited made suitable for 1910 and 1911 Triumph, Rudge, Bradbury, and Clyno machines. An adaptable type for other machines will also be on exhibition. A new and useful fitting is the Bowden exhaust lifter hold-up or clip for attachment to handle-bar. It consists of a small hook which can be slipped over any handle-bar, and will be obtainable in two types, one for inverted and the other for ordinary levers. Its cost is a few pence only, and it is an advantage under certain conditions to be able to leave



Reflex-Clipper "Ideal" special non-slipping tread.

the lever raised and to attend to some other portion of the machine, such as removing and replacing the belt. The Bowden auxiliary air inlet is an item which has been of assistance to riders during the late summer; it can be fitted to practically any machine.

R. Broadhurst.

Among the accessories which will be found on Stand 216 may be mentioned the Broadhurst mirror lens searchlight with and without hood in two sizes, 4in. and 4½in. An entirely new model head lamp with Mangin mirror lens will also be exhibited for the first time. This lamp will be supported on a fork bracket. Another novelty will be an electric dynamo fitted to a motor cycle and driven by the engine to supply current for lighting the lamp. Mr. Broadhurst will also show a complete range of touring kits, tool kits, mirrors, watches, and other specialities.

XL'All Saddles and Seats.

XL'All saddles will be found on Stand No. 117. Riders who study comfort should not fail to make a careful examination of this exhibit. There are practically no alterations for 1912, except that various styles of seat pillars have been introduced to suit different makes of machines by means of which the lowest possible riding position may be obtained. The anatomical bucket seat can now be obtained with a framework and pillar giving a much lower position than formerly. There is no doubt about the comfort of these seats, which have been used in more than one long distance record performance. We can also testify to their excellence from personal experience.



Terry's neat cable casing.

A. H. Hunt.

Many enterprising novelties, some of which will be shown for the first time, will be found on Mr. A. H. Hunt's stand. One of the most interesting will be a switch suitable for use with magneto or battery. The back of the switch frame is made of solid brass and is stepped; when the lever is pressed down and pushed over, contact is made with a plate at the farther end. This cuts out the magneto, or, if battery ignition be fitted, completes the circuit. Mr. Hunt has introduced a sparking plug protector made of a peculiar insulating material. The protector is both fireproof and waterproof. Recessed in the top is a brass washer, providing a good connection for the sparking plug. To prove that it is uninjured by fire we saw one of the protectors placed inside a gas stove and removed red hot yet quite undamaged.

Yet another novelty is a plug connection, which may be placed in no less than four positions, so that should the high tension wire be touching the cylinder, it may be, by the aid of this connection, held clear of it. The connection consists of a tube in which there are several holes, so that the plug at the end of the terminal may be slipped in any one of these.

Toronto M.C.C. Endurance Run.

The first endurance run held in Ontario took place on October 28th, 29th, and 30th, starting from Toronto. The route taken was via Lake Shore to Hamilton, Brantford, Woodstock, and London. Return via Stratford, Berlin, Guelph, and Waterdown. Over thirty competitors took part and rode Bradbury, Excelsior, Flying Merkel, Harley Davidson, Indian, Minneapolis, M.M., Pierce Arrow, Rudge, and Thor motor cycles. The affair was most successful. The roads were in fine condition with the exception of Lake Shore, which had a few mud pits and sand hills. The winners of perfect scores will have their names engraved on the Dunlop Trophy and receive a prize of ten dollars.

Any three could form a team provided they were named before the start. The scoring results were as follows:

1. Four perfect scores.—Sam Vogan, two-speed 5 h.p.; Steve License, Harley Davidson; O. D. Cooley, 5 h.p. Indian; F. Craig, 4 h.p. Flying Merkel.

2. Four tied.—E. McIntosh (4 h.p. Excelsior), one minute early at secret control; N. J. Davis (5 h.p. Indian), one minute early at secret control; Frank Lemon (5 h.p. Indian), one minute early at secret control.

Team Results.—1 (twin Indian) Connor, Daniels, and Lemon. 2 (4 h.p. Indian) Webb, Neilson, and Case. 3 (4 h.p. Excelsior), Golden, McIntosh, and Thompson.

CLUB NEWS.

Sheffield and Hallamshire M.C.C.

The annual dinner and prize giving was held on the 9th inst., followed by a dance.

Western District M.C.

A meeting has been arranged at the Olympia Motor Cycle Show for Thursday, November 23rd, at 8 p.m. Addison Road entrance.

Walthamstow M.C.

A non-stop speed-judging competition was held on the 5th inst. over a thirty mile course that had to be covered twice. The roads were very greasy in places, and, with the strong wind and plenty of hills, a very sporting contest resulted as follows. Winning team:

Rider and machine.	Time error.
W. Applebee (3½ Rudge)	1m. 19½s. fast
M. Raven (3½ Rudge)	3m. 19s. fast
Newing (4 Bradbury tricar)	18m. 20s. slow
The best individual performance was:	
W. S. Low (3¾ Scott and sidecar)	17½s. fast

Birmingham M.C.C.

The second round of the above club's autumn reliability trials was run off on Saturday last, the course was from Birmingham to Kidderminster, Bewdley, Bridgnorth, and back to Birmingham.

The following are the survivors: V. Basby, 3½ Humber; H. J. Dixon, 3½ New Hudson; R. W. Duke, 3½ Zenith; R. H. Edwards, 3½ Triumph. There will be no trial for the next two Saturdays on account of the Show. The third round will be held on December 2nd over a course to be announced later.

West Essex A.C.

A hill-climbing competition was held in the neighbourhood of Upminster recently by the above club. The following shows the results of the first eight riders in the motor cycle class:

Rider and machine.	Time.	f.o.m.
W. H. Elce (3½ T.T. Rudge)	29½s. ...	767
W. E. Gunnett (3½ T.T. Triumph)	35s. ...	591
R. Whitmore (3½ Rudge)	36½s. ...	585
J. L. Love (3½ T.T. Triumph)	38½s. ...	515
W. M. Gunnett (3½ T.T. Rudge)	37½s. ...	513
T. N. Tyson (3½ Rex)	40½s. ...	449
R. Adams (3½ Triumph)	41½s. ...	403
C. Lovett (3½ T.T. Bat)	44½s. ...	382

Newcastle and District M.C.

The members of this club held a most interesting and instructive competition at the club premises, Saville Row, Newcastle, last Thursday evening, the competitors being required to rectify in four minutes a fault previously created in a Triumph motor cycle. The sparking plug was faked and the wire detached from the throttle, and out of the eighteen competitors only Mr. R. Wilson was able to get the machine to fire, and then only whilst pedalling. Since no one succeeded in satisfactorily accomplishing the task set, namely, to get the machine going on the stand, the second prize was awarded to Mr. Wilson, and the first prize was held over to be added to the first prize in the next competition.

Westmorland M.C.C.

The Westmorland M.C.C. held its annual dinner and prize distribution on Thursday, November 9th, after which Mr. G. M. Somervell gave away the prizes.

Southampton and District M.C.

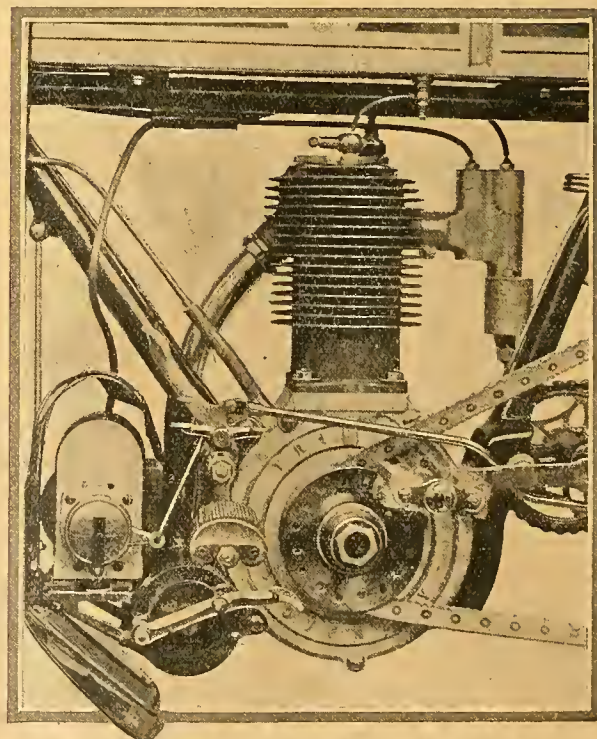
The annual dinner of this club will be held at Scullard's Hotel, Above Bar, Southampton, on Wednesday, November 29th, at 8 p.m., after which the prizes won during the past season will be presented.

Bristol B. and M.C.

The annual meeting was held on the 8th inst., when the election of officers took place and some changes in the rules were proposed, the motor cycle section having become the most important part of the club. The dinner was a great success. A gold watch was presented to Mr. F. W. Gent Wood, hon. secretary for the last five years, and prizes and medals to the successful competitors of the past season.

Bishop Auckland, Darlington, and District M.C.

The annual general meeting will be held at the King's Head Hotel, Darlington, on Wednesday, December 13th, at 6 p.m., when the election of officers and committee for next season will take place.



1912 Triumph, showing new adjustable footrests, foot operated magneto control, new tank support, and drilled engine pulley.

Club News.—**Ilkley and District M.C.C.**

The first annual dinner and presentation of prizes of the above club will be held at the Crescent Hotel, Ilkley, this evening at 7.30.

Cowbridge and District M.C.

A motor club has been formed called "The Cowbridge and District Motor Club." Motor cyclists desiring information regarding membership are requested to communicate with the hon secretary, Mr. B. S. Bird, Cowbridge.

Western District M.C.

The club will hold its annual twelve hours' winter reliability run on Saturday, December 30th. Owing to the A.C.U. up to now refusing to pass permit for this open reliability trial, the run will be confined to members of the club. Full particulars of the run and membership of the club can be obtained from Mr. G. Rowden, 40, Frognal, Hampstead, N.W.



H. Graham Dixon who is supposed to be the first to climb Sunrising Hill in competition, on a 3½ h.p. motor cycle and sidecar. His mount is a three-speed New Hudson.

The Motor Cycling Club

At the annual dinner, to be held at the Café Monaco on December 9th, all the trophies, prizes, and medals won during the year will be presented by Mrs. Charles Jarrott. These number 173, and include, among others, the president's cup, won by A. J. Moorhouse in the London-Land's End-London; the prize presented by Mrs. Jarrott for the best performance in the August reliability run, won by W. Pratt; The Motor Cycle Inter Team Challenge Cup, won this year by the Derby and District M.C.C. (previous winners the Coventry and Warwickshire M.C.C. and the Motor Cycling Club); a gold cup presented by Mr. Harry Smith (vice-president) for the Motor Cycling Club Championship, won by A. J. Moorhouse; the Motor Cycling Club Challenge Cup presented by Messrs. S. H. Fry, E. Gwynne, and C. J. Seed for the best performance in the London-Edinburgh, won by G. Brongh.

Ayr and District M.C.

The fourth annual dinner and presentation of prizes has been arranged to take place at the Ayr Arms Hotel on Wednesday, November 29th. A cordial invitation is extended to all interested, and tickets may be obtained from the joint hon. secretaries at the club's headquarters, 73, Dalblair Road.

Blackpool and Fylde M.C.C.

The club referred to on November 2nd has now been formed under the above title. The following officials have been appointed: President, Mr. T. Sharples; vice-presidents, Messrs. T. Ball and F. Taylor; captain, Mr. T. Ball; vice-captain, Mr. W. T. Chadwick.

York County M.C.C.

The third annual dinner and prize distribution of the above club will take place at headquarters, the Grand Central Hotel, Briggate, Leeds, on Friday, November 17th, at 7.15 p.m. prompt. Tickets, 3s. 6d. each, may be obtained from the hon sec., Mr. W. E. Asquith, 11, Moorland Street, Hyde Park Road, Leeds.

Durham and District M.C.C.

The opening of the winter programme was begun with a smoking concert on the 4th inst. A fault finding competition will be held at headquarters, Nevilles Cross Hotel, Durham, on Saturday, 18th inst., at 7 p.m., for a 26 x 2½ tube presented by Mr. W. Burnett.

West Essex A.C.

This club finished its programme for the season with a hill-climb at Upminster on Saturday, and, subject to confirmation by the committee, the result is as follows: 1, W. H. Elce (T.T. Rudge), time 29½s.; 2, W. E. Gunnett (T.T. Triumph), 35½s.; 3, R. H. Whitmore (Rudge), 36½s.

Taunton and District M.C.C.

A most fitting culmination of the club's first session was the very enjoyable dinner held on the 30th ult., at Clarke's Hotel, Taunton, when Col. D. F. Boles, M.P. for West Somerset, took the chair. There was a very large number of members and friends present, and a capital musical programme was interspersed with many speeches of a most interesting character.

Tunbridge Wells and District M.C.C.

The winter programme (November-February) has been arranged as follows: Wednesday, November 22nd, club outing to Olympia Motor Cycle Show; Wednesday, December 6th, breakdown competition; Wednesday, January 3rd, winter reliability trials; Wednesday, January 24th, smoking concert, to be attended by the president (His Worship the Mayor of Tunbridge Wells, Col. Sydney Sladen); Saturday, February 3rd, lantern lecture, "Power and Speed." Tickets for the forthcoming Olympia Motor Cycle Show (November 20th to 25th) may be obtained at half-price (6d.) from the hon. sec.

Oldham and District M.C.

The weekly meeting of the above club on the 1st inst. took the form of a debate on the relative merits of chain and belt drives as applied to motor cycles. Mr. Bleasdale was ably supported in his contentions for the rubber belt, as also was Mr. Platt, who championed the chain drive.

About twenty members took part in the discussion, and altogether a somewhat instructive evening was spent. A programme has been arranged providing for similar weekly discussions and demonstrations on motor cycle matters, interspersed with social events. Five new members were elected, thus bringing the roll up to sixty-four. A billiard match Married v. Single, to be followed by a supper, is the fixture for next Tuesday, the 14th inst.

NEXT WEEK!**Olympia Show Report.**

WRITTEN BY OUR OWN STAFF

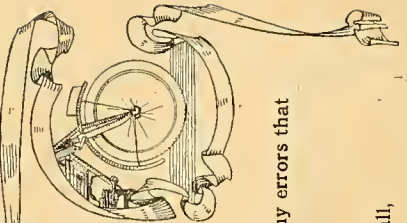
After a Personal Inspection of the Exhibits.

PROFUSELY ILLUSTRATED.

Thursday, Nov. 23rd.

One Penny.

THE MOTOR CYCLE BUYERS' GUIDE OF 1912 MODELS



COMPLETE SPECIFICATIONS of all MOTOR CYCLES on the BRITISH MARKET.

This Guide appears at a most opportune time, when actual and prospective motor cyclists are considering the question of a new mount and what make they shall order at the Olympia Show, which opens on Monday next. Armed with a copy of this issue a reader may consider at his leisure the specifications of the numerous machines he has in view, and again at Olympia be in possession of full details which would occasion much questioning of busy stand attendants. A straight edge or rule laid across the page renders the line much more easy to follow. Owing to the fact that one or two new models were not completed at the time this issue went to press, occasional omissions in dimensions and other particulars will be found. Whilst every effort has been made to avoid inaccuracies we cannot be held responsible for any errors that may have occurred. To save space the following abbreviations have been used:

INLET VALVES.—A. = Automatic. M. = Mechanical. S.S. = Valves Side by Side.

VARIABLE GEARS.—C. = Counter-shaft. E. = Engine-shaft. H. = Hub. V.P. = Variable Pulley. F.E. = Free Engine.

TYRES.—A. = Avon. C. = Clincher. Con. = Continental. D. = Dunlop. G. = Goodrich. H. = Hutchinson. K. = Kempshall.

L. = Liberty. M. = Michelin. Mid. = Midland. Mo. = Moseley. P. = Palmer. P.C. = Palmer Cord.

SINGLE-CYLINDER BICYCLES.

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity, c.c.	Bore and Stroke, mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground, inches.	Crank Case Clearance, inches.	Standard Size and Make of Tyres.	Stand-ard Frame.	Length of Wheel-base.	Weight, Un-laden, lbs.	Pedal-ling Gear.	Price.
A.J.S.	2 A.J.S.	315	70 x 82	M., S.S.	Amac	A.J.S., C.	Chain Belt	5½ & 11 to 1	30"	6"	21" H.	Rigid	51"	130	No	£46 4
A.J.S.	2 A.J.S.	315	70 x 82	M., S.S.	Amac	—	Chain Belt	5½ & 11 to 1	30"	6"	21" H.	Rigid	51"	140	Yes	£38 17
Alcyon	2 Alcyon	247	—	M., S.S.	Claudel-Hobson	Clutch	Chain	to order	27"	5"	2" H.	Rigid	48"	75	Yes	£39 0
Allday	3 Allday	499	85 x 88	M., S.S.	Claudel-Hobson	V.P.	Belt	4½ & 9 to 1	29½"	4½"	21" D. or C.	Rigid	50"	90	No	£45 0
Anglian	2 De Dion	327	74 x 76	A.	De Dion	—	—	to order	29"	5"	21" P.C.	Rigid	55½"	160	No	£37 10
Anglian	2 De Dion	327	74 x 76	A.	B. & B.	—	Belt	to order	29"	5"	21" P.C.	Rigid	55½"	146	No	*£38 0
Ariel T.T.	2 Ariel	292	71 x 75	M., S.S.	B. & B.	—	Belt	6 to 1	31"	5½"	2" L.	Rigid	49"	120	Yes	£50 0
Ariel	3 Ariel	482	85 x 85	M., S.S.	B. & B.	Ariel, E.	Belt	4 & 5½ to 1	32"	5"	21" L.	Rigid	51"	180	No	£50 0
Ariel T.T.	3 Ariel	482	85 x 85	M., S.S.	B. & B.	—	Belt	4 & 5½ to 1	30"	4"	21" L.	Rigid	49"	160	No	£46 10
Arno	3 Arno	499	84 x 89	M., S.S.	B. & B.	—	Belt	4½ & 9 to 1	27"	6"	21" C. or H.	Rigid	50"	186	Yes	£45 0
A.S.L.	3 Precision or Jap	499	85 x 88	M., S.S.	Amac	—	Belt	4½ to 1	27"	6"	21" M.	Spring	49"	180	No	£52 10
A.S.L.	3 Precision or Jap	488	85½ x 85	M., S.S.	Amac	—	Belt	4½ to 1	27"	6"	21" M.	Spring	49"	180	No	£52 10
Bat	31 J.A.P.	488	85½ x 85	M., S.S.	B. & B.	P. & M.	C. & B.	5 & 7½ to 1	32"	5½"	21" D.	Spring	51"	210	No	£61 2
Bat	3 J.A.P.	488	85½ x 85	M., S.S.	B. & B.	—	Belt	5 to 1	32"	5½"	21" D.	Spring	51"	190	No	£48 10
Bat T.T.	3 J.A.P.	403	90 x 77½	M., S.S.	B. & B.	—	Belt	to order	28"	3½"	21" D.	Rigid	50"	155	No	£50 0
Bradbury	31 Bradbury	554	89 x 89	M., S.S.	B. & B.	—	Belt	4 to 1	29"	5½"	21" D.	Rigid	52"	185	Yes	£48 0
Bradbury	31 Bradbury	554	89 x 89	M., S.S.	B. & B.	H., F.E.	Belt	4 to 1	29"	5½"	21" D.	Rigid	52"	195	Yes	£54 10
Bradbury	31 Bradbury	554	89 x 89	M., S.S.	B. & B.	2-speed, C.	Chain	5 & 9 to 1	29"	5½"	21" D.	Rigid	52"	210	No	£58 0
Brough	2 Brough	393	77 x 85	M., S.S.	B. & B.	—	Belt	Variable	30"	4½"	2" Con.	Rigid	59"	100	Yes	£38 0
Brough	2 Brough	396	77 x 85	M., S.S.	B. & B.	—	Belt	Variable	30"	4½"	2" Con.	Rigid	59"	110	Yes	£38 0
Brough	3 Brough	499	85 x 88	M., S.S.	B. & B.	Brough, E.	Belt	Variable	30"	4½"	21" Con.	Rigid	59"	160	No	£45 0
Brough	3 Brough	499	85 x 88	M., S.S.	B. & B.	—	Belt	Variable	30"	4½"	21" Con.	Rigid	59"	170	Yes	£50 0
Brown	2 Precision	292	70 x 76	M., S.S.	B. & B.	Brough, E.	Belt	6 to 1	30"	5"	21" C.	Rigid	49½"	96	Yes	£36 0
Brown	3 Brown	499	86 x 86	M., S.S.	B. & B.	—	Belt	to order	31½"	5"	21" C.	Rigid	49½"	165	Yes	£48 0

* With free engine, £4 extra.

† With adjustable pulley, £5 less; or hub two-speed gear, £5 extra.

SINGLE-CYLINDER BICYCLES (Continued).

NOVEMBER 16th, 1911.

THE MOTOR CYCLE.

1229

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity. c.c.	Bore and Stroke. mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank Case Clearance.	Standard Size of Tyres.	Standard Frame.	Length of Wheel-base.	Weight. Unladen. lbs.	Pedal-lifting Gear.	Price.
Brown	3½ Brown	499	86 × 86	M, S.S.	B. & B.	Bowden, C.	Belt ..	to order ..	31½	5	2½ C.	Rigid	51½	172	No	£58 0
Brown T.T.	3½ Brown	499	86 × 86	M, S.S.	B. & B.	—	Belt ..	to order ..	29	5	2½ D.	Rigid	50	160	No	£48 0
B.S.A.	3½ B.S.A.	499	85 × 88	M, S.S.	B. & B.	B.S.A., H.	Belt ..	Variable ..	28	4	2½ D.	Rigid	52½	195	Yes	£60 0
B.S.A.	3½ B.S.A.	499	85 × 88	M, S.S.	B. & B.	—	Belt ..	Variable ..	28	4	2½ D.	Rigid	52½	185	Yes	£50 0
B.S.A. Colonial ..	3½ B.S.A.	499	85 × 88	M, S.S.	B. & B.	Colonial, F.E.	Belt ..	Variable ..	28	4	2½ D.	Rigid	52½	188	Yes	Special
B.S.A. T.T.	3½ B.S.A.	499	85 × 88	M, S.S.	B. & B.	T.T.	Belt ..	3½ & 5½ to 1	28	4	2½ D.	—	49	175	No	£48 0
Buck	4 Buck	604	90 × 95	M, S.S.	B. & B.	Roe, H.	Belt ..	4½ & 9 to 1	29	5	2½ Con.	Rigid	52	185	—	£50 0
Buck	4 Buck	604	90 × 95	M, S.S.	B. & B.	—	Belt ..	Variable ..	29	5	2½ Con.	Rigid	52	180	Option	£47 10
Calcott	2½ Calcott	237	63 × 76	M, S.S.	B. & B.	—	Belt ..	6½ to 1	33	8	1½ D.	Rigid	48½	100	Yes	£33 12
Calthorpe	2½ Calthorpe	292	70 × 76	M, S.S.	—	—	Belt ¾	to order ..	32	7	2 M.	Rigid	52	110	Option	*£35 10
Calthorpe	3½ Calthorpe	499	85 × 88	M, S.S.	B. & B.	—	Belt ¾	4½ to 1	31	4½	2½ M.	Rigid	52	156	Yes	£44 0
Calthorpe T.T.	3½ Calthorpe	499	85 × 88	M, S.S.	B. & B.	—	Belt ¾	3½ to 1	31	4½	2½ M.	Rigid	48	130	No	£44 0
Calthorpe	4½ Calthorpe	611	90 × 96	M, S.S.	B. & B.	Calthorpe, C.	B. & C.	4½ & 8 to 1	31	4½	2½ M.	Rigid	52	180	No	£37 10
Campion	4 J.A.P.	488	85½ × 85	M, S.S.	B. & B.	—	Belt ..	6 to 1	32	5	2½ D.	Rigid	52	160	Yes	£43 0
Centaur	2	198	60 × 70	M, S.S.	B. & B.	—	Belt ¾	6 to 1	32	6	1½ D.	Rigid	50½	100	Yes	£37 0
Centaur	2	198	60 × 70	M, S.S.	B. & B.	Armstrong, H.	Belt ¾	4 to 8 to 1	32	6	2 D.	Rigid	50½	105	Yes	£47 10
Centaur	2	198	60 × 70	M, S.S.	B. & B.	—	Belt ¾	6 to 1	30	6	2 D.	Open	50	105	Yes	£34 0
Centaur	3½	499	81 × 90	M, S.S.	B. & B.	—	Belt ¾	4 to 1	28	4	2½ D.	Rigid	53	180	Yes	£47 10
Centaur	3½	499	84 × 90	M, S.S.	B. & B.	2-speed, H.	Belt ¾	4 & 6 to 1	28	4	2½ D.	Rigid	53	210	No	£52 10
Corah T.T.	3½ J.A.P.	488	85½ × 85	M, S.S.	Binks	—	Belt ¾	Adjustable	28	5	2½ Corah	Rigid	50	180	No	£47 0
Corah	3½ J.A.P.	488	85½ × 85	M, S.S.	Binks	Clutch	Belt ¾	Adjustable	30	5	2½ Corah	Rigid	52	190	Yes	£53 0
Corah	4 Corah	535	88 × 88	Valveless	Binks	—	Worm	4½ & 8½ to 1	28	4½	2½ Corah	Rigid	56	199	No	£55 0
Corah	4 J.A.P.	592	90 × 93	M, S.S.	Binks	Bowden, C.	Chain	4½ & 8½ to 1	30	5	2½ Corah	Rigid	52	190	No	£56 0
Dene	2½ Precision	292	70 × 76	M, S.S.	B. & B.	Armstrong, H.	Belt ¾	to order ..	29½	6	2½	Rigid	50	160	No	£46 0
Dene	3½ Precision	499	85 × 88	M, S.S.	B. & B.	—	Belt ¾	to order ..	30½	5½	2½	Rigid	51½	175	No	£46 0
Dene	3½ Precision	499	85 × 88	M, S.S.	—	Armstrong, H.	Belt ¾	to order ..	30½	5½	2½	Rigid	51	190	No	£56 0
Dene	4½ Precision	597	89 × 95	M, S.S.	B. & B.	—	Belt ¾	to order ..	30½	4½	2½ & 2½	Rigid	53	200	No	£52 0
Dene	4½ Precision	597	89 × 95	M, S.S.	B. & B.	Armstrong, H.	Belt ¾	to order ..	30½	4½	2½ & 2½	Rigid	53	215	No	£62 0
Edmund, Chas.	3½ J.A.P.	488	85½ × 85	M, S.S.	—	—	Belt ..	to order ..	—	—	2½	Spring	—	—	No	—
E.L.I.	2½ Precision	292	70 × 76	M, S.S.	B. & B.	—	Belt ..	—	29	4½	2½ D.	—	51	—	Yes	£38 0
E.L.I.	3½ Precision	499	85 × 88	M, S.S.	B. & B.	—	Belt ..	—	29	4½	2½ D.	—	51	—	Yes	£42 10
E.L.I.	4½ Precision	597	89 × 96	M, S.S.	B. & B.	Bowden, C.	C. & B.	—	29	4½	2½ D.	—	51	—	No	£51 10
Elswick	2½ Elswick	292	70 × 76	M, S.S.	B. & B.	Adj. pulley,	Belt ¾	5 & 6½ to 1	30	5	2½ D.	Rigid	50	100	Yes	£40 0
Elswick	2½ Elswick	292	70 × 76	M, S.S.	B. & B.	Elswick, F.E.	Belt ¾	5½ to 1	30	5	2½ D.	Rigid	50	106	Yes	£47 0
Elswick	3½ Elswick	499	85 × 88	M, S.S.	B. & B.	Adj. pulley,	Belt ¾	4½ & 5½ to 1	31	6	2½ D.	Rigid	54	150	Yes	£48 0
Elswick	3½ Elswick	499	85 × 88	M, S.S.	B. & B.	Elswick, H.	Belt ¾	4½ & 7 to 1	31	6	2½ D.	Rigid	54	158	Yes	£55 0
Enfield	2½ Enfield	241	64 × 75	M, S.S.	Amac	Enfield, C.	Chain	6½ & 9 to 1	30	6	2½ D.	Open	53	130	No	£52 10
Excelsior	2½ Excelsior	499	85 × 88	M, S.S.	B. & B.	Adj. pulley,	Belt ..	3½ & 5½ to 1	30	5	2½ P.C.	Rigid	54	130	No	£47 15
Excelsior	4½ Excelsior	650	86 × 112	M, S.S.	B. & B.	Adj. pulley,	Belt ..	3½ & 5½ to 1	30	5	650 × 65 mm	Rigid	54	—	No	£55 3
F.N.	2½ F.N.	249	65 × 75	M, S.S.	F.N.	2-speed, C.	Bevel	6 & 10 to 1	30	7	2" b., 1¼" f.	Rigid	50	140	Yes	£47 5
Garage	3½ W. & P.	482	85 × 85	M, S.S.	B. & B.	—	Belt ..	Adjustable	—	—	2½ D.	Rigid	—	—	Yes	£45 0
Grandex	2½ Precision	292	70 × 76	M, S.S.	B. & B.	N.S.U., E.	Belt ¾	to order ..	27	—	2" P.	Rigid	—	110	Yes	£40 19
Grandex	2½ Precision	292	70 × 76	M, S.S.	B. & B.	—	Belt ¾	to order ..	27	—	2" P.	Rigid	—	100	Yes	£34 1
Grandex	2½ Precision	292	70 × 76	M, S.S.	B. & B.	Armstrong, H.	Belt ¾	to order ..	27	—	2" H.	Rigid	—	120	Yes	£47 3
Grandex	3½ Precision	499	85 × 88	M, S.S.	Amac	Albion, H.	Belt ¾	to order ..	27	—	2½ P.	Rigid	—	168	—	£51 5
Grandex	4½ Precision	597	89 × 96	M, S.S.	B. & B.	F.E., H.	Belt ¾	to order ..	28	—	2½ P.	Rigid	—	190	—	£52 10

* Free engine hub, £4 10s. extra.
 † Free engine hub, £5 extra.
 ‡ Free engine hub, £4 10s. extra.
 § Free engine hub, £4 15s. extra.
 || Albion hub, two-speed, £2 extra.
 a With J.A.P. racing engine, £2 extra.
 b Free engine, £4 15s. extra, including pedals.

SINGLE-CYLINDER BICYCLES (Continued).

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic capacity. c.c.	Bore and Stroke. mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Trans- mission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank (case clearance).	Standard Size and Make of Tyres.	Stand- ard Frame.	Length of Wheel- base.	Weight. Un- laden. lbs.	Pedal- ing Gear.	Price.
Handy Hobart.	2½ Hobart.	292	70 × 76	M. S.S.	B. & B.	—	Belt 7"	5 to 7½ to 1	30"	5½"	H.	Rigid	52"	118	Yes	—
Handy Hobart.	2½ Hobart.	300	70 × 78	M. S.S.	B. & B.	Armstrong, H.	Belt 7"	—	30"	6"	H.	Open	52"	130	Yes	—
Handy Hobart.	3½ Hobart.	499	85 × 88	M. S.S.	B. & B.	—	Belt 7"	4½ to 7 to 1	29½"	6½"	H.	Rigid	54"	170	Yes	—
Hazel.	2½ J.A.P.*	292	70 × 76	M. S.S.	Amac or B. & B.	N.S.U.	Belt 7"	5½ to 1	29"	6½"	H.	Either	43"	145	Option	£36 15
Hazel.	2½ J.A.P.*	488	85½ × 85	M. S.S.	Amac or B. & B.	N.S.U.	Belt 7"	4½ to 1	29"	5½"	H.	Either	44"	145	Option	£46 4
Hazelwood.	3½ J.A.P.*	499	85 × 88	M. S.S.	Amac or B. & B.	N.S.U.	Belt 7"	4½ to 1	29"	6½"	H.	Either	44"	145	Option	£46 4
Humber.	2 J.A.P.	292	70 × 76	M. S.S.	B. & B.	Armstrong, H.	Belt 7"	5, 7, 10 to 1	27"	6"	D.	Rigid	53½"	135	Yes	£39 7
Humber.	2 J.A.P.	198	60 × 70	M. S.S.	B. & B.	—	Belt 7"	6 to 1	32"	6½"	D.	Rigid	50½"	100	Yes	£37 0
Humber.	2 Humber.	198	60 × 70	M. S.S.	B. & B.	Armstrong, H.	Belt 7"	4 to 8 to 1	32"	6½"	D.	Rigid	50½"	105	Yes	£47 10
Humber.	2 Humber.	198	60 × 70	M. S.S.	B. & B.	—	Belt 7"	4 to 1	30"	6½"	D.	Open	50½"	105	Yes	£40 10
Humber.	3½ Humber.	499	84 × 90	M. S.S.	B. & B.	—	Belt 7"	4 to 1	28"	4"	D.	Rigid	53½"	180	Yes	£47 0
Humber.	3½ Humber.	499	84 × 90	M. S.S.	B. & B.	Humber, H.	Belt 7"	4 & 6 to 1	28"	4"	D.	Rigid	53½"	210	No	£52 10
Indian.	3½ Indian.	497	82½ × 93	M. O.	Indian.	F.E.	Chain	4.4 to 1	30"	6"	D.	Rigid	53"	—	No	£55 0
Indian.	3½ Indian.	497	82½ × 93	M. O.	Indian.	Indian, C.	Chain	4.4 & 7 to 1	30"	6"	D.	Rigid	55"	—	No	£63 0
Ivy-Precision.	2½ Precision.	292	70 × 76	M. S.S.	B. & B.	—	Belt 7"	to order	29"	6"	D.	Rigid	51"	120	Yes	£35 0
Ivy-Precision.	3½ Precision.	499	85 × 88	M. S.S.	Amac.	—	Belt 7"	to order	31"	6"	D.	Rigid	53"	168	Yes	£42 0
Ivy-Precision.	3½ Precision.	597	89 × 96	M. S.S.	B. & B.	—	Belt 7"	to order	31"	6"	D.	Rigid	53"	178	Option	£46 10
Ixion.	3½ Precision.	499	85 × 88	M. S.S.	Amac.	—	Belt 7"	4½ to 1	29½"	4½"	D.	Rigid	52"	156	Yes	£42 0
Ixion T.T.	3½ J.A.P.	488	85½ × 85	M. S.S.	Amac.	—	Belt 7"	4 to 1	29"	4"	D.	Rigid	50"	150	No	£46 0
Ixion.	4½ Precision.	597	89 × 96	M. S.S.	Amac.	Bowden, C.	C. & B.	4½ & 7½ to 1	30"	3½"	D.	Rigid	54"	—	No	£56 0
James.	3½ James.	557	86 × 96	M. S.S.	B. & B. or Amac.	—	Belt ..	4½ to 1	26"	4½"	D.	Rigid	53"	190	Option	£48 15
James.	3½ James.	557	86 × 96	M. S.S.	B. & B.	F.E., H.	Belt ..	4½ to 1	26"	4½"	D.	Rigid	53"	200	Yes	£55 0
James.	3½ James.	557	86 × 96	M. S.S.	B. & B.	Armstrong, H.	Belt ..	4½ to 9 to 1	26"	4½"	D.	Rigid	50"	220	No	£58 0
James.	3½ James.	557	86 × 96	M. S.S.	B. & B.	James, C.	Chain	4½ & 8½ to 1	26"	4½"	D.	Rigid	53"	220	No	£58 0
Kerry-Abingdon.	3½ Abingdon.	499	85 × 88	M. S.S.	B. & B.	Adj. P.	Belt ..	4 to 1	29 or 27"	8"	2½" Kerry	Rigid	52"	180	Yes	£47 10
Kerry-Abingdon.	3½ Abingdon.	499	85 × 88	M. S.S.	B. & B.	F.E., H.	Belt ..	4 to 1	29"	8"	2½" Kerry	Rigid	52"	188	Yes	£53 11
Kerry-Abingdon.	3½ Abingdon.	—	—	—	—	2-speed, H.	B. & C.	4½ & 7½ to 1	29"	8"	2½" Kerry	Rigid	52"	194	No	£56 14
Kynoch.	2½	292	70 × 76	M. S.S.	B. & B.	—	Belt ..	5 to 1	29"	—	D. or P.	Rigid	—	—	—	£35 0
Kynoch.	3½	499	85 × 88	M. S.S.	B. & B.	—	Belt ..	4½ to 1	29"	—	D. or P.	Rigid	—	—	Yes	£45 0
Kynoch.	3½	499	85 × 88	M. S.S.	B. & B.	B.S.A., H., F.E.	Belt ..	4½ & 8½ to 1	29"	—	D. or P.	Rigid	—	—	Yes	£55 0
Levis.	2½ Levis, 2-str.	211	62 × 70	None	Amac.	—	Belt 7"	6 to 1	28½"	5½"	H.	Spring	46"	85	No	£33 12
Levis.	2½ Levis, 2-str.	211	62 × 70	None	Amac.	F.E., H.	—	6½ to 1	29½"	4"	H.	Spring	57"	110	No	£44 2
Levis.	2½ Levis, 2-str.	269	70 × 70	None	Amac.	—	Belt 7"	6 to 1	30½"	5"	H.	Spring	50½"	90	No	£35 14
L.M.C.	3½ L.M.C.	499	85 × 88	M. S.S.	B. & B. or Amac.	Auto-varia. E.	Belt 7"	4 to 5½ to 1	29"	4"	D.	Rigid	51½"	175	Yes	£51 0
L.M.C.	3½ L.M.C.	499	85 × 88	M. S.S.	B. & B. or Amac.	L.M.C., Roe H.	Belt 7"	4½ & 7½ to 1	29"	4"	D.	Rigid	51½"	195	No	£60 0
L.M.C. T.T.	3½ L.M.C.	499	85 × 88	M. S.S.	B. & B. or Amac.	—	Belt 7"	4 to 1	29"	4"	D.	Rigid	51½"	145	No	£50 0
L.M.C. T.T.	4 L.M.C.	572	89 × 92	M. S.S.	B. & B. or Amac.	L.M.C., Roc H.	Belt 7"	4½ & 7½ to 1	29"	4"	D.	Rigid	51½"	220	No	£65 0
Martin Racer.	2½ J.A.P.	345	85 × 60	O. M.	Amac.	—	Belt 7"	3½ to 1	29"	3"	Con.	Spring	48"	120	No	£45 0
Martin.	3½ J.A.P.	482	85 × 85	M. S.S.	Amac.	—	Belt 7"	4½ to 1	31"	4"	2½" Con.	Spring	52"	140	No	£47 10
Martin T.T.	3½ J.A.P.	482	85 × 60	O. M.	Amac.	—	Belt 7"	3½ to 1	30"	3½"	2½" Con.	Druid	52"	130	No	£49 10
Matchless.	2½ J.A.P.	292	70 × 76	M. S.S.	—	3-speed	—	—	—	—	—	Open	—	—	—	£53 11
Matchless.	3½ J.A.P.	488	85½ × 85	M. S.S.	—	Matchless	—	—	—	—	—	—	—	—	—	£48 6
Matchless.	3½ J.A.P.	499	85 × 88	M. S.S.	Amac.	—	Belt ..	5 to 1	30"	5"	2½"	Rigid	50-52"	140	No	£60 18
Midget Bicar.	3½ Precision.	499	85 × 88	M. S.S.	Amac.	V.P., E.	Belt ..	3½ to 7 to 1	30"	5"	2½"	Open	52"	156	No	—
Midget Bicar.	3½ Precision.	499	85 × 88	M. S.S.	Amac.	V.P., E.	Belt ..	3½ to 7 to 1	30"	5"	2½"	Open	52"	156	No	—
Midget Bicar.	4½ Precision.	597	89 × 96	M. S.S.	Amac.	V.P., E.	Belt ..	3½ to 7 to 1	30"	5"	2½"	Rigid	54"	156	No	—

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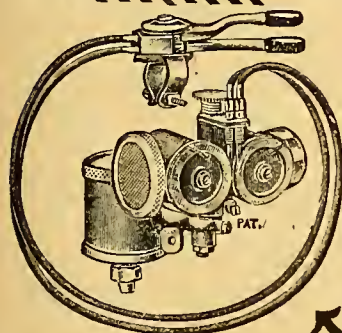
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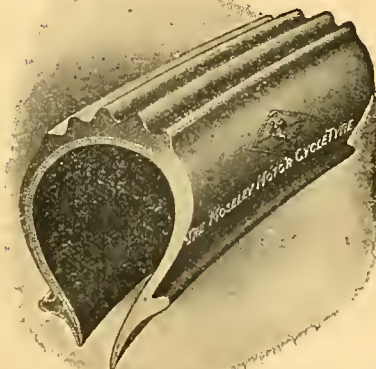
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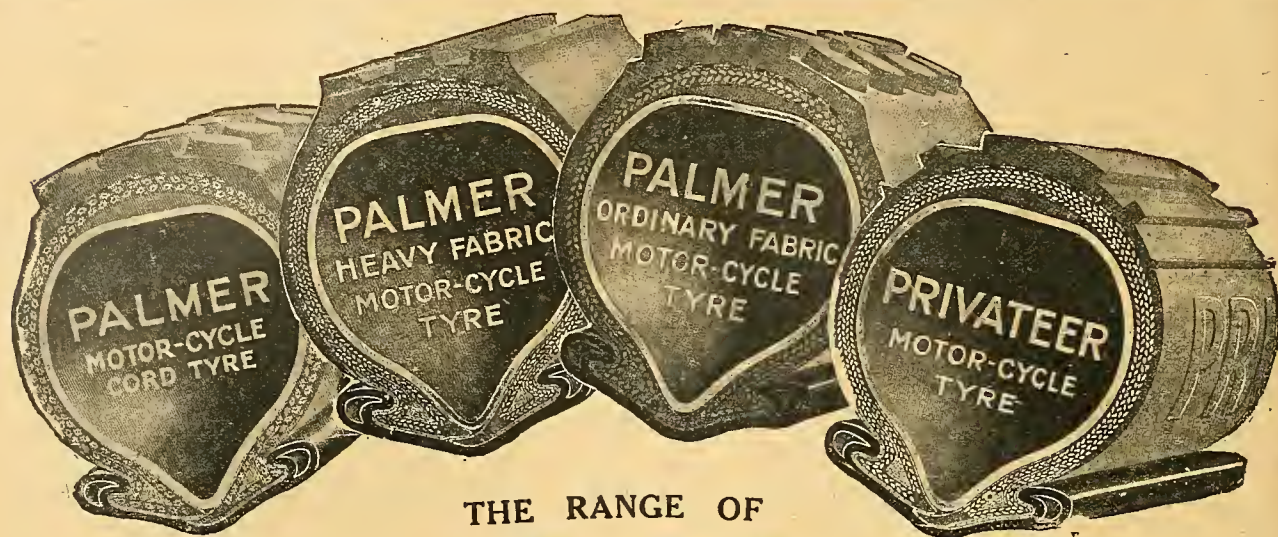
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SINGLE-CYLINDER BICYCLES (Continued).

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity, c.c.	Bore and Stroke, mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank Case Clearance.	Standard Size and Make of Tyres.	Stand-ard Frame.	Length of Wheel-base.	Weight Un-laden, lbs.	Pedal-ing Gear.	Price.
M.M.	4 1/2 M.M.	534	82 1/2 x 101 1/2	O.	Schebler	M.M., F.E.	Belt 1"	4 to 1	32"	5"	2 1/2" D.	Rigid	54"	160	Option	£44 2
Motosacoche	2 1/2 Motosacoche	290	64 x 90	M., S.S.	Dufaux	Motosacoche E.	Belt	5 & 9 to 1	31"	10"	1 1/2" A.	Rigid	48"	105	Option	—
Motosacoche	2 Motosacoche	212	62 x 70	A.	Dufaux	—	Belt	6 1/2 to 1	29"	3 1/2"	1 1/2" Con.	Open	50"	95	Yes	—
New Comet	2 1/2 Precision	292	70 x 76	M., S.S.	to order	to order	Belt	6 1/2 to 1	30"	4 1/2 or 6"	to order	Rigid	51"	120	Yes	£40 0
New Comet	3 1/2 Precision	499	85 x 88	M., S.S.	to order	to order	Belt	4 1/2 to 1	30"	4 1/2	to order	Rigid	53"	175	Yes	£45 0
New Comet T.T.	3 1/2 Precision	499	85 x 88	M., S.S.	to order	to order	Belt	4 1/2 to 1	29"	3 1/2	2 1/2" wired.	Rigid	53"	160	No	£47 5
New Comet	4 1/2 Precision	597	89 x 96	M., S.S.	to order	to order	Belt	4 to 1	29"	4 or 5"	to order	Rigid	55"	195	Yes	£50 0
New Hudson	3 1/2 J.A.P.	292	70 x 76	M., S.S.	B. & B.	Armstrong, H.	Belt 3"	5, 7, 10 to 1	30"	6"	2" D.	Rigid	53"	135	Yes	£49 7
New Hudson	3 1/2 J.A.P.	488	85 1/2 x 85	M., S.S.	B. & B.	Armstrong, H.	Belt 3"	3 1/2, 5, 7 to 1	29"	4 1/2	2 1/2" D.	Rigid	53"	185	Yes	£59 17
New Hudson	3 1/2 New Imperial	499	85 x 88	M., S.S.	B. & B.	Armstrong, H.	Belt 3"	3 1/2, 5, 7 to 1	29"	5"	2 1/2" D.	Rigid	53"	190	Yes	£59 17
New Imperial	3 1/2 New Imperial	292	70 x 76	M., S.S.	B. & B.	3-speed, H.	Belt 3"	5 to 1	33"	6 1/2	to order	Spring	53"	—	Yes	—
New Imperial	3 1/2 New Imperial	499	85 x 88	M., S.S.	B. & B.	F.E., H.	Belt 3"	5 to 1	33"	4 1/2	to order	Spring	53"	—	Yes	£55 0
N.L.G.	4 1/2 J.A.P.	488	85 1/2 x 85	M., S.S.	B. & B.	2-speed, H.	Belt 1"	4 1/2 to 1	35"	4"	2 1/2" D.	Spring	59"	—	No	£61 10
N.L.G.	4 1/2 J.A.P.	488	85 1/2 x 85	M., S.S.	B. & B.	—	Belt 1"	3 1/2 & 5 to 1	28"	4"	2 1/2" D.	Rigid	52"	160	Option	£45 0
N.L.G.	4 1/2 J.A.P.	488	85 1/2 x 85	M., S.S.	B. & B.	P. & M., C.	Belt 1"	3 1/2 & 5 to 1	28"	4"	2 1/2" D.	Rigid	52"	175	No	£55 10
Norton	3 1/2 Norton	490	79 x 100	M., S.S.	B. & B.	3-speed, H.	Belt 1"	Variable	28"	4"	2 1/2" D.	Rigid	52"	172	Yes	£55 10
Norton	3 1/2 Norton	496	82 x 94	M., S.S.	B. & B.	Nortore, H.	Belt	—	29"	3 1/2	to order	Rigid	54"	194	No	£60 12
Norton	3 1/2 Norton	496	82 x 94	M., S.S.	B. & B.	—	Belt	Adjustable	29"	4 1/2	to order	Rigid	54"	184	No	*£48 0
Norton	4 Norton	636	82 x 120	M., S.S.	B. & B.	F.E.	Belt	Adjustable	29"	3 1/2	2 1/2" C.	Rigid	54"	196	Yes	£55 0
Norton	4 Norton	636	82 x 120	M., S.S.	B. & B.	Nortore, H.	Belt	Adjustable	29"	3 1/2	2 1/2" C.	Rigid	54"	186	No	*£51 0
N.S.U.	2 N.S.U.	297	66 x 78	M., O.	N.S.U.	—	Belt	6 to 1	31"	8"	2" Con.	Spring	50"	125	Yes	*£38 0
N.S.U.	2 N.S.U.	499	85 x 88	M., O.	N.S.U.	—	Belt	4 1/2 to 1	32"	6"	2 1/2" D.	Spring	54"	160	Yes	*£47 0
N.Y.E.	4 J.A.P.	488	85 1/2 x 85	M., S.S.	B. & B.	Albion, H.	Belt 7/8"	4 1/2 & 8 to 1	28"	5"	2 1/2" M.	Rigid	51"	200	Yes	£55 13
O.K.	2 1/2 Precision	292	70 x 76	M., S.S.	Anac	—	Belt 7/8"	5 to 1	31"	8"	2" H.	Rigid	52"	105	Option	£34 13
O.K.	3 1/2 Precision	499	85 x 88	M., S.S.	Anac	Albion, H.	Belt 7/8"	Adjustable	32"	5 1/2	2 1/2" D.	Rigid	54"	180	Option	£51 9
O.K.	4 1/2 Precision	597	89 x 96	M., S.S.	Anac	Armstrong, H.	Belt 7/8"	Adjustable	32"	5 1/2	2 1/2" D.	Rigid	54"	212	Option	£52 12
Osmond	3 1/2 Precision	499	85 x 88	M., S.S.	B. & B.	—	Belt 7/8"	4 1/2 to 1	26"	4 1/2	2 1/2" D.	Rigid	53"	180	Yes	£48 0
Osmond	3 1/2 Precision	499	85 x 88	M., S.S.	B. & B.	Vibers, H.	Belt 7/8"	4 1/2 to 1	26"	4"	2 1/2" D.	Rigid	53"	190	Yes	£54 0
P. & M.	2 1/2 P. & M.	290	66 x 76	A.	P. & M.	P. & M., C.	Chains	5 & 9 to 1	28"	10"	2" K.	Rigid	50"	125	No	£50 0
P. & M.	3 1/2 P. & M.	465	82 x 88	M., S.S.	P. & M.	P. & M., C.	Chains	4 1/2 & 7 1/2 to 1	28"	9"	2 1/2" K.	Rigid	54"	190	No	£60 0
P. & M. Colonial	3 1/2 P. & M.	465	82 x 88	M., S.S.	P. & M.	P. & M., C.	Chains	5 & 9 to 1	28"	9"	2 1/2" K.	Rigid	54"	190	No	£65 0
Pierce	5 Pierce	591	89 x 95	M., S.S.	Breze	Clutch	Belt F.	4 1/2 to 1	32"	—	2 1/2" G.	Rigid	54"	180	Yes	£50 0
Pilot	2 1/2 J.A.P.	292	70 x 76	M., S.S.	B. & B.	—	Belt	Adjustable	27"	5"	2" H.	Rigid	—	—	Yes	£32 0
Pilot	3 1/2 Precision	499	85 x 88	M., S.S.	Anac	—	Belt 1"	Adjustable	27"	4"	2 1/2" H.	Rigid	—	—	Yes	£36 0
Pilot	4 1/2 Precision	597	89 x 96	M., S.S.	B. & B.	—	Belt 1"	Adjustable	27"	4"	2 1/2" H.	Rigid	—	—	Yes	£41 10
Portland	3 1/2 Peugeot	472	80 x 94	M., S.S.	B. & B.	—	Belt 1"	4 to 1	27"	3 1/2	2 1/2" H.	Rigid	48"	176	Yes	£39 18
Portland	4 J.A.P.	488	85 1/2 x 85	M., S.S.	B. & B.	—	Belt 1"	4 to 1	27"	3 1/2	2 1/2" H.	Rigid	48"	177	Yes	*£42 8
Premier	2 1/2 Premier	246	66 x 79	M., S.S.	B. & B.	—	Belt 1"	5, 7, 10 to 1	30"	5"	2 1/2" D.	Rigid	47 1/2"	96	Yes	£36 0
Premier	2 1/2 Premier	246	66 x 79	M., S.S.	B. & B.	—	Belt 1"	5, 7, 10 to 1	30"	5"	2 1/2" D.	Rigid	47 1/2"	106	Yes	£43 7
Premier	2 1/2 Premier	246	66 x 79	M., S.S.	B. & B.	—	Belt 1"	5, 7, 10 to 1	30"	5"	2 1/2" D.	Rigid	47 1/2"	120	Yes	£46 10
Premier	3 1/2 Premier	499	85 x 88	M., S.S.	B. & B.	—	Belt 1"	Adjustable	30"	6"	2 1/2" D.	Rigid	50"	180	Yes	£47 10
Premier	3 1/2 Premier	499	85 x 88	M., S.S.	B. & B.	Clutch	—	Adjustable	30"	6"	2 1/2" D.	Rigid	50"	190	Yes	£54 17
Premier	3 1/2 Premier	499	85 x 88	M., S.S.	B. & B.	Millennium, H.	—	Adjustable	30"	6"	2 1/2" D.	Rigid	50"	212	Yes	£58 0
Premier	3 1/2 Premier	499	85 x 88	M., S.S.	B. & B.	Armstrong, H.	—	Adjustable	30"	6"	2 1/2" D.	Rigid	50"	196	Yes	£58 0
Premier Racer	3 1/2 Premier	499	85 x 88	M., S.S.	B. & B.	—	Belt 7/8"	Adjustable	30"	4 1/2	2 1/2" D.	Rigid	49"	160	No	£47 10
Premier	3 1/2 Premier	499	85 x 88	M., S.S.	B. & B.	—	Belt 7/8"	5, 7, 10 to 1	30"	5"	2 1/2" D.	Open	53"	200	Yes	—
Puch	2 Puch	254	68 x 70	M., S.S.	B. & B.	—	Belt 7/8"	5 to 1	31"	7"	2 1/2" Peters	Spring	52"	112	Yes	£42 0
Puch	2 Puch	254	68 x 70	A.	B. & B.	—	Belt 7/8"	5 to 1	31"	7"	1 1/2" Peters	Spring	52"	90	Yes	£31 10

* Pedalling gear, 35/- extra.

† N.S.U. two-speed gear, £5 15s. extra.

‡ Roc hub, £10 10s. extra.

SINGLE-CYLINDER BICYCLES (Continued).

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity. c.c.	Bore and Stroke. mm.	Inlet Valves.	Name of Carburetter.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank Case Clearance.	Standard Size and Make of Tyres.	Stand. and Frame.	Length of Wheel-base.	Weight. Unladen. lbs.	Pedal. ling. Gear.	Price.
Puch	3½ Puch	454	76 × 100	M. S.S.	B. & B.	—	Belt ...	5 to 1	29"	7"	2½"	Spring	53½"	140	Yes	£46 4
Puch	3½ Puch	454	76 × 100	M. S.S.	B. & B.	2-speed, C. ...	Chain ...	5 to 1	29"	7"	2½"	Spring	53½"	140	Yes	£52 10
P.V.	2½ J.A.P.	492	70 × 76	M. S.S.	B. & B.	—	Belt ¾ ...	5 to 1	30"	6"	2½"	Spring	55"	128	No	£47 0
P.V.	3½ J.A.P.	488	85½ × 85	M. S.S.	B. & B.	2-speed, C. ...	Belt ¾ ...	4½ to 1	30"	5"	2½"	Spring	55"	140	No	£52 0
Quadrant	2 Quadrant	292	70 × 76	M. S.S.	B. & B.	Quadrant, H. ...	Belt ¾ ...	Variable	28½"	4"	—	Rigid	—	110	Yes	£47 10
Quadrant	3½ Quadrant	499	85 × 88	M. S.S.	B. & B.	Quadrant, H. ...	Belt ¾ ...	Variable	28½"	4"	—	Rigid	—	160	Yes	£56 0
Quadrant T.T.	3½ Quadrant	492	85 × 88	M. S.S.	B. & B.	—	Belt ¾ ...	3½ to 1	28½"	4"	—	Rigid	—	130	No	£48 10
Quadrant	4 Quadrant	523	87 × 88	M. S.S.	B. & B.	Quadrant, H. ...	Belt ¾ ...	4½ to 1	28½"	4"	—	Rigid	—	165	Yes	£56 0
Rex	3½ Rex	448	77½ × 95	M. S.S.	B. & B.	—	Belt ...	—	33"	4"	2½"	Rigid	—	—	No	*£44 0
Rex	4 Rex	532	84½ × 95	M. S.S.	B. & B.	—	Belt ...	—	33"	4"	2½"	Rigid	—	—	—	*£46 0
Rex	4 Rex water-c.	532	84½ × 95	M. S.S.	B. & B.	—	Belt ...	—	33"	4"	2½"	Rigid	—	—	—	*£50 0
Rex-Jap.	2½ J.A.P.	292	70 × 76	M. S.S.	B. & B.	—	Belt ¾ ...	Adjustable	31"	4"	2½"	Spring	48"	225	No	£44 2
Rex-Jap.	4 J.A.P.	488	85½ × 85	M. S.S.	B. & B.	Rex, H.	Belt ¾ ...	Adjustable	32"	4"	2½"	Spring	50"	225	No	£63 0
Rover	3½ Rover	499	85 × 88	M. S.S.	B. & B.	Clutch, H.	Belt ¾ ...	Adjustable	32"	4"	2½"	Rigid	52"	186	Yes	£55 5
Rover	3½ Rover	499	85 × 88	M. S.S.	B. & B.	Armstrong, H. ...	Belt ¾ ...	Adjustable	32"	4"	2½"	Rigid	52"	192	Yes	£59 10
Rover	3½ Rover	499	85 × 88	M. S.S.	B. & B.	—	Belt ¾ ...	Adjustable	32"	4"	2½"	Rigid	52"	180	Yes	£49 0
Rudge	3½ Rudge	499	85 × 88	O. M.	R.-W.	—	Belt ¾ ...	4½ to 1	30"	4"	2½"	Rigid	54"	180	Yes	£48 15
Rudge	3½ Rudge	499	85 × 88	O. M.	R.-W.	Clutch, E.	Belt ¾ ...	4½ to 1	30"	4"	2½"	Rigid	54"	184	Yes	£55 0
Rudge	3½ Rudge	499	85 × 88	O. M.	R.-W.	Rudge, E. & H. ...	Belt ¾ ...	3½ to 1	30"	4"	2½"	Rigid	54"	200	Yes	£60 0
Samson	3½ Precision	499	85 × 88	M. S.S.	B. & B.	Albion, H.	Belt ...	4½ & 8 to 1	31"	4"	2½"	Rigid	52"	220	No	£55 0
S.I.A.M.T.	2½ S.I.A.M.T.	261	68 × 72	M. O.	S.I.A.M.T.	—	Belt ...	to order	31"	9"	2"	Rigid	46"	85	Yes	£36 15
Singer	2½ Singer	299	69 × 80	M. S.S.	B. & B.	Singer, C.	Belt ...	7½ to 1	31"	5½"	2"	Rigid	54"	175	Yes	£48 15
Singer	2½ Singer	299	69 × 80	M. S.S.	B. & B.	—	Belt ...	5 to 1	31"	5"	2"	Rigid	54"	135	Yes	£39 0
Singer	3½ Singer	499	85 × 88	M. S.S.	B. & B.	F.E.	Belt ...	5 to 1	31"	3½"	2½"	Rigid	56"	188	Yes	£45 0
Singer	3½ Singer	499	85 × 88	M. S.S.	B. & B.	—	Belt ...	4 to 1	31"	3½"	2½"	Rigid	56"	180½	Yes	£45 0
Singer	4 Singer	535	88 × 88	M. S.S.	B. & B.	Singer, C.	C. or D. ...	5½ to 1	31"	3½"	2½"	Rigid	56"	215	Yes	£45 0
Steelhouse	3½ Precision	499	85 × 88	M. S.S.	B. & B.	Brampton	Belt ...	to order	31"	5"	2½"	Rigid	56"	144	Option	£42 0
Stuart	2½ Stuart, 2-str.	301	71 × 75½	None	Amac	to order	Belt ¾ ...	4 & 6½ to 1	29"	5"	2½"	Rigid	54"	145	Yes	£37 10
Swan	3½ J.A.P.	488	85½ × 85	M. S.S.	J.A.P.	Swan, C.	Chain ...	4½ & 7½ to 1	30"	5"	2½"	Spring	57"	160	No	£55 0
Swift	3½	482	85 × 85	—	B. & B.	F.E., E.	Belt ¾ ...	Variable	—	—	2½"	Rigid	—	—	Yes	£52 10
Torpedo	2½ Torpedo	292	70 × 76	M. S.S.	B. & B.	F.E., E.	Belt ¾ ...	5½ to 1	30"	5½"	2"	Rigid	50"	106	Yes	£43 0
Torpedo	2½ Torpedo	292	70 × 76	M. S.S.	B. & B.	—	Belt ¾ ...	6 to 1	30"	5½"	2"	Rigid	50"	106	Yes	£37 0
Torpedo	3½ Torpedo	499	86 × 86	M. S.S.	B. & B.	Torpedo, H. ...	Belt ¾ ...	4½ & 6 to 1	31"	6"	2½"	Rigid	54"	150	Yes	£46 0
Torpedo	3½ Torpedo	499	86 × 86	M. S.S.	B. & B.	—	Belt ¾ ...	4½ & 6 to 1	31"	6"	2½"	Rigid	54"	158	Yes	£53 0
Triumph	3½ Triumph	499	85 × 88	M. S.S.	Triumph	Clutch, H.	Belt ¾ ...	4½ to 1	31"	4"	2½"	Rigid	54"	180	Yes	£45 0
Triumph	3½ Triumph	499	85 × 88	M. S.S.	Triumph	—	Belt ¾ ...	4½ to 1	31"	4"	2½"	Rigid	54"	170	Yes	£48 0
Triumph T.T.	3½ Triumph	499	85 × 88	M. S.S.	Triumph	—	Belt ¾ ...	3½ to 1	31"	4"	2½"	Rigid	52"	160	No	£50 0
Trump	3½ J.A.P.	488	85½ × 85	M. S.S.	B. & B.	C.	C. & B. ...	to order	29"	4"	2½"	Rigid	—	190	No	— 6
Trump	3½ J.A.P.	488	85½ × 85	M. S.S.	B. & B.	—	Belt ...	4½ to 1	29"	4"	2½"	Rigid	—	170	No	£48
Trump T.T.	3½ J.A.P.	488	85½ × 85	M. S.S.	B. & B.	—	Belt ...	4 to 1	29"	4"	2½"	Rigid	—	160	No	£48
Victoria	2½ Precision	292	70 × 76	M. S.S.	B. & B.	—	Belt ...	to order	—	—	2"	Rigid	—	—	Yes	—
Victoria	3½ Precision	499	85 × 88	M. S.S.	B. & B.	—	Belt ...	to order	34"	6"	2½"	Rigid	52½"	—	Yes	£42 0
V.M.C.	2½ V.M.C.	276	68 × 76	M. O.	B. & B.	2-sp. in crank c. ...	Belt ¾ ...	5 & 8½ to 1	30"	4½"	2½"	Rigid	55"	146	No	£50 0
V.M.C.	3½ V.M.C.	499	85 × 88	M. S.S.	B. & B.	—	Belt ¾ ...	4½ to 1	30"	4½"	2½"	Rigid	53"	180	No	£45 0

* Modèle de Luxe with two-speed hub, £10 extra. † Free engine £6 extra.

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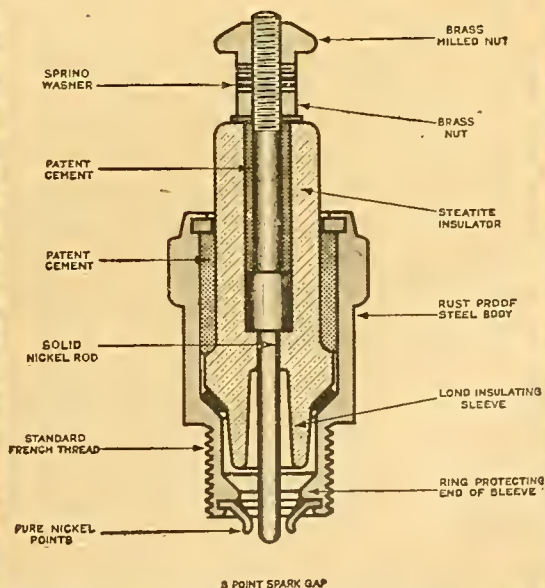
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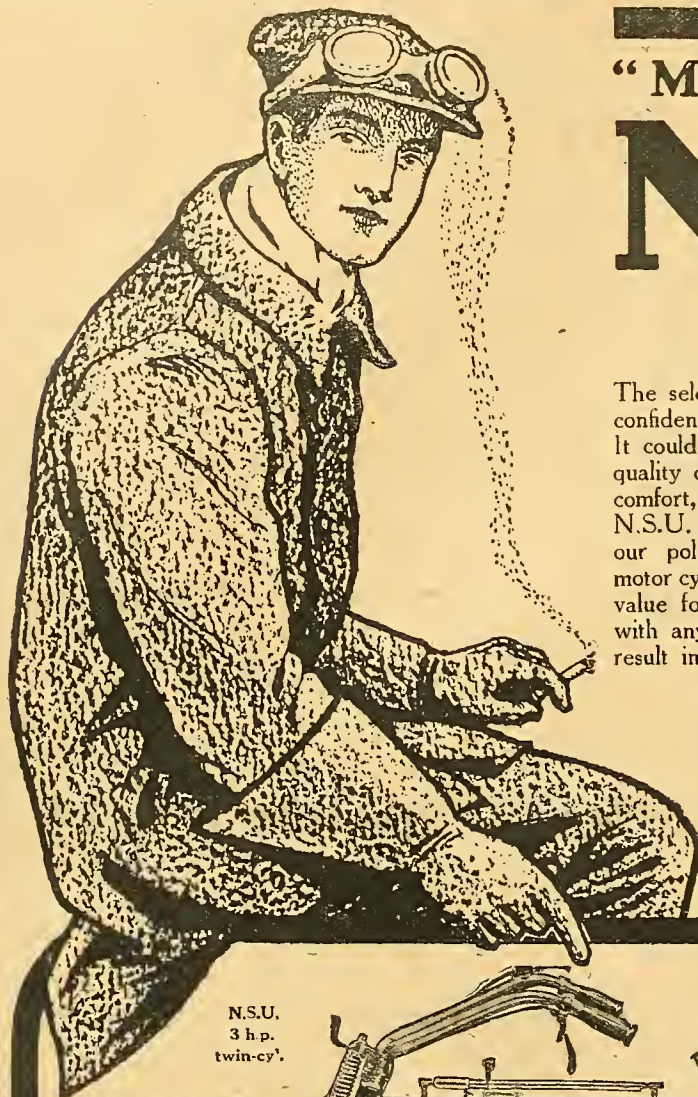
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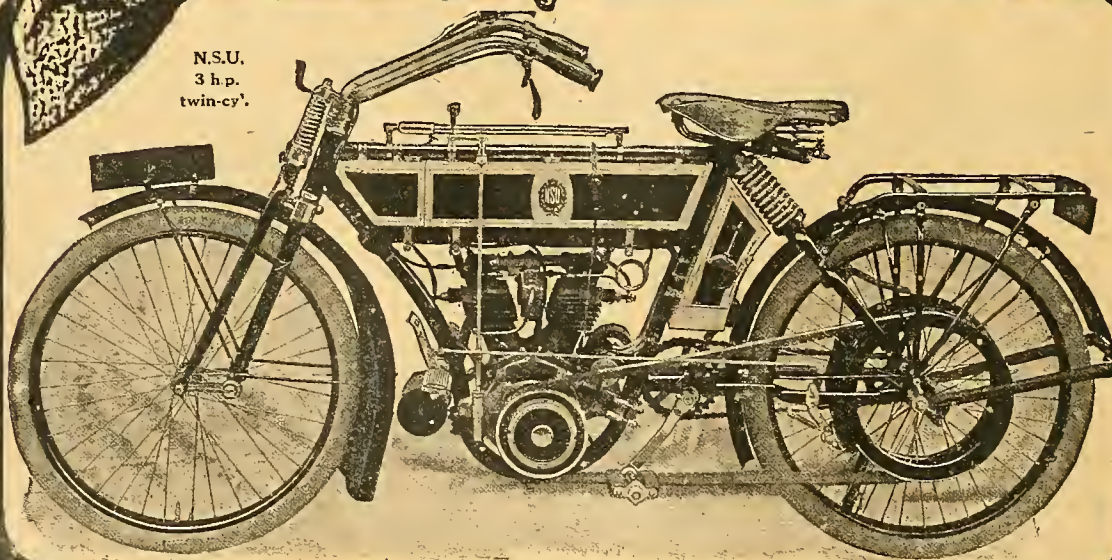
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SINGLE-CYLINDER BICYCLES (Continued).

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity. c.c.	Bore and Stroke, mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank Case Clearance.	Standard Size and Make of Tyres.	Stand-ard Frame.	Length of Wheel-base.	Weight Un-laden. lbs.	Pedal-ing Gear.	Price.
Win-Precision	3½ Precision	499	85 x 88	M, S.S.	B. & B.	Villiers, H.	Belt 7"	4½ & 6½ to 1	27½	5½	2½ D.	Rigid	52"	160	Option	£45 10
Wulfruna	1½ Stevens	208	63 x 66	M, S.S.	Amac	—	Felt	—	28	7	2"	Rigid	49"	98	Yes	£33 12
Wulfruna	2½ Stevens	322	76 x 82	M, S.S.	B. & B.	—	Felt	4 to 6½ to 1	28½	7	2"	Rigid	51"	125	Yes	£37 16
Wulfruna	3½ Stevens	499	85 x 88	M, S.S.	Amac	—	Felt	4 to 6½ to 1	28½	5½	2½	Rigid	54"	160	Yes	£47 5
Zenith	3½ J.A.P.	488	85½ x 85	M, S.S.	B. & B.	Gradua, E.	Belt	Variable	27½	4½	2½ H.	Rigid	52"	180	No	£55 13

MULTI-CYLINDER BICYCLES.

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity. c.c.	Bore and Stroke, mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank Case Clearance.	Standard Size and Make of Tyres.	Stand-ard Frame.	Length of Wheel-base.	Weight Un-laden. lbs.	Pedal-ing Gear.	Price.
A.J.S.	5 A.J.S. 50°	630	70 x 82	M, S.S.	Amac	A.J.S., C.	Chains	4½ & 9 to 1	30"	5½	2½ H.	Rigid	54"	185	No	£63 0
Aleyon	2 Aleyon	222	47 x 72	M	Chaudel-Hobson	H.	Chains	4 to 1	27"	5	2½ H.	Rigid	50"	105	Yes	—
A.S.L.	5 Fatuir	614	70 x 80	M, S.S.	Amac	—	Belt 1"	4 to 1	27"	6	2½ Mo.	Spring	49"	190	No	£60 0
Bat T.T.	5 J.A.P.	738	85 x 65	M, O.	B. & B.	—	Belt	to order	28"	3½	—	Rigid	57"	175	No	£62 0
Bat	5-6 J.A.P.	770	76 x 85	M, S.S.	B. & B.	—	Belt	4 to 1	32"	4	2½ D.	Spring	55"	205	No	£58 0
Bat	5-6 J.A.P.	770	76 x 85	M, S.S.	B. & B.	Bat., C.	Chain	4 & 7 to 1	32"	4	2½ D.	Spring	55"	225	No	£70 12
Bat	7-8 J.A.P.	964	85 x 85	M, S.S.	B. & B.	—	Belt	3½ to 1	32"	4½	2½ D.	Spring	55"	205	No	£60 0
Bat	7-8 J.A.P.	964	85 x 85	M, S.S.	B. & B.	—	Chain	4 & 7 to 1	32"	4½	2½ D.	Spring	55"	225	No	£72 12
Bat T.T.	8 J.A.P.	986	90 x 77½	M, O.	B. & B.	—	Belt	to order	28"	3½	2½ D.	Rigid	57"	185	No	£65 0
Brough	6 Brough 50°	792	77 x 85	M, S.S.	B. & B.	Brough, C.	Chain	4½ & 9 to 1	30"	4½	2½ Con.	Rigid	62"	200	No	£65 0
Brough	6 Brough 50°	792	77 x 85	M, S.S.	B. & B.	—	Belt	Variable	29"	4½	2½ Con.	Rigid	56"	162	No	£55 0
Buck	6-7 Buck 40°	904	80 x 90	O.	B. & B.	—	Belt	Adjustable	26"	5	2½ Con.	Rigid	48"	150	Yes	£50 0
Buck	6-7 Buck 40°	904	80 x 90	O.	B. & B.	—	Belt	4 & 8 to 1	26"	5	2½ Con.	Rigid	48"	160	No	£55 0
Campion	6 J.A.P.	770	76 x 85	M, S.S.	B. & B.	—	Belt	Variable	32"	4½	2½ D.	Rigid	54"	185	No	£62 10
Campion	8 J.A.P.	964	85 x 85	M, S.S.	B. & B.	Roc, H.	Belt	Variable	32"	4½	2½ D.	Rigid	54"	190	No	£62 10
Centaur	2½ — V 45°	340	60 x 60	M, S.S.	B. & B.	—	Belt 7"	5 to 1	28"	5½	2"	Rigid	51½"	145	Option	£42 0
Centaur	2½ — V 45°	340	60 x 60	M, S.S.	B. & B.	Armstrong, H.	Belt 7"	5, 7, 10 to 1	28"	5½	2"	Rigid	51½"	150	Option	£52 10
Chater-Lea	8 Chater-Lea	964	85 x 85	M, S.S.	Amac	—	Chain	Variable	32"	4½	65 mm.	Rigid	61"	280	No	£78 15
Clyno	5-6 Clyno 55°	643	76 x 82	M, S.S.	Amac	Clyno, C.	Chain	4½ & 8½ to 1	30"	4½	2½ P.C.	Rigid	60"	220	No	£68 5
Douglas	2½ Douglas 180°	340	60 x 60	M, S.S.	Douglas	Douglas, C.	C. & B.	5½ & 8½ to 1	29"	9	2"	Rigid	52"	120	No	£47 0
Douglas	2½ Douglas 180°	340	60 x 60	M, S.S.	Douglas	—	Belt	to order	29"	9	2"	Rigid	52"	120	Yes	£41 0
Enfield	2½ Enfield 60°	343	54 x 75	M, S.S.	Amac	Enfield, C.	Chains	5½ & 7½ to 1	30"	6	2" & 2½ D.	Rigid	53"	140	No	£52 10
F.N. 4-cylinder	5-6 F.N.	494	52½ x 57	O.	F.N.	—	Bevel	6 to 1	32"	10	2½	Rigid	55"	200	Yes	£52 10
F.N. 4-cylinder	5-6 F.N.	494	52½ x 57	O.	F.N.	Clutch, C.	Bevel	6 to 1	32"	10	2½	Rigid	55"	200	Yes	£58 0
Forward	2½ Forward	344	56 x 70	M, S.S.	Amac	—	Belt	Adjustable	30"	—	2" Mid.	Rigid	52"	112	Yes	*£39 18
Forward	2½ Forward	344	56 x 70	M, S.S.	Amac	—	Belt	Adjustable	30"	—	—	Open	52"	112	Yes	£44 2
Hobart	4 Hobart	552	68 x 76	M, S.S.	B. & B.	Millennium, H.	Belt 7"	—	29½	6	2½ H.	Rigid	55"	180	Yes	—
Humber	2½ Humber 45°	340	60 x 60	M, S.S.	B. & B.	—	Belt 1"	5 to 1	28"	6½	2"	Rigid	51½"	145	Option	£42 0
Humber	2½ Humber 45°	340	60 x 60	M, S.S.	B. & B.	Armstrong, H.	Belt 1"	Variable	28"	6½	2"	Rigid	51½"	150	Option	£52 10
Indian	7 Indian	994	82½ x 93	M, O.	Indian	F.E.	Chain	4 to 1	30"	6	2½	Rigid	53"	—	No	£67 0
Indian	7 Indian	994	82½ x 93	M, O.	Indian	Indian, C.	Chain	4 & 6.4 to 1	30"	6	2½	Rigid	55"	—	No	£75 0

* Armstrong three-speed hub, £10 10s. extra.

MULTI-CYLINDER BICYCLES (Continued).

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity. c.c.	Bore and Stroke. mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank Case Clearance.	Standard Size and Make of Tyres.	Stand-ard Frame.	Length of Wheel-base.	Weight Unladen. lbs.	Pedal-ling Gear.	Price.
Kerry-Abingdon	5-6 Abingdon 50°	670	67 × 95	M, S.S.	B. & B.	—	Belt 1"	Adjustable	27"	8"	2½" K.	Rigid	50"	—	No	£59 10
Martin Racer	3½ J.A.P.	498	76 × 55	O, M.	Amac	—	Belt ¾"	3½ to 1	29"	3"	2½"	—	53"	150	Yes	£58 10
Matchless	3 J.A.P.	430	60 × 76	M, S.S.	—	—	—	—	—	—	—	Rigid	—	—	—	£52 10
Matchless T.T.	5 J.A.P.	738	85 × 65	M, O.	—	Matchless	—	—	—	—	—	Rigid	—	—	—	£69 6
Matchless	6 J.A.P.	770	76 × 85	M, S.S.	—	—	—	—	—	—	—	Rigid	—	—	—	£56 14
Matchless	8 J.A.P.	964	85 × 85	M, S.S.	—	—	—	—	—	—	—	Rigid	—	—	—	£73 10
M.M.	7-9 M.M.	999	82½ × 93½	O, S.S.	Schebler	V.S., H.	Belt D.	3½ to 1	31"	5"	2½"	Rigid	56"	175	Option	£57 5
New Comet	6 Precision	750	75 × 85	M, S.S.	to order	to order	Belt ..	3½ to 1	30"	4"	to order ..	Rigid	55"	225	to ord.	£55 0
N.L.G.	6 J.A.P.	770	76 × 85	M, S.S.	B. & B.	—	Belt 1"	Adjustable	28"	4"	2½"	Rigid	54"	180	No	£57 15
N.L.G.	6 J.A.P.	770	76 × 85	M, S.S.	B. & B.	3-speed, H.	Belt 1"	Adjustable	28"	4"	2½"	Rigid	54"	190	Yes	£68 5
N.S.U.	3 N.S.U.	396	58 × 75	M, O.	N.S.U.	—	Belt ½"	5 to 1	32"	6"	2"	Spring	54"	140	Yes	*£45 0
N.S.U.	6 N.S.U.	796	75 × 90	M, O.	N.S.U.	—	Belt ..	4 to 1	31"	5"	2½"	Spring	54"	200	Yes	£56 0
Pierce 4-cylinder	6-7 Pierce	688	62 × 57	M, S.S.	Breeze	2-speed, C.	Bevel	4½ & 7½ to 1	32"	—	2½" G.	Rigid	60"	190	Yes	£80 0
Pilot	8 J.A.P.	964	85 × 85	M, S.S.	Amac	—	Belt ¾"	Adjustable	27"	4"	2½" H.	Rigid	—	—	Yes	£48 0
Premier	3½ Premier	548	66 × 80	M, O.	B. & B.	—	Belt ¾"	Adjustable	31"	4½"	2½" D.	Rigid	53"	186	Yes	£52 10
Premier	3½ Premier	548	66 × 80	M, O.	B. & B.	Clutch, H.	Belt ¾"	Adjustable	31"	4½"	2½" D.	Rigid	53"	196	Yes	£59 17
Premier	3½ Premier	548	66 × 80	M, O.	B. & B.	Armstrong, H.	Belt ¾"	5, 7, 10 to 1	31"	4½"	2½" D.	Rigid	53"	202	Yes	*£63 0
Puch	6-7 Puch	904	80 × 90	A, S.S.	B. & B.	2-speed, F.E.	Chain	Variable ..	33"	7"	80 mm.	Spring	59½"	270	Yes	£78 15
Puch	6-7 Puch	904	80 × 90	A, S.S.	B. & B.	—	Belt 5 to 1	Variable ..	33"	7"	80 mm.	Spring	59½"	290	Yes	£54 12
P.V.	3½ J.A.P. 50°	430	60 × 76	M, S.S.	B. & B.	N.S.U. to order	Belt ¾"	4½ to 1	30"	5"	2½" D.	Spring	55"	135	No	£55 0
P.V.	5 J.A.P. 50°	584	70 × 76	M, S.S.	B. & B.	N.S.U. to order	Belt 1"	4½ to 1	30"	5"	2½" D.	Spring	55"	140	No	£58 0
P.V.	6 J.A.P. 50°	770	76 × 85	M, S.S.	B. & B.	N.S.U. to order	Belt 1"	4½ to 1	30"	4"	2½" D.	Spring	55"	160	No	£62 0
P.V.	8 J.A.P. 50°	964	85 × 85	M, S.S.	B. & B.	N.S.U. to order	Belt 1"	4½ to 1	30"	4"	2½" D.	Spring	55"	170	No	£65 0
Rex	6 Rex	896	77½ × 95	M, S.S.	B. & B.	—	—	Adjustable	—	—	—	Rigid	52"	—	No	*£50 0
Rex-Jap	3 J.A.P. 50°	430	60 × 76	M, S.S.	B. & B.	Armstrong, H.	Belt 1"	Adjustable	31"	4"	2½" D.	Spring	48"	—	No	£58 16
Rex-Jap	6 J.A.P. 50°	774	76 × 85	M, S.S.	B. & B.	Rex, H.	Belt 1"	Adjustable	32"	4"	65 mm. D.	Spring	50"	245	No	*£71 8
Rex-Jap	8 J.A.P. 50°	964	85 × 85	M, S.S.	B. & B.	Rex, H.	Belt 1"	Adjustable	—	4"	65 mm. D.	Spring	50"	261	No	£73 10
Scott	3½ Scott 2 str.	535	73 × 63½	None ..	Scott	Scott, C.	Chain	4 to 7½ to 1	28½"	6"	2½"	Open, R	54½"	180	No	—
Wulfruna	4 Moto-Réve ..	498	63 × 80	M, O.	Special	to order	C. or B.	—	28½"	6½"	2½"	Open, R	54"	—	Yes	—
Zenith	6 J.A.P.	770	76 × 85	M, S.S.	B. & B.	Gradua, E.	Belt ..	Variable ..	27½"	4½"	2½" H.	Rigid	52"	195	No	£70 13

* N.S.U. two-speed E., £5 15s. extra; heavy pattern, £7 15s. † Millennium hub, same price. ‡ Two-speed hub, £10 extra. § £10 10s. to £15 15s. less without variable gears.

PASSENGER MOTOR CYCLES.

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity. c.c.	Bore and Stroke. mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank Case Clearance.	Standard Size and Make of Tyres.	Stand-ard Frame.	Length of Wheel-base.	Weight Unladen. lbs.	Pedal-ling Gear.	Price.
A.C. Sociale	5-6 A.C.	649	90 × 102	M, S.S.	A.C.	—	Chain	4½ & 10 to 1	—	7"	65 mm.	Spring	66"	504	No	—
B. & A. Runabo	6 Buck	904	80 × 90	O, S.S.	B. & B.	Epicyclic	Bevel	4 & 7½ to 1	—	12"	65 mm.	Spring	87"	350	No	£110 0
B. & A. Runabo	9 Buck	1208	90 × 95	M, S.S.	B. & B.	Epicyclic	Bevel	4 & 7½ to 1	—	12"	65 mm.	Spring	87"	400	No	£135 0
Brough Sociale	8 Brough	964	85 × 85	M, S.S.	B. & B.	2-speed, C.	Chains	—	—	—	65 mm.	Spring	—	—	No	£95 0
C.M.C. Carrette	7 Crouch	744	76 × 82	M, O.	Amac	Crouch, sliding	Chain	5, 8, 14 to 1	—	7"	65 mm.	Spring	84"	616	No	£99 15
Enfield Sidecar	6 J.A.P.	770	76 × 85	M, S.S.	Amac	Enfield, C.	Chain	5 & 9 to 1	32"	4"	65 mm.	Rigid	55½"	300	No	£80 17

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NOVEMBER 16th, 1911.

THE MOTOR CYCLE.

1235

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity. c.c.	Bore and Stroke. mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank Case Clearance.	Standard Size and Make of Tyres.	Stand. and Frame.	Length of Wheel-base.	Weight, Unladen. lbs.	Pedal-ling Gear.	Price.
James S.	3½ James	557	86 × 96	M, S.S.	B. & B.	James, C.	Chain	4½ & 8½ to 1	26"	—	2½" D.	—	53"	290	No	£72 0
Morgan Runab' Motorette	8 J.A.P. 6-7 P.M.C.	964 723	85 × 85 95 × 102	M, S.S. M, S.S.	B. & B. J.A.P.	Morgan, C. P.M.C., H.	C. & G. Chain	4 & 8 to 1 4½ & 13 to 1	—	7"	2½" Con. ... 65 mm.	Spring Spring	—	336 525	No No	£89 5 £105 0
New Hudson S.	3½ New Hudson	499	85 × 88	M, S.S.	B. & B.	Armstrong, H.	Belt 1"	4½ to 9 to 1	29"	5"	2½"	Rigid	53"	280	Yes	£67 4
Roe Tricycle ...	5 Roe	—	—	M, S.S.	B. & B.	Roe, H.	Bevel	5½ & 10 to 1	—	5½"	2½"	—	75"	392	No	£105 0
Unocar	4½ Fafnir	452	80 × 90	M, O. 6	B. & B.	2-speed, C.	Belt 1"	6 & 9 to 1	—	—	2½" M.	Spring	—	—	No	£57 0

LADIES' BICYCLES.

Name of Motor Bicycle.	H.P. and Name of Engine.	Cubic Capacity. c.c.	Bore and Stroke. mm.	Inlet Valves.	Name of Carburettor.	Change Speed Gear.	Transmission.	Standard Gear or Gears.	Saddle Height from Ground.	Crank Case Clearance.	Standard Size and Make of Tyres.	Stand. and Frame.	Length of Wheel-base.	Weight, Unladen. lbs.	Pedal-ling Gear.	Price.
Centaur	2	198	60 × 70	M, S.S.	B. & B.	—	Belt ¾"	6 to 1	30"	6½"	2"	Open, R	50½"	105	Yes	*£42 0
Douglas	2½ Douglas	340	60 × 60	M, S.S.	Douglas	Douglas, C.	C. & B.	5½ & 8½ to 1	28"	9"	2" Avon	Open, R	52"	130	No	£52 0
Enfield	2½ Enfield	241	64 × 75	M, S.S.	Amac	Enfield, C.	Chains	6½ & 9 to 1	30"	6"	2" D.	Open, R	53"	130	No	£52 10
Forward	2½ Forward	344	56 × 70	M, S.S.	Amac	—	Belt	Adjustable	30"	—	2" Mid.	Open, R	52"	112	Yes	*£44 2
Hobart	2½ Hobart	300	70 × 78	M, S.S.	B. & B.	Armstrong, H.	Belt ¾"	Variable	30"	6"	H.	Open, R	52"	130	Yes	—
Humber	2 Humber	198	60 × 70	M, S.S.	B. & B.	—	Belt ¾"	6 to 1	30"	6½"	2"	Open, R	50½"	105	Yes	*£40 0
Levis	2½ Levis 2-stroke	211	62 × 70	None	Amac	F.E., H.	Belt ¾"	6½ to 1	29½"	4"	2" H.	Open, S	57"	110	No	£44 2
Midget Bicar ...	3½ Precision ...	499	85 × 88	M, S.S.	Amac	V.P., E.	Belt ¾"	3½ to 7 to 1	30"	5"	2½"	Open, R	52"	156	No	—
Motosacoche ...	2½ Motosacoche	290	64 × 90	M, S.S.	Dufaux	—	Belt	6½ to 1	31"	10"	1½" Avon	Open, R	48"	100	Yes	—
Premier	3½ Premier	499	85 × 88	M, S.S.	B. & B.	Armstrong, H.	Belt ¾"	5, 7, 10 to 1	30"	5"	2½" D.	Open	53"	200	Yes	—
Quadrant	2 Quadrant	292	70 × 76	M, S.S.	B. & B.	Quadrant, H.	Belt	5½ to 1	28½"	4"	—	Open, R	—	110	Yes	£47 10
Scott	3½ Scott 2-stroke	535	73 × 63½	None	Scott	Scott, C.	Chain	4 & 7½ to 1	28"	6"	2½"	Open, R	54½"	180	No	—

** Armstrong three-speed hub, £10 10s. extra.

SIDECAR ATTACHMENTS ON THE BRITISH MARKET.

NAME.	DETAILS.	PRICE.	NAME.	DETAILS.	PRICE.
Canoelet ..	Coach-built, doors, adjustable seat	£12 12s.	Matchless ..	Two models, cane or coach-built	£14 14s. and £16 16s.
Chater-Lea ..	Spring wheel ..	£17.	Millford ..	Rigid wicker, cane, or coach-built..	£6 6s. to £14 5s.
Clyno ..	Special front suspension, coach built	£6 6s. to £7 7s.	Montgomery ..	Spring wheel, castor, or radial castor	£12 12s. to £17 17s.
Confly ..	Three models (spring wheel, 44/- extra)	£5 5s. to £7 12s. 6d.	Montgomery ..	Five models, rigid	£8 to £15.
Coronet ..	Four models, wicker-cane, coach-built	£5 to £15.	P.M.C. ..	Castor wheel ..	£12 10s.
Dunkley ..	Fifteen models, wicker-cane, coach-built	£5 5s. to £7.	Portland ..	Spring wheel ..	£6 2s. 6d. to £7 12s. 6d.
Farrar ..	Rigid wicker ..	£16 16s. to £21.	Rey ..	Five models, wicker or cane	£5 5s. to £11 11s.
Gloria ..	Four models ..	£6 6s.	Rosendale ..	Rigid, wicker	£5.
Grandex ..	Standard ..	£6 6s. to £10 10s.	Turner ..	Low coach-built torpedo body	£4 10s. and £6 6s.
Griffin ..	Coach-built, wind screen, and hood	£6 6s. to £10 10s.	Walbrook ..	Wicker or cane, torpedo body	£4 10s. and £6 6s.
Kerry ..	Three models, coach-built	£6 6s. to £10 10s.			



BEFORE leaving the subject of epicyclic gears, two more gears of this description should be mentioned, viz., the Albion two-speed hub, a very convenient gear for fitting to existing machines without alteration, and which is combined with a multiple plate clutch (this gear belongs to the third type of epicyclic gears), and the Hingston and Brown gear, illustrated and described in our issue for October 26th, which embodies a somewhat new arrangement of the epicyclic principle, inasmuch as only two gear wheels are employed—an internally toothed wheel set eccentrically and a sun wheel around which it rolls when the latter is held firmly for the purpose of bringing the low gear into play. The internally toothed wheel is made to revolve by being mounted on a ball bearing, eccentric with regard to the hub, and it is connected to the hub shell, which it carries round by four toggle arms. On the high gear the whole is locked solid by an expanding clutch.

In epicyclic gearing it is usual to operate the changes by means of friction bands and clutches; this very much simplifies gear changing and makes it almost impossible to damage the gear by injudicious changing.

2. Sliding Tooth.

The sliding tooth gear follows car practice, but it is made for two or three speeds instead of four and has no reverse, consequently it is light and simple. The T.A.C. three-speed is an excellent example of this gear. Chater-Lea, Ltd., also make it, both two and three speed. Gears on this principle are not suited to the engine-shaft or hub, but are always found on the counter-shaft. A separate friction clutch is required to allow the changes to be made smoothly and without damaging the teeth. Any ratios can be arranged. The top, or any other gear, can be made direct, but in the T.A.C. this is not done, as the driving and driven shafts are not in the same straight

line; however, as only one pair of wheels are in engagement at a time, there is but little friction. This principle is also found on the F.N. lightweight.

3. Teeth in Mesh—Sliding Dog Clutch.

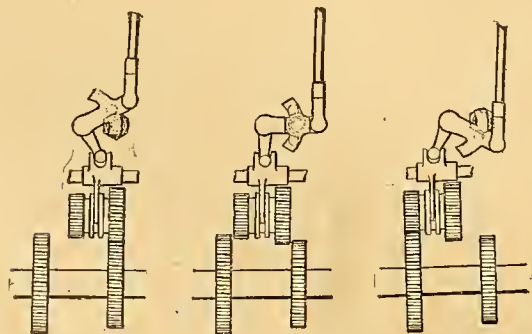
This system has an advantage over the last in that the teeth being always in mesh there is less chance of damaging the gears while changing, and the disadvantage that the gears are running when not required. It is suitable for a two-speed gear on the counter-shaft, and is the principle employed on the Indian, Douglas, Fafnir, Morgan Runabout, Blumfield, James, Singer, and others. It is, in fact, a type that is coming very much to the front on account of its undoubted simplicity and reliability. A combination chain and belt drive is commonly used with this gear, though some firms use chains throughout, and on the Singer gear and belt drive is used. On the A.J.S. the gear is combined with a friction clutch having cork insets, which permits a very gradual engagement. The Corah two-speed gear is of a similar character, but it is operated by expanding bronze clutches instead of a sliding dog clutch.

4. Selective Clutch.

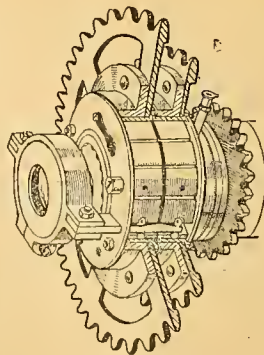
The selective clutch principle has the great advantage that both gears are direct, but it must be remembered that the gear not in use is running idly with a certain amount of added friction (though not much) as compared with a single drive. The old Raleigh gear employed one chain from engine to counter-shaft and two to the back wheel, the hub of which contained a sliding dog clutch, but better and pleasanter results can be obtained by using friction clutches giving a gradual engagement as is done in the P. and M., Scott, Royal Enfield, and Clyno.

This gear is most commonly used on chain-driven machines, and is fitted in the counter-shaft, but it can be used with a combination of chain and belt, as is

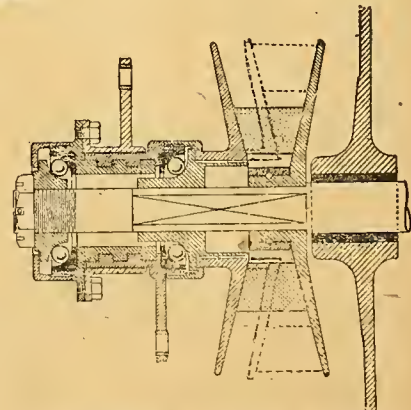
EXAMPLES OF DIFFERENT TYPES OF CHANGE SPEED GEARS.



No. 1.—F.N. sliding tooth gear as used on a Panhard.

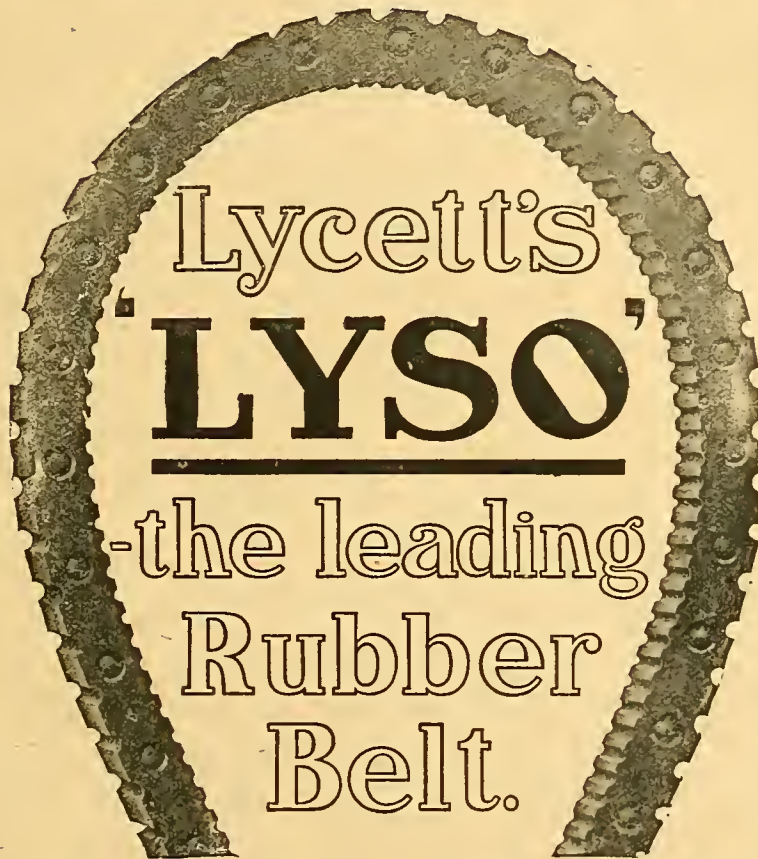


No. 2.—P. and M. selective clutch gear.



No. 3.—Zenith expanding and contracting engine pulley.

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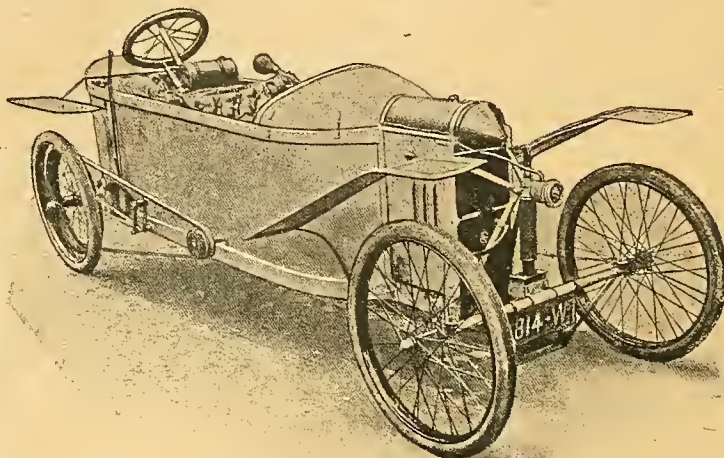
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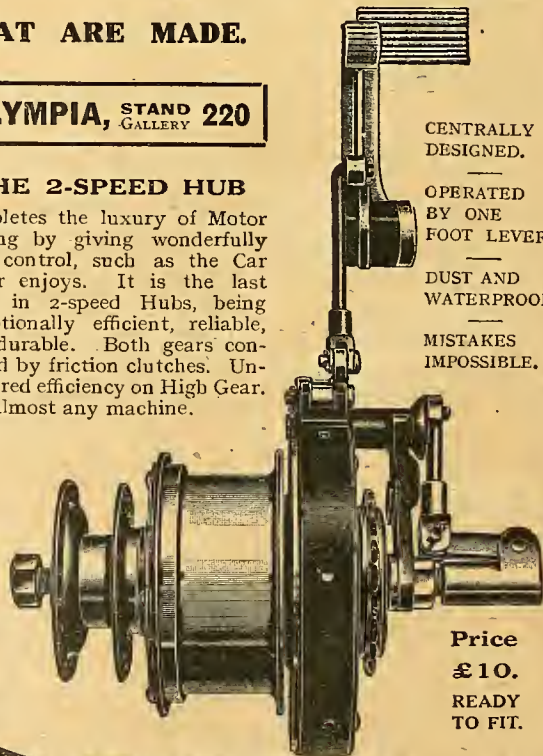
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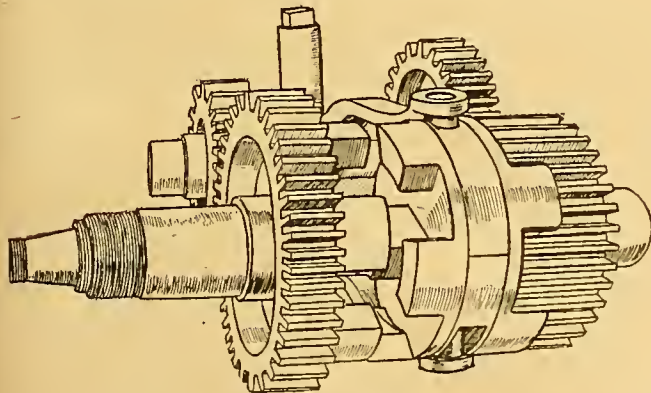
done on the two-speed Bat, where the P. and M. gear is employed. It is usual to employ two chains from the crank axle, which is sometimes fitted with a friction clutch to the counter-shaft, and one chain or belt from the counter-shaft to the back wheel. The counter-shaft is usually behind the engine, the Bat and Fafnir being exceptions; the former plan being suitable to chain drive and the latter to belt drive, for in the case of a belt it is not advisable to have the pulley too near the back wheel.

The P. and M. gear is changed by a handle on the right-hand side of machine, to which is attached a light chain like a bicycle chain; this in turn works a coarse-threaded screw which moves metal wedges and expands the required phosphor bronze ring.

The Enfield gear, which is very similar, is worked by means of a handle just in front of the saddle. This expands internal rings which grip the required chain wheel. The standard gears are $5\frac{3}{4}$ and $7\frac{3}{4}$ to 1.

The Scott gear is worked by the foot by means of a rocking pedal and expanding rings.

The 1912 Clyno differs from last year's model in having double clutches worked by expanding phosphor-bronze rings.

EXAMPLES OF DIFFERENT TYPES OF CHANGE SPEED GEARS.

No. 4. The Douglas dog clutch two-speed gear.

The Jonsca gear, lately described in our columns, is an application of the selective clutch type to a double belt drive, the expanding clutches being in the back hub and worked by a pedal. It has also geared-down engine pulleys which give a simple means of tightening the belts.

While on the subject of transmission by chain or gear from the engine I should like to point out that it is desirable in all such cases that there should be some kind of friction clutch on the engine-shaft, for in addition to rendering the drive smooth and removing harshness, such a device has the advantage of preventing the shock of the explosion from falling on the same teeth of the sprocket or gear wheel at every explosion of the engine, which would be the case if the sprocket were rigidly fixed to the engine-shaft.

5. Expanding Pulleys.

Expanding pulleys must not be confounded with the adjustable pulleys found on most machines, even

those with two-speed gears, for the latter cannot be altered while the machine is in motion, and therefore do not come within my definition of a variable gear.

The best known example of the variable pulley is the Zenith Gradua, though I believe the Osborne four-speed pulley was the first of its type. The Zenith Gradua gets over the difficulty of belt tension by an arrangement which forces the rear wheel back as the gear is lowered, thus taking up automatically the slack of the belt. The Osborne is still a four-speed gear, and allows for taking up the slack by moving the back wheel, which is done by the feet; it is then locked in the required position. The Lloyd automatic pulley should also be mentioned here. This pulley has a loose flange, which is forced against the belt by a series of springs, and as the tension of the belt due to load increases, the belt forces the flange back, and so lowers the gear automatically to suit the road conditions; the reverse takes place when the load becomes lighter. The pulley can also be expanded and the gear lowered by a rolling wedge attached to a lever; this is useful for starting purposes.

The new Rudge variable gear is another example of the expanding pulley type. Both pulley and rim are expanded and contracted. It is arranged to give no less than twenty variations of gear, and is worked by a lever at the left side of the tank.

The Midget Bicar gear is a three-speed pulley in which the movable flange is held in place by ratchet teeth. The pulley movement and belt tension are accomplished by a single lever. The Ariel is another machine on which this gear is employed. Obviously this type of variable gear is suited to a V belt only.

Belts and Variable Gears.

A belt is subjected to changes of tension, instantaneous or otherwise, when the force applied to the driving wheel is altered; the method of alteration makes no difference. This force is constantly changing on any kind of motor cycle, except when running at a steady pace on level ground or on an unvarying gradient. So long as the belt rim is fixed to the back wheel the tension of the belt must change for every variation of speed or slope, unless the slope is accountable for the change of speed, and a variable gear on the crankshaft or counter-shaft makes no difference at all to this tension, but simply allows the engine to run more nearly to its normal number of revolutions, and consequently more steadily. Of course, it is possible to jerk one's gear, and consequently one's belt, by suddenly changing up when the engine is running fast; the same thing can be done by raising the exhaust and dropping it again on full throttle. In the case of a hub gear the belt is relieved of a large amount of strain in hill-climbing, as it is kept running fast even when the machine has slowed down. A variable gear, then, assists the belt in the following ways. If on the hub, it allows the belt speed to be maintained, and consequently the tension is less (see any book on mechanics under "Levers"). If on the counter-shaft, it admits of the belt pulley being much larger, and the belt is therefore subjected to less bending strain and has a larger bearing surface, and consequently a better grip, and should wear much longer in consequence.

AURIGA.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Brakes on Two-speeders.

? I am getting a two-speed hub fitted to my $3\frac{1}{2}$ h.p. machine. I have difficulty about the brakes. With a sidecar efficient braking power will be more of a necessity. My experience of depending on a front brake has been unsatisfactory, and a brake acting on the inside of the belt rim when the engine is free is useless. (1.) What is usually done under such circumstances? (2.) Where can an extra brake be fitted? (3.) Is a brake on the inside of the belt rim not liable to jam? (There is no band brake with my particular two-speed hub.)—A.M.

It would have helped us to answer your letter if you had given us the make of your machine and the type of gear with which it is being fitted. When the top speed is in, the low gear band can be used as a brake. When the low speed is in engagement use the compression of the engine as a brake. All you can do is to fit either a dummy belt rim or a band brake, whichever can be most conveniently attached. This is a matter you will have to go into with your local repairer. There is no reason why a brake on the inside of the belt rim should jam if properly fitted.

Variable Gears.

? In *The Motor Cycle*, in the columns concerning variable gears, you say, concerning engine-shaft epicyclic gears, that the gear ratios can be varied. Do you mean that the two fixed ratios can be varied, and set higher or lower, and, if so, does this apply to the Fit-all? I ask because of the following: My machine—a 3 h.p. of 1910—has Fit-all gear, and the top ratio is 4 to 1, which with my weight, between 13 and 14 stones, means that I have to chance down to the low—about 9 to 1—for anything worth calling a hill. I have asked the makers of the machine, but they say nothing can be done to lower the gear ratio. Can you suggest anything? $4\frac{1}{2}$ to 1 would be better, but I can hardly expect it to climb far on 4 to 1 with a rider nearly 14 st. and full touring kit, the engine being only 3 h.p.—S.F.C.

We presume you refer to the words, "On the other hand, any desired variation can be made." This means that in designing a gear the reduction for low gear can be 20%, 40%, or any other

ratio that may be desired. When the gear is once made the ratio is fixed, and can only be altered by fitting gear wheels of a different size, and it is possible that the company do not make any but the standard size. The top gear is got by running the whole gear solid. An adjustable pulley or a larger rear belt rim are the only means of altering this, and if you lower the high gear in this way you also lower the bottom ratio, which may not be desirable. The low gear is too low for solo work, but would be more suitable for use with a sidecar.

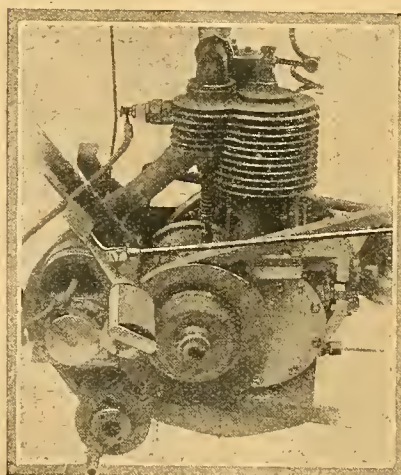
Long or Short Stroke.

? I should be obliged if you would give me information on the following points: (1.) What are the advantages and disadvantages respectively of an engine having a stroke appreciably longer than the bore, and one having both practically equal? (2.) I am thinking of getting a $2\frac{3}{4}$ h.p. machine. (a.) Would you advise a make fitted with chain or belt transmission? (b.) About how long will a chain last; also is it necessary when fitting a new chain to fit new sprockets as well, or do these latter outlast the chain?—R.H.P.

Long Hills and Two-speed Gears.

? I have a $2\frac{3}{4}$ h.p. 1910 Minerva motor cycle, with one brake on the rear axle (band brake), and should like to have the second brake on the front wheel. Because the front fork is a springing one, it is necessary to have a brake with Bowden wire. I should like to know if such a brake on the front wheel can become dangerous for the rider, or for the cycle construction. My second question concerns the variable gear. I bought this summer, with your approval, a Millennium two-speed gear. This gear I put in the rear axle, and now I find that with the variable gear I cannot ride a long steep hill, for the motor stops after ten or twelve yards, and still the belt is as tight as necessary. How can I change that?—W.C. (Rotterdam).

We do not think that the front brake will be in any way dangerous, and if you state your requirements to Messrs. Bowden Wire, Ltd., we think they will be able to supply you with what you require. It is quite extraordinary that you cannot manage a long hill with the two-speed gear. Of course, a gear adds weight, and this will account for your not going quite so fast or so far on the top speed as you could before the gear was fitted, but if you find you cannot climb a long and steep hill on the low gear, we think the trouble is probably in the engine and not in the gear, as it may be caused through overloading. If the engine is at all prone to overheat it is exceedingly difficult to cure, and we can only recommend that you see that the piston and piston head are clear of carbon deposit, that your valve springs have sufficient tension, that the exhaust valve lift is ample, and that the carburetter is not giving off too strong a mixture.



The new Veloc engine. A novel point in connection with this engine is that a two-speed gear, free engine, and automatic pump lubricator are all combined in the crank case. (See last week's issue pages 1175-1176.)

Trembler to Plain Coil.

I shall be obliged if you can inform me if it is possible to change a 2½ h.p. Excelsior engine from trembler to a plain coil without altering the contact breaker, which is a wipe contact.—W.N.

o, the type of contact breaker must be altered, a make and break contact breaker having to be fitted. See letter 6027 in our issue of November 9th.

Cambridge to Wellington College.

I sometimes see in your paper routes which you advise between different places. Could you oblige me with the best route between Cambridge and Wellington College?—S.W.T.

We have pleasure in giving the following route: Cambridge, Royston, Balock, Hitchin, Luton, Dunstable, Tring, Hemel Hempstead, Amersham, High Wycombe, Great Marlow, Twyford, Wokingham, and Wellington.

Concerning a Sidecar.

I am hoping shortly to get a motor cycle and sidecar, and have been advised to get a 3½ h.p. two-speed Humber, free engine.

(1.) Do you consider this power sufficient for sidecar work (self and passenger about 17 stones)? (2.) What is the most suitable make of sidecar? (3.) Would you advise pedals or footboards?—H.W.

(4.) The machine you refer to should be quite satisfactory if you do not use it in too hilly a district. (2.) Any well-known make of sidecar would suit your purpose. (3.) Pedals would not be necessary if a two-speed gear were fitted.

Alterations required for Sidecar Work.

My machine is a 3½ h.p. 1911 single speed, which has gone splendidly all the season. I shall be fitting a two-speed gear and sidecar at Christmas. (1.) Is the N.S.U. a reliable gear, and with engine in tune shall we be able to get up hills of 1 in 10 (combined weight of self and passenger 18 stones)? (2.) Is the timing different on solo and sidecar machines? If so, is it essential to alter it? (3.) Would it be advisable to fit a larger jet (B. and B.)? (4.) Are there any extra licences for sidecar? The machine at Christmas will have run about 3,500, and is at present going splendidly. It has always been driven carefully. (5.) Will it be then necessary to have the engine overhauled by the makers or not? and also what parts should then be renewed in the magneto? Finally (6.), is there any cure for the throttle slide jamming when the engine is very hot?—G.B.S.

(1.) The N.S.U. gear is very reliable. You would probably be able to climb hills of 1 in 10 with it if the road surface be good. (2.) No, we do not think you need alter the timing, but it might be advisable to lower the gear slightly. (3.) Perhaps a larger jet would be advisable, but do not increase jet unless you find it necessary, and then not much. (4.) No. (5.) There is no necessity to have the engine overhauled unless it shows signs of falling off in power. (6.) You could ease the throttle slides by rubbing them down with emery paper and attending to spring.

Mysterious Knocking.

I have a 1910 3½ h.p., which until lately has been going very well. Now it will not take open throttle on hills without slight knocking, even at speed. The magneto and carburettor adjustments are the same as when machine was delivered. I am satisfied that the trouble is not caused by carbon. A little time ago this knocking set in after only 200 miles since cleaning. I thought I had been giving too much oil, but on taking the cylinder off, I was surprised to find only a slight deposit, certainly not enough to cause bad knocking. Since then the machine has only done about seventy miles, and the trouble has come on again almost directly. The engine keeps perfectly cool. I give a pumpful of oil every twelve miles. The compression is excellent, and there is ample clearance between valve stems and tappets. Would a worn bearing somewhere cause it? When my engine runs lightly there is a clinking sound. I do not think it is the gudgeon or big-end bush, as I can find no vertical play there. The pulley bearing is quite all right. Would a dirty silencer cause it, or an obstruction in the exhaust pipe, even though I run with cut-out open?—J.T.

Perhaps you are using a sparking plug the points of which project too far into the cylinder and cause pre-ignition. Of course, a worn bearing would cause the trouble. If you had the engine down you could easily tell if this were the case. A dirty silencer would hardly cause the knocking, but would reduce the power.

EXPERIENCES WANTED.

"R.V." (Edinburgh). 3½ h.p. Lincoln-Elk solo and with sidecar.

"Z.Y.Z." (Scotland). 1911 3½ h.p. Scott, regarding general reliability, hill-climbing powers, and ease of starting.

"G.F.D." (Hagley). Morgan runabout and No. 7 Chater-Lea, with regard to hill-climbing and wear of tyres.

"H.W.H." (Crowborough). 3½ h.p. Ivy Precision for touring.

"M.M.R." (Dublin). 5 h.p. twin A.S.L. 1909 or 1910 pattern, also four-cylinder F.N., particularly with regard to sidecar capabilities of both machines.

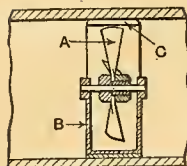
"W.F.H." (Weybridge). 3½ h.p. 1911 Bradbury, also 3½ h.p. two-speed Humber with sidecar.

"I.K." 479. 1911 Scott and sidecar. General riding experiences wanted. Also 5 and 7 h.p. Indian.

Mr. M. J. SCHULTE, Managing Director of the Triumph Cycle Co., Ltd., who, although possessing cars, is a keen motor cyclist, and, fair weather or foul, rides his machine backwards and forwards from the Triumph works at Coventry to his home at Kenilworth.

It would be well for motor cyclists if more of our motor cycle company managers were practical riders. Incidentally, Mr. Schulte speaks highly of the Wellington boots he is seen wearing, for winter riding.



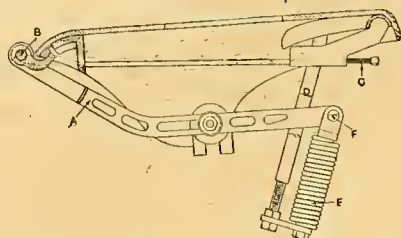
A Charge Mixing Device.

This device is inserted in the induction pipe and consists of a fan A mounted on a spindle in projections B, carried by a ring C which is of spring material to facilitate its insertion into place.—J. J.

Rowe, No. 27,123, 1910.

A Lycett Saddle.

The front of the saddle is pivoted to the underframe A at a point B forward of its peak, tensioning devices consisting of screwed thrust rods C being arranged at the rear. From the cantle plate de-



pend rods D, which are adjustably connected to springs E loosely pivoted on the underframe at F.—E. Lycett, No. 8215, 1911.

Notice of Removal.

Maude's Motor Mart inform us that they have moved their works from Halifax to Camden Town.

Motor Cycle Insurance.

Mr. Ernest J. Bass will be in attendance at Olympia, and will be pleased to meet clients and others interested in insurance.

Acetylene Gas Tubing.

To obviate the usual difficulty with ordinary acetylene gas tubing, the Severn Rubber Co., 94-96, Newhall Street, Birmingham, are selling a tubing in various lengths with moulded, thickened ends. It is practically impossible for this tubing to split at the ends and its life should therefore be considerably lengthened.

An Appreciation.

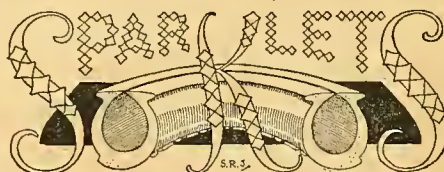
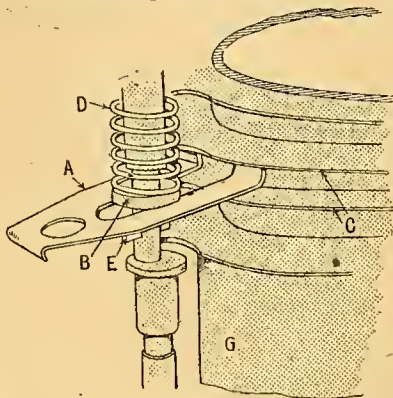
Mr. J. M. Clement, who is the winner of the pair of motor cycle tyres presented by the Coventry Rubber Co., in connection with a competition recently referred to in these columns, says: "I have nothing but praise for the Modèle de Luxe Non-skids, and during the whole time that I had them they gave the most complete satisfaction in every way."

Catalogues Received.

The 1912 catalogue of Brown and Barlow motor cycle carburetters is to hand. This contains, in addition to illustrations and full description of all the new models, hints on the manipulation and fitting of B. and B. carburetters which should be invaluable to users. Some useful speed tables are appended as well as a complete illustrated price-list of the component parts of the carburettor.

**A Valve Removing Tool.**

This tool comprises a forked plate A, which is passed beneath the spring cap B and between the cylinder flanges C after the engine has been turned to compress

**Cylinder Decarbonisation.**

On the 2nd inst. we had an opportunity of witnessing a private demonstration of a process for removing carbon deposits on a 5 h.p. twin-cylinder motor cycle engine, and the results so far as we can see were highly satisfactory. Every motor cyclist knows the trouble that arises from this cause, and will be interested in learning a few particulars of the Cylclean carbon process which is the property of the Internal Combustion Engine Cleaning Co., Ltd., 3, London Wall Buildings, E.C.

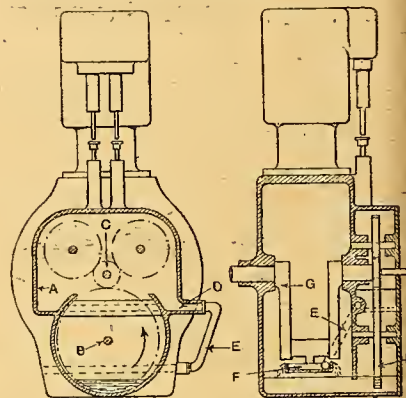
Briefly stated, the method consists of the injection of oxygen into the cylinders by means of a special apparatus and the application of a light, the result being that as the oxygen combines with the carbon the latter is completely burnt away. The test was very exhaustively carried out, and a continual ejection of red hot carbon sparks showed the presence of a large quantity of deposit, which must have been detrimental to the smooth running of the engine. The cylinders were cleaned in an incredibly short time, and we were given to understand that this was effected without in any way injuring them.

The Internal Combustion Engine Cleaning Co., Ltd., is appointing licensees throughout the country, to whom motor cycles may be sent for decarbonisation, the charge being very moderate indeed.

the spring D. Further rotation of the engine allows the valve to fall, when the cotter E can be extracted and the valve removed without difficulty.—J. A. Prestwich, No. 2092, 1911.

Engine Lubrication.

The crank case contains oil up to a suitable level, and the casing A for the timing gear is extended to accommodate a gear wheel B, driven by the pinion C. Rotation of the wheel B causes it to take



up a quantity of oil, which is delivered to the duct D, whence it passes by the pipe E to a tray F, the overflow falling to the bottom of the crank case.—W. Hall and D. W. Illius, No. 2908, 1911.

A Veteran Machine.

We hear that Mr. H. B. Karslake's old Dreadnought will be on exhibition at Messrs. W. and A. Bates's stand at Olympia.

New Halifax Firm.

A firm is now trading as Messrs. Scotts, Powell Street, Halifax, of which the principals are Messrs. J. W. Scott and C. T. Rhodes of that town.

Metric Equivalent Tables.

We are in receipt of a booklet entitled "50 Useful Metric Equivalent Tables," published by the Central Translation Institute, 16, Eastcheap, E.C., price 6d.

Alldays and Onions Dividend.

At a board meeting on the 9th inst. the directors of Alldays and Onions, Ltd., decided to declare the usual annual dividend of five per cent., together with the usual bonus of five per cent. on the ordinary shares, totalling ten per cent. for the year ending 5th August, 1911.

A Good Tyre Test.

Mr. D. R. O'Donovan, who recently rode a long distance trial on a 3½ h.p. Singer motor cycle, and whose performance was duly chronicled in our columns, called last week at our offices and showed us a Michelin cover, No. 761401, which had been in use on his machine during the whole of the ride, and while the rear wheel was sealed to the frame. During that time he covered 4,559 miles. The tread was worn through in one or two places to the canvas, but the beads were perfect. Apart from the long distance ridden, this is an excellent testimony to the Michelin tyres, as some covers burst at the bead before the treads are really worn out.

WILKINSON'S, 53, Pall Mall, S.W.

Sole Agents for the Colonies (except Canada)

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TOURING MOTOR CYCLE.

7 h.p. 4-cylinder water cooled engine, 60 x 75 M. O. I. V. Automatic lubrication. Automatic carburetter. Bosch Magneto on top of gear box under seat. Starting device operated from seat. Pressed steel

double-spring clutch (leather faced). 3-speed gear. Bevel drive (self contained). Improved patented spring frame, specially designed for side car work. Bucket seat. 7½ inch road clearance (ideal for Colonies). Radiator, pump, etc.

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V.S. —

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— J.A.P.

If you have a "V.S." or "N.S.U." machine or Two-speed Gear requiring attention send it to us. Our special knowledge enables us to ensure satisfaction. Spares and Replacements in Stock. Exchanges arranged for new and second-hand machines. Write or call.

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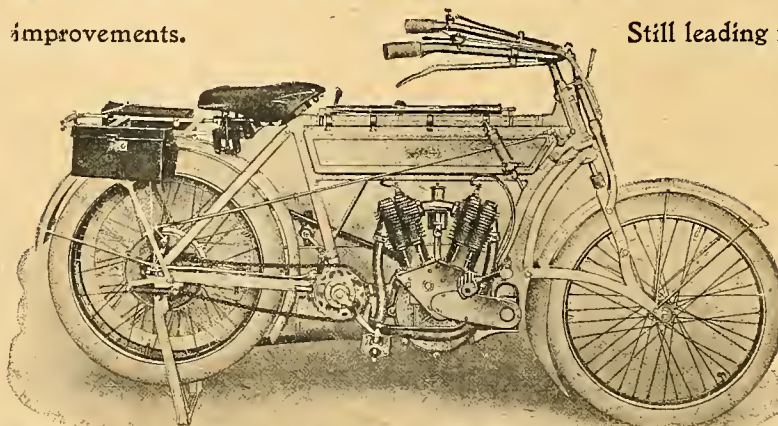
Many exclusive improvements.

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During the course of many years motor cycling, I have used 9 of your belts, none of which have given a moment's trouble"

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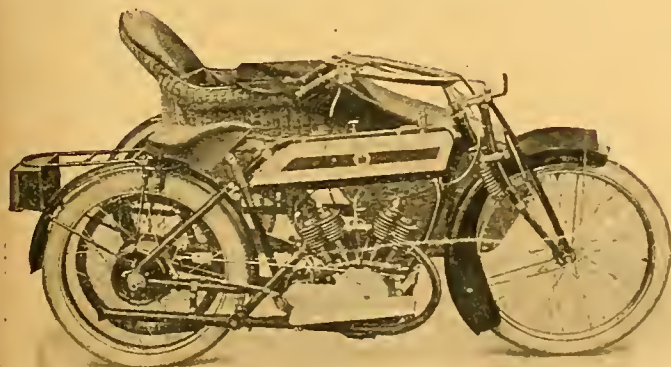
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	PRICE.
4 h.p. Speed King, single cylinder ..	£46 0 0
4 h.p. Tourist, do. ..	£46 0 0
4 h.p. de Luxe, do. ..	£56 0 0
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4 h.p. Sidette de Luxe, single cylinder	£70 0 0
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	PRICE.
4 h.p. Tourist, single cylinder	£50 0 0
4 h.p. de Luxe, do.	£60 0 0
4 h.p. Sidette de Luxe, single cylinder	£74 0 0
Tourist Models fitted with Cone Clutch, £6 10 0 extra.	
" " " " Hand Starting Device, £1 0 0 extra.	
All de Luxe Models are fitted with Two-speed Gear and Free Engine (made under Rex Patents) as standard	
Bore and stroke of new 4 h.p. 84½ × 95 m/m, c.c. 532	
" " " " 6 h.p. 77½ × 95 m/m, c.c. 896	



The 6 h.p. Twin de Luxe Sidette.

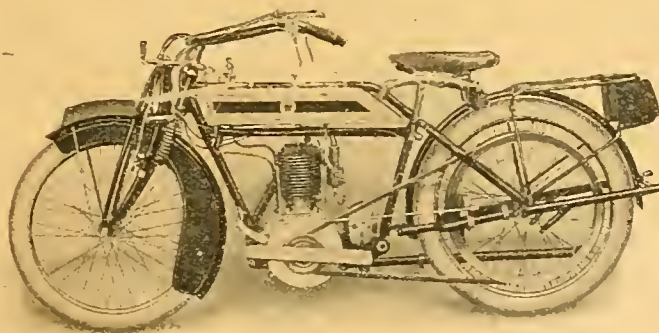
Two Leading Lines.

THE 4 h.p. WATER-COOLED DE LUXE SIDETTE.

THE 6 h.p. TWIN AIR-COOLED DE LUXE SIDETTE.

These Sidettes are the ideal machines for passenger work. The bodies are of exclusive design and fitted with side doors—made of close woven cane, they are exceedingly strong. The Chassis is sprung with double C spring and Coil springs. This makes the Sidette equal to an up-to-date car for comfort.

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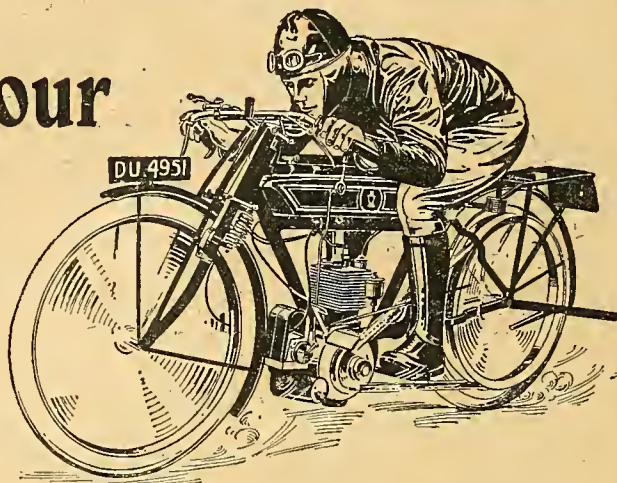
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Just under

60 Miles an hour

This speed was attained on the first 1912 "Handy Hobart" used on the road, at Luton Hoo Speed Trials, Oct 21st.

It beat everything against it.



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Immediate delivery of 1912 machines.

Catalogue, testimonial lists, etc., gladly sent on request.

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Every Model Improved for 1912.

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2½ h.p. Lady's with Armstrong Gear.

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Wm. WHITELEY, LTD.,

**QUEEN'S ROAD,
LONDON, W.**



Sir,
I like
to be fair,

and I admit right away that there are other
tyres—good tyres—but never one the equal of the

JOHN BULL CROSS GROOVE

in "wear and tear resisting" qualities. Now I don't want you to accept
that statement without proof—here I have not room to describe in detail all
the points which make for that superiority, but if you will call at

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the manufacturers will do so. They'll prove the quality—they'll show you how the tyre is
made—they'll demonstrate its merits—they'll explain to you the enormous pressure which is
applied in the process of its making—in short, they'll interest you—and comparison will clinch
their arguments. Will you call? If not in London, write us.

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—Did you say you wanted a Plug?—

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I beg to inform you that I have used your **Oleo Plugs** in my 14/20
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my car they have given absolute satisfaction.

I drive my car entirely myself, and have never come across as good
Plugs in all my six years' experience.

Yours faithfully,
CAPTAIN IAN FORBES.

We do not tell you **Oleos** are the best: we let
our customers be our interpreters.

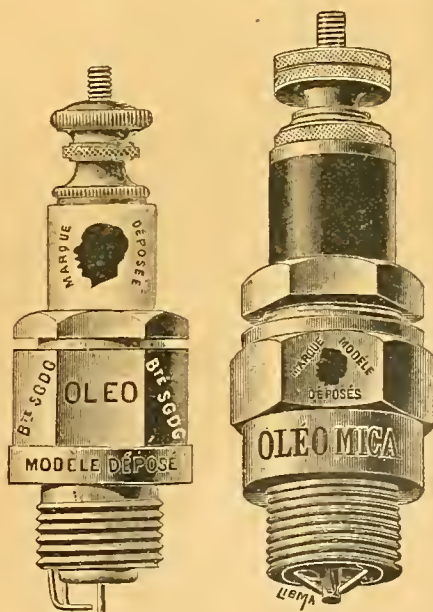
Oleos are fitted officially on the Military Areoplanes
at Tripoli! Why no others? You will easily find
the reply!

Insist upon having an **OLEO** on your motor
cycle, and you will soon write us a letter like the
above.

Ask for it at **OLYMPIA SHOW.**

SOLD EVERYWHERE.

LEO. RIPAULT & CO., 64a, Poland Street, LONDON, W.



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No. 9, 5/-

Made specially for Motor Cycles.

COME TO STAND 263

— and see the wonderful —

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TWO SPEED GEAR

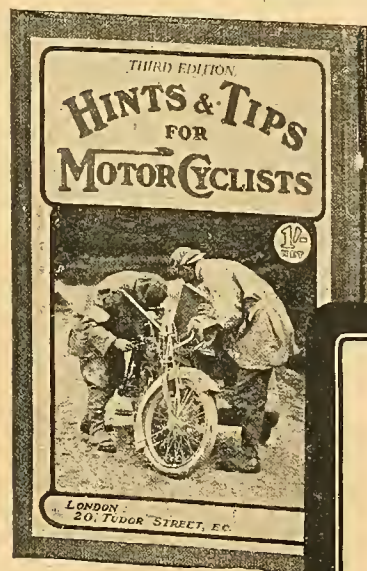
designed to fit several types of existing machines.

THERE IS A RUSH FOR IT.

Be in time with your order if you want delivery in the Spring. You can study "Bowdenism" at the same time.

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— CAMDEN TOWN, LONDON, N.W. —**

S.&H.



NEW EDITION NOW ON SALE.

A book that is helpful to
every user of a motor cycle.

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Show, and obtain a copy?

*Small enough for your pocket or valise, yet big
enough to help you out of numberless difficulties.*

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Stand 23. OLYMPIA SHOW Nov. 20-25.

- Every Visitor to the OLYMPIA SHOW is invited to call at "The PEDLEY Stand"—No. 23—and see the latest Tyre and Rubber goods we are placing on the market for the year 1912.
- There we shall be pleased to demonstrate to you in many ways the advantages of "QUALITY"—and show how every "PEDLEY Product" typifies the highest standard of excellence in its line.
- In addition to the well-known "PEDLEY 3-rib TYRE" we are introducing a cheaper tyre of exceptionally good quality and wear, viz: "The 'S_TA_GE_RD' TYRE," and this will appeal keenly to all motor cyclists who require a really high grade, non-skid, practically unpuncturable, tyre at a moderate figure.
- Then we have "The PEDLEY Rubber Motor Cycle BELT," the finest power-transmitter yet designed—it's a new departure in Belts and embodies a principle which increases its power and value two-fold, amongst many other features of merit.
- The "PEDLEY Butt-ended Inner TUBE" is another fine line that only needs seeing—and the PEDLEY range of Rubber Sundries for motor cycles.
- Don't miss our Exhibit—aim for Stand 23—and make a point of getting there.



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'PEDLEY' 3-rib

The Record-Breaking Rudge



BY APPOINTMENT
to H.M. King George V.

Every Motor Cyclist, Present
or Prospective, should send
To-day for the New
1912 Motor Bicycle **Catalogue**

which will be forwarded post free on receipt of a postcard. The Catalogue forms a complete encyclopædia of the Motor Bicycle, and in addition to general hints to beginners it gives full technical details of the

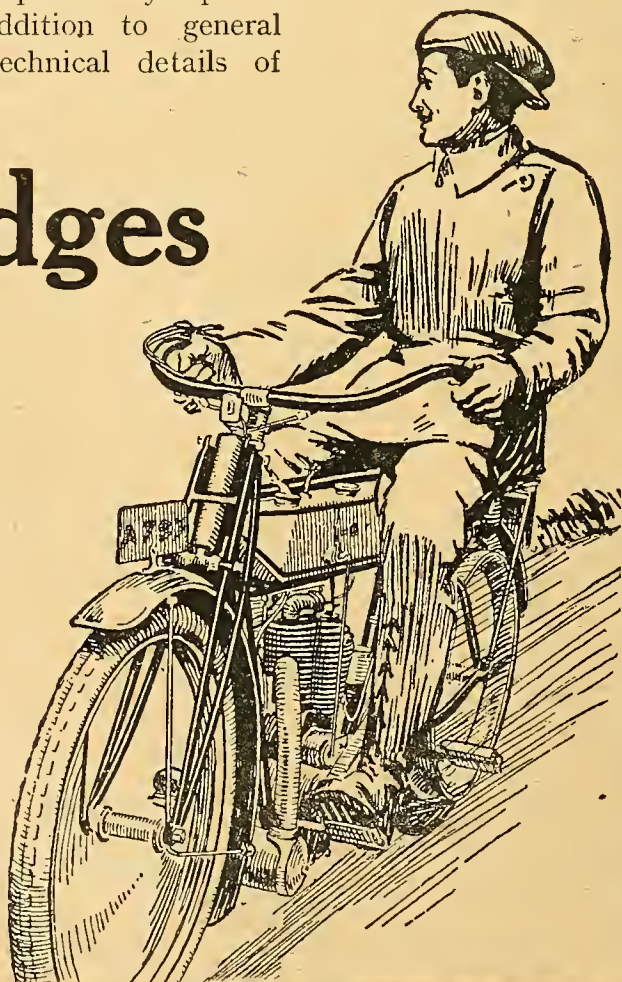
1912 Rudges

The Rudge Motor Bicycle is the leading machine of the day. It secured the Championship Silver Cup for the best all-round performance in the Four 1911 Quarterly Trials and holds all World's Records from 5 to 200 Miles. There can be no stronger evidence of superiority. For 1912 Rudges will be made in four models and below we give particulars and prices. Write for your catalogue now.

PRICES:

Fixed Engine	....	....	£48 15.
T.T. Model	....	....	£48 15.
Free Engine	(With Multi-plate Clutch and Pedal Starting Gear)		£55.
Multi-Speed	(Free Engine, Multi-plate Clutch and Pedal Starting Gear)		£60.

Rudge - Whitworth, Ltd.
(Dept. 600), Coventry.



THE MOTOR CYCLE

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Olympia.

THE second annual exhibition of motor cycles, cycles, and accessories is in full swing this week. The predominating feature of the Show is the great increase in the number of change-speed gears exhibited, whilst other less noticeable tendencies are the growing adoption of foot-starting devices, two-stroke engines, and spring frames. Dealing with the various types of gears, the positions in the hub and on the engine-shaft are fairly evenly represented, but there is no mistaking the popularity of the counter-shaft gear.

In regard to frame design, there is little of note to record. The rearward dropped top tube is gaining favour because it affords a lower position for the rider. One or two firms who are looking ahead have adopted open frames which can be used equally well by women or men; these enable even a lower position than the dropped top tube type.

The popular 500 c.c. single-cylinder engine easily leads the way; then come the lightweight twins and 250 c.c. singles and the larger multi-cylinders up to 1,000 c.c. in the order named. The medium weight, with a 300 c.c. engine and multi-speed gear, is increasingly popular, and a very large number of these machines are in evidence. The large twins are chiefly in demand for passenger work, though sometimes used for solo riding by speed enthusiasts. The new A.C.U. rule for the Senior T.T. Race may popularise the 500 c.c. twin, but the simplicity of the single of the same size should certainly keep it in front.

Belt transmission is still the most popular. Chain drive is gaining ground, the introduction of clutches, either separately fitted or embodied in the

change speed gear, having robbed the chain of all its harshness. Chain drive is more popular on multi-cylinder engines than on singles. One or two firms have specialised on chains in conjunction with a single-cylinder engine, but the belt rules the roast. Variable gears have brought along combinations of chain and belt and gear and belt, the former being more prevalent. For serious passenger work chain transmission prevails, practically all self-contained passenger vehicles being so fitted, as well as numerous motor bicycles designed for sidecars.

Machines intended for solo and occasional passenger work are in many instances not provided with sufficiently large tanks. This is accounted for by the fear to add weight in the case of singles, but large twins intended almost solely for sidecar hauling should have two-gallon reservoirs.

Lubricating methods show a tendency towards an increase in sight drip feeds, but they are nearly always supplemented or combined with the ordinary hand injector. One or two examples of forced feed lubrication to the bearings are on view, and are naturally being critically examined.

Ladies are being catered for more than ever. The rush for ladies' motor bicycles will assuredly come with the advent of the ideal gear and free engine.

The advance made in one year in sidecar body construction is quite noticeable. Many refinements are now embodied in these handy attachments which were unheard of last year.

Incidentally, we may mention as one more illustration of the growth of the pastime that the circulation of this journal now exceeds 60,000 copies weekly, and the weekly circulation of the Show numbers is considerably in excess of those figures.

SIX YEARS OF MOTOR CYCLING.

By Mrs. M. C. COOKE.

ONCE more November is here, and the arrival of "Show Week" has put us all on the *qui vive* as to the number and style of the new models for ladies. What an encouraging year this has been! Almost every week we have read of some converts to the pastime, and next year, if one interprets the forecasts correctly, their names will be legion. Now that the suitability of the motor bicycle for ladies has been proved, most of the leading manufacturers are bringing out special models—lightweights, medium-weights, and heavyweights. Some time back there was great controversy as to which type of machine was more suitable—lightweight or heavyweight. An old adage, somewhat modified, says:

"Convince a woman against her will,
She's of the same opinion still."

However true this may be, I fancy in the end lightweights will win the day, as without doubt they are the more easily managed.

Back in the summer I had a little lightweight Humber. It was a most excellent machine, but had no change speed gear nor free engine. To me this was a drawback, and yet that little machine taught me a lesson; for, strange to say, the very thing I deplored made the most converts to the cause. The very fact of being able to pedal off in the same way as on a push-bicycle gave would-be riders confidence. By the time the engine fired they were on the move, and the ease with which they were able to continue completed the conquest. Personally, I like both types of machine, and

for beginners would advocate lightweights, most emphatically. Six years ago, when I joined the ranks, it was a case of Hobson's choice—heavyweight or nothing. My first mount was fitted with a 2 h.p. Minerva engine, two-speed gear, free engine, chain drive—in fact, in many respects exactly like some of the newest designs of to-day. In those days, spring forks and non-skid tyres only figured in dreams; accumulators, alas! were a stern reality, as one found to one's cost when touring in the wilds.

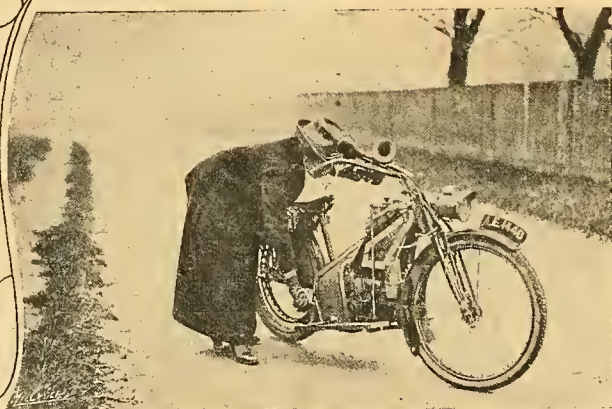
Methods of Starting.

"Ease of starting" appeals most strongly to the feminine mind. The sight of a lady motor cyclist stopped in a town or village invariably draws a crowd of people. The uppermost thought in their minds is,

"How does she start it?" Any rider who has been in this position must appreciate a machine which can be got under way without much apparent effort.

A running mount is decidedly the simplest and easiest, provided the machine is fitted with a low gear and footboards; with a high gear and pedals it would be impossible for a lady to start in this way.

The Enfield (lady's model) is particularly well adapted for this method of mounting. With the low gear in, it starts at a walking pace; you have only to step



TESTING NEW MODELS ON THE ROAD.

- (1) Mrs. Cooke with the new single-cylinder Enfield ready for the "walking" mount on the low gear.
(2) Starting the engine of the 2½ h.p. Douglas with the starting handle. Engaging the clutch of the Douglas twin.



There's the Road and the Rider—

The Road, with its numberless irregularities, and the inevitable vibration which accrues—

The Rider out for pleasure and enjoyment, and finding oftentimes discomfort through the absence of a perfect “go-between”—

And there's the

BROOKS B250

a luxurious seat—a seat designed for Motor Cycles of the non-peddalling type and embodying in its construction the BROOKS Patent Compound Spring—the spring that absorbs vibration within itself and by its compensating action eliminates entirely all tendency to bounce.

This, and all other BROOKS models, are on view at

**STAND No. 279 GALLERY
(near Band Stand), OLYMPIA.**

Ask to see them—that will be your first step to luxury awheel.

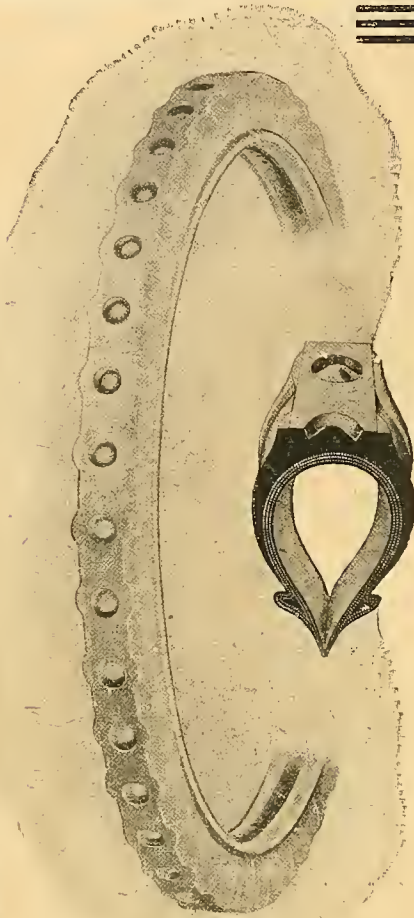
**J. B. BROOKS & Co., Ltd.,
49, CRITERION WORKS, BIRMINGHAM.**

Note that a full range of the BROOKS Saddles and Cycle and Motor Cycle Accessories may be seen at our

LONDON SHOWROOMS—

11, GRAPE STREET, SHAFESBURY AV., W.C.





THE : : SAFEST TYRE : FOR : : 1912: : :

For pure enjoyment nothing can equal the sensation of riding tyres which can be trusted to stand up on the very worst road. Only one tyre will do this. It is the

KEMPSHALL

**STAND
161
OLYMPIA.**

Not only is this tyre safe on any road, but it is safe for thousands of miles of hard wear. This was proved by the excellent performance put up in the A.C.U. 6 days' trials and the Scottish trials.

These Motor Cycle Tyres are now made on the same principle and from the same material as the famous "Kempshall" car tyres.

GREAT REDUCTIONS HAVE BEEN MADE IN THE PRICES OF ALL "KEMPSHALL" TYRES. SEND FOR THE NEW PRICE LIST.

THE KEMPSHALL TYRE Co. (OF EUROPE), Ltd.,
1, Trafalgar Buildings, Northumberland Avenue, London, W.C.

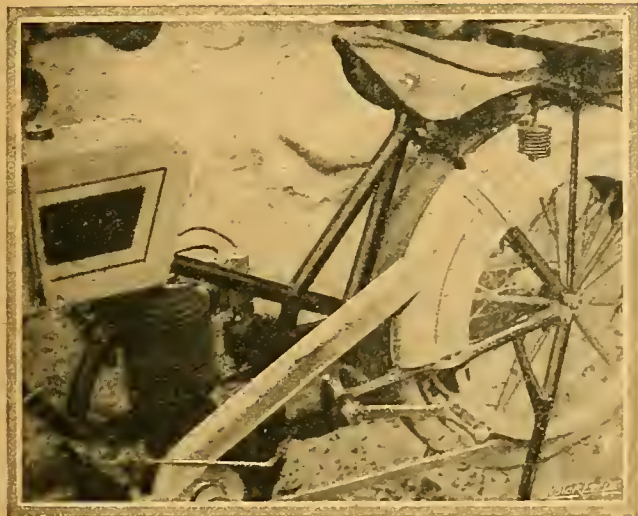
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Birmingham: Reginald G. Piest, 71, Lionel Street. Paris: 46, Rue St. Charles. Antwerp: 41, Meir. Agents for the United States: Cryder and Company, 583, Park Avenue, New York. Cape Colony: The Motor Supply Co., 7, New York Buildings, St. George St., Capetown. Sole Agents for New Zealand: Goldingham & Beckett, Ltd., Palmerston, N., New Zealand.

C.D.C.

Six Years of Motor Cycling.—



The new down tube on the writer's 3 1/2 h.p. open frame Triumph—the only one in existence—strengthening the frame at the point at which it broke some time ago. Mrs. Cooke characterises this portion of the frame as a weak point of many 1912 models.

on the footboard and seat yourself at leisure, putting in the high gear when you choose. Altogether, this machine is one of the prettiest I have seen. It is most graceful in outline, simple in its arrangements and fittings, and most delightful to drive. It is so low that one can sit comfortably in the saddle with both feet, if necessary, on the ground. I have not yet had the opportunity of testing its hill-climbing powers, but hope to do so in the next few days; it is very fast on the level. Last, but by no means least, I should say it is a very clean machine.

A Trial of a Twin-cylinder.

I have had a new experience lately—that of riding a twin-cylinder, namely, the Douglas, and I think it splendid. It is very easy to start—in fact, one of the easiest. I like the sound of the twin. The quiet swish-swish of the engine is most soothing to the mind, as is the gentle gliding movement to the body. The “pull” is much more even than that of a single.

The capabilities of this machine have been so well demonstrated in several important competitions this year that it would be superfluous for me to sing its praises. Personally, I do not think such a large shield for the engine and gear is required. It rather spoils the appearance, and is not necessary; a small perforated plate hinged between the two down tubes from the head would answer the same purpose and look better to my mind.

An Old and Faithful Friend.

I must give one word of appreciation to my faithful old friend the Triumph, which has been responsible for considerably over 3,000 miles of my pleasure this year. Through town or country, up long winding hills with hairpin bends, over Hartside to Alston (the highest market town in England), down round worse bends to the eastern side of the Range, over the Newcastle streets with their tramlines in the middle and big potholes at the sides, and over the even worse Durham colliery roads the machine romped along, giving an occasional “onk” as its only murmur, and that

against bad-driving. To part with such a friend seems to me impossible.

A great change seems to have come over the sport during the past year. The events are much more social than formerly. This may be accounted for by the large number of ladies who generally attend on motor bicycles and in sidecars. I venture to prophesy that a good many of the sidecarists of to-day will be motor bicyclists in the near future. I think I may also safely say that most of the leading clubs will extend a hearty welcome to any lady motor cyclist. The majority of present-day motor cyclists are thorough sportsmen, and are quite willing that their fair neighbours should vie with them in any suitable competition. I had the pleasure of being in Harrogate during the Six Days' Trial in August. It was a sight to see the competitors at work in their time allowance of thirty minutes each morning. And then the relating and comparing of experiences afterwards! No wonder motor cyclists have such a lot to say to each other when they meet.

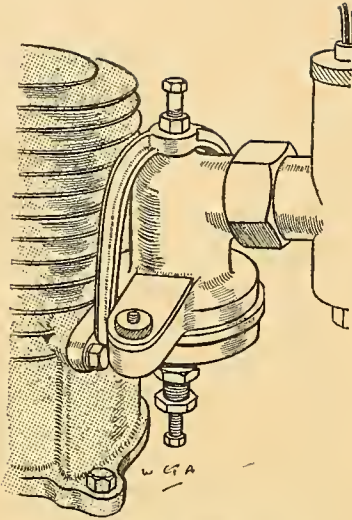


(1) Miss N. Hough on her 3 1/2 h.p. Allays with Roc two-speed gear. Her passenger is Mrs. F. S. Whitworth.

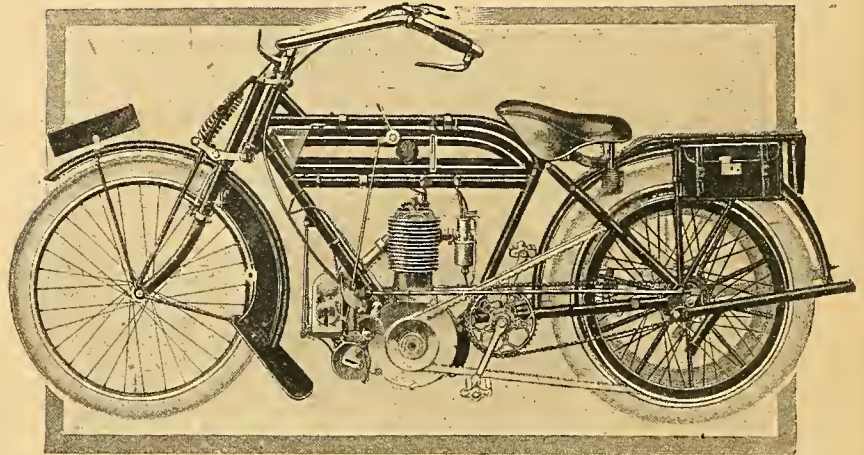


(2) Mrs. H. Reed who, like her husband, rides a 5 h.p. twin Dot motor cycle. She may often be seen at weekends motoring with her husband.

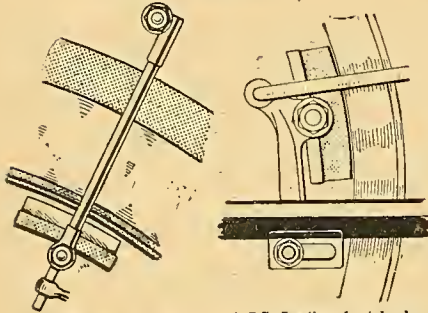
Single Cylinders at the Show.



Inlet valve chest and transfer port of the two-stroke Stuart.

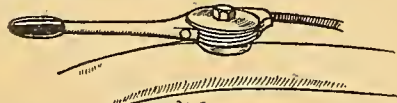


Latest design of 3 1/2 h.p. B.S.A., with dropped top tube. This machine is fitted with the new B.S.A. two-speed hub gear.

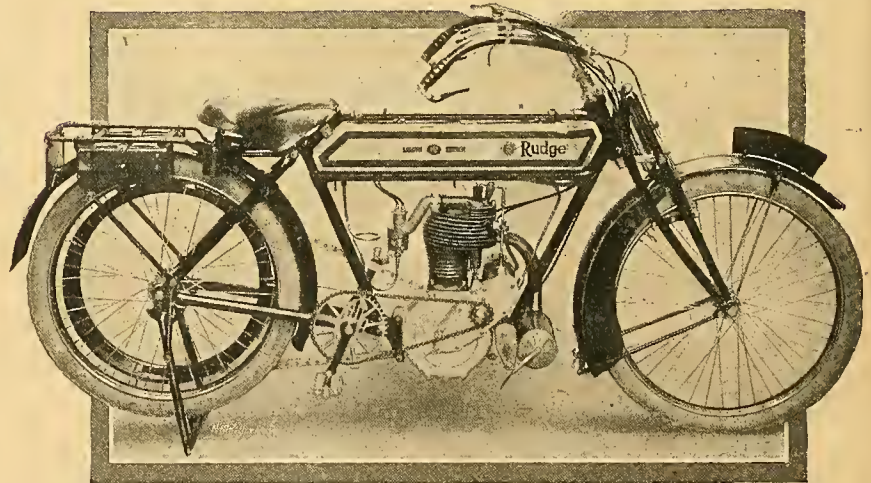


The front rim brake fitted to the 3 1/2 h.p. Alldays. The operating rods are carried outside the mudguard.

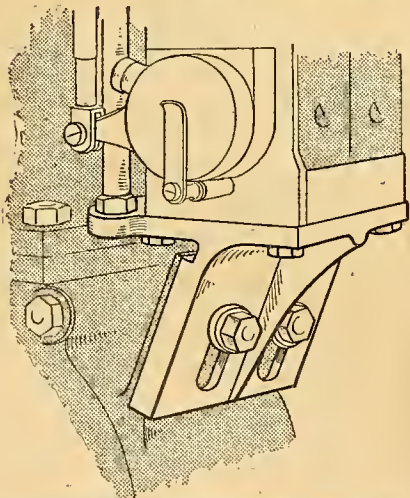
A.J.S. floating foot brake shoe, showing the means for adjustment.



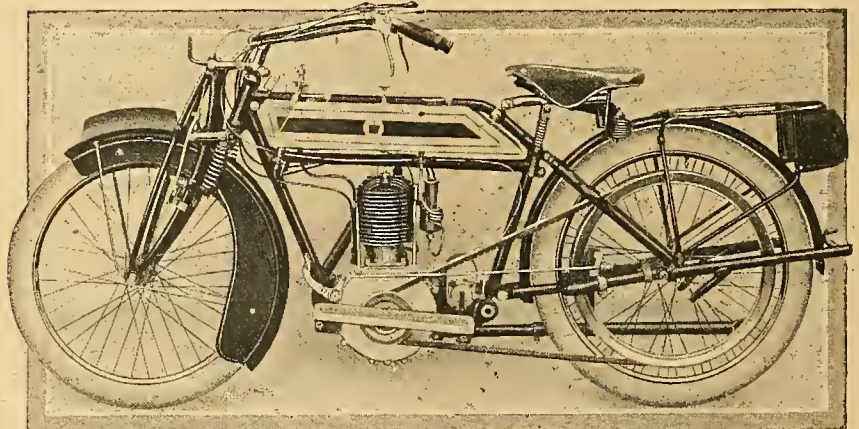
The new Scott control lever is bolted direct to the handle-bar as shown.



Valve side of the 1912 pattern 3 1/2 h.p. free engine Rudge.

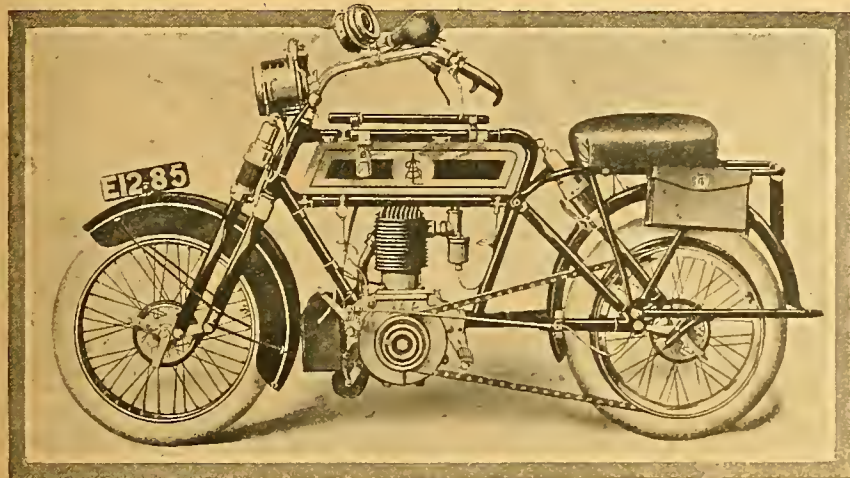


New Hudson magneto bracket, showing sliding adjustment on the crank case provided for the chain drive.

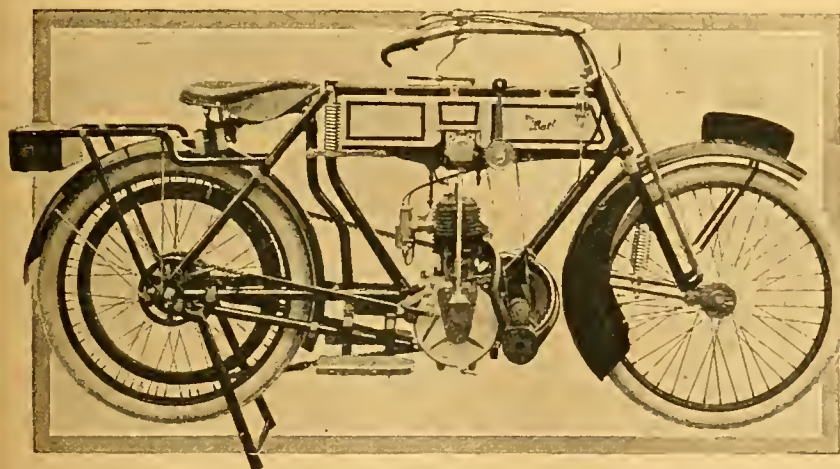


Belt side of the 1912 4 h.p. Rex single-cylinder air-cooled model.

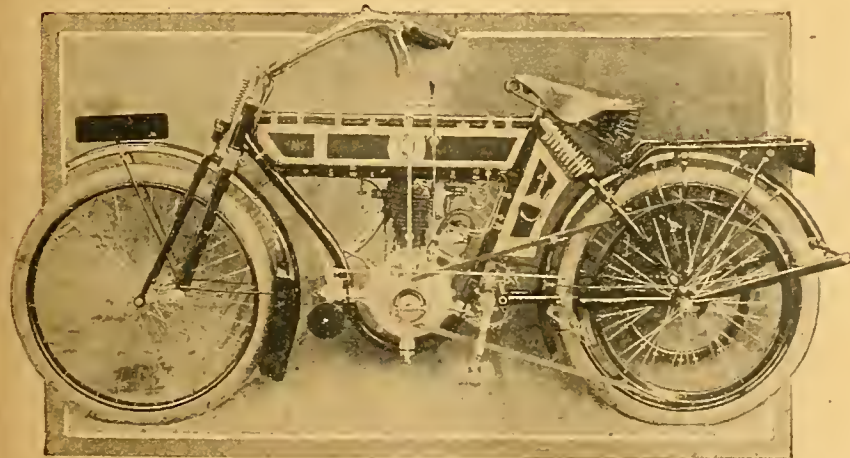
A Trio of Spring-framed Machines.



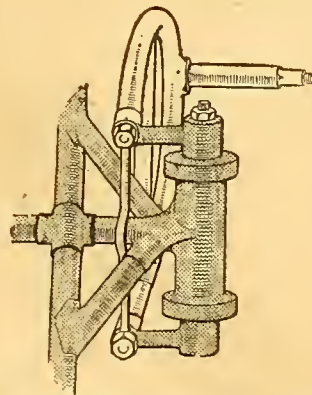
1912 model 3½ h.p. air-spring frame A.S.L.



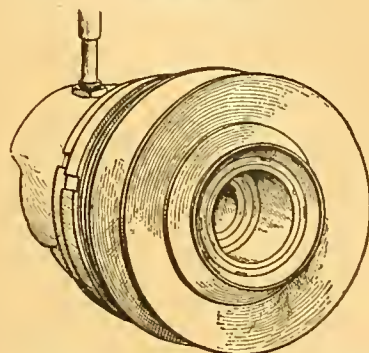
3½ h.p. single-cylinder Bat-Jap with P. & M. two-speed gear and combined chain and belt drive.



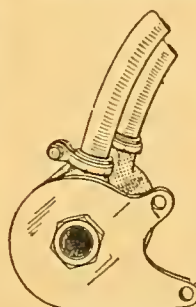
The new 60 x 78 mm. 2½ h.p. 1913 frame single-cylinder N.S.U. with two-speed gear on engine shaft.



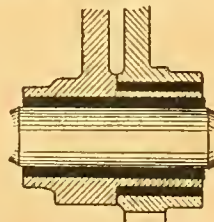
Frame of the 1912 Montgomery castor wheel sidecar, showing the stop.



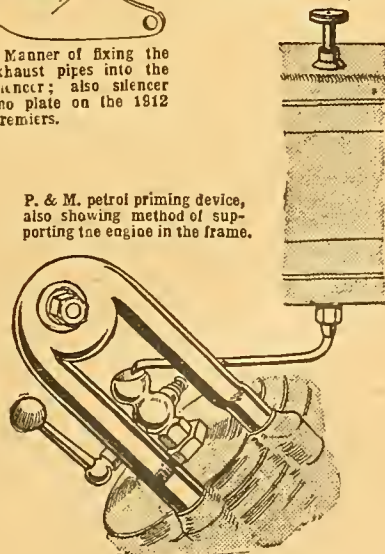
N.S.U. two-speed gear. A rear view showing locking ring enabling the inner pulley flange to be adjusted if necessary.



Manner of fixing the exhaust pipes into the silencer; also silencer end plate on the 1912 Premiers.




Big end bearings of the new 5 h.p. twin A.J.S.



P. & M. petrol priming device, also showing method of supporting the engine in the frame.

OCCASIONAL COMMENTS

By "IXION"



Easily Detachable Back Wheels.

One tendency that I personally value may have escaped notice in a show that bristles with *embarras des richesses*. I refer to the accessible back wheel. I have known what it was to unfasten a chain, a belt, two stand struts, two mudguard struts, two rear fork ends, two chain stay ends, a belt rim brake rod, and two brake band rods before I could get my rear wheel out; and after that I had to readjust the bearing cones of the hub, and get all the above-named parts re-assembled in accurate register. This job need not face a lucky rider very often, but it is almost inevitable five or six times in the course of a year's hard riding, *e.g.*, perhaps one twice swops covers with the front wheel, once the rim gets kinked by a big stone and has to be straightened, twice one "does in" an endless tube, under circumstances where only an endless spare is available. Believe me, very few experiences of the kind are needed to make one rise up and bless the designer of a rapidly detachable back wheel.

This year I have been rendered quite mild of tongue by a machine which shed its back wheel if I spannered a couple of nuts slack, and I have learnt to place a possibly disproportionate value on the feature. I notice that the tendency is all in favour of the notion. Makers are even learning to retain rapid detachment of the wheel when the transmission is by no means simple.

One could hardly have two more difficult wheels to simplify than those on the Zenith-Gradua (with its sliding chain stays) and the Clyno (with its two encased rear driving chains); yet the rear wheels of these machines are now among the very swiftest on the road to detach and replace.

Lubrication.

Once again experts point the finger of disdain to the average lubricating system. Few bearings have to bear the strain thrown upon the main bushes of a motor cycle engine; the strain on a modern ultra-efficient engine's crank pin is said to touch 3,000 lbs. per square inch for a fraction of a second in each cycle of operations. In the face of this, most makers are content with splash lubrication. In the hands of even a good driver the pendulum swings between repletion and starvation. In the hands of a rider who neglects the makers' instructions, things are necessarily worse. In some cases there is chronic starvation, with resultant bills running up to £3 for seized bushes; in others, the engine is liberally over-lubricated, and surplus carbon in the combustion head increases the compression ratio and the strains on the bearings. [An engine having forced lubrication throughout is described on another page.—ED.]

I do not regard the few tentative drip feed systems as being necessarily a great advance, though I have no right to criticise them without a longer trial. My experience of drip feeds is that if you adjust them rightly, the thick oil fails to feed regularly before it is warmed up, and that the engine is starved for the first few miles after starting, unless a separate charge be injected by hand at starting, and this not all owners can be trusted to do.

We stand in urgent need of some perfectly automatic system, as independent of the driver as the modern car system. I suppose most motor cyclists are aware how the average four-cylinder car engine is oiled. A little tray is fixed below the big end of each connecting rod, and a scoop fixed thereto picks up oil each time the big end comes down; this oil is flung all over the interior of the engine. The trays are kept filled with oil by a little mechanical pump, which takes up oil from a sump in the crank case; you put a certain quantity of oil in the sump every 1,000 miles or so, and in the intervals you forget you have an oiling system at all, unless the indicator on the dash becomes stationary, and shows that the pump has struck work—which is almost an unknown occurrence, since the pump is ensconced inside the engine, running in oil, so to speak, and miles away from dust and dirt.

Further refinements consist of separate oil leads to the very heart and centre of a few vital bearings, in the case of engines which throw a very heavy strain on their bushes; and also in some cases a device for lifting the oil trays when the throttle is fully opened, so that the scoops on the connecting rods sink deeper and pick up more oil. A filter is normally incorporated, both to remove foreign matter from fresh oil as it is poured into the sump, and to arrest any metal particles which get into the oil as it circulates through the engine week after week.

The contrast between the really very simple efficiency of such a system and the splash type of oiling we find on most motor cycles is appalling. The former is efficient, duffer-proof, emergency-proof. Ours are capable of being mishandled by experts—especially in these days of concealed hand pumps with valves at the foot. As engine efficiency is increased, the needs of the engine will force designers to provide what we private users already sigh for—an efficient automatic system, which is economical of oil. (On a recent 600 mile trip at high speed on a 3½ h.p. motor bicycle I used more oil than a relative's 20 h.p. car requires in 1,000 miles; and, in spite of this liberality, I seized my engine near the end of the trip!) I paid special attention to lubricating devices this week at Olympia, and shall have something to say about them later.

Cost of Running a 3½ h.p. Motor Cycle.

A Selection of Replies to a Recent Query.

Sir.—In reply to "H.M." [letter 6015], I bought a 1911 free-engine Triumph and sidecar last April, since when I have run 8½ miles solo and 2,240 miles with sidecar. I find that the average cost per mile works out at .809, say 3d.

That answers your correspondent's question, but I append a few explanatory details, which may be of interest. Total running costs, amounting to £10 10s., are as follow:

41 gallons petrol	£2 12 4
1½ gallons oil (approximate)	0 7 8
*New plug	£0 4 0
*New springs	0 6 3
New belts and fasteners (2)	1 12 6
*New tyre and tube	3 0 6
Tyre repairs	0 5 5
*New valve and grinding	0 4 10
Sundry	0 6 6
	6 0 0
Licences and registration	1 10 0

*Now carried as spares. £10 10 0

My solo running has been purely local—Cheshire and S.W. Lancashire—but with sidecar the country covered ranges from Gourock to Alnwick in the North, to Gloucester and Hertford in the South, and I find that petrol consumption averages 100 m.p.g. solo and 70 m.p.g. with sidecar.

I began as an utter novice with no mechanical or engineering knowledge at all. For over six months I never used the railway.

(Rev.) S. J. MARSTON.

Sir,—This question is a much-debated point, and my excuse for contributing to this topic would be due to its importance, and that a reader recently asked for actual running costs—under your endorsement.

Many letters from time to time, giving total (?) costs as not exceeding anything up to 1d. a mile, have appeared, and I think the incompleteness of such misleading statements calls for a fairer estimate. I have, therefore, prepared the following detailed statement, based on present market values and prices, and I venture to say it is quite representative; in fact, far more money could be spent, but very little less than that shown.

I would point out that a fourth column could be added to show the second-hand machine kept five years or so, which would be the cheapest policy possible, but it would come to very little less than 2d. a mile.

Annual total running cost, based on 2,000 miles a year:

[The distance ridden is very much below the average; this causes depreciation to work out at much too high a figure. —Ed.]

	Machine bought new for £48 and sold in 5 years for £18	Machine bought second-hand for £35 and sold in 12 months for £23	Machine bought new for £48 and sold in 12 months for £35
	£ s. d.	£ s. d.	£ s. d.
Depreciation	6 0 0	6 0 0	10 0 0
Interest on outlay at 5%	2 8 0	1 15 0	2 8 0
Tax	0 5 0	0 5 0	0 5 0
Licence	1 0 0	1 0 0	1 0 0
Registration	0 1 0	0 5 0	0 5 0
Insurance	1 0 0	1 0 0	1 0 0
Petrol (24 galls. at 1/3) (a)	1 10 0	1 10 0	1 10 0
Lubricating oil (2 gall. at 4/6)	0 9 0	0 9 0	0 9 0
Tyres (2 new retreads, i.e.)	2 0 0	2 0 0	1 15 0
One inner tube	0 6 0	0 0 0	0 0 0
One belt	0 18 0	0 18 0	0 0 0
Repairs, renewals, sundry	1 10 0	1 15 0	0 15 0
Clothing—special	0 10 0	0 10 0	0 10 0

Total £17 17 0 £17 7 0 £19 17 0
Total cost per mile ... 2.142d. ... 2.082d. ... 2.382d.

(a) Works out at 83½ miles per gallon, which allows for flooding, traffic riding, and waste, etc. H.A.J.S.

Sir,—In reference to "H.M.'s" letter [6015] I have kept a record of the cost of running a 3½ h.p. motor cycle during the past six years, and think it may be of interest. The costs may seem high to some, but, considering that most of the running has been in a hilly part of Durham and between

there and West Cumberland, with a generous share of ill-luck, both mechanical and with tyres, I think it fairly reasonable, and both machines work out about the same rate. In the last two years I have used a sidecar for a total distance of about 1,400 miles, which accounts for the higher cost per mile.

	£	s.	d.	Miles run.
1906. Second-hand 3½ Kerry	18	14	6	
Running expenses	17	17	0	3,670
1907. " "	22	7	0	3,600
1908. " "	13	1	6	3,650
1909. " "	16	8	0	4,250

Sold for 88 8 0
Total cost for 4 years £78 8 0

= 1.23d. per mile.
£ s. d. Miles run.

1910. 3½ Zenith-Gradua and second-hand sidecar, etc.	60	0	0	
Running expenses	25	11	0	7,400
1911. " "	31	19	0	6,850

117 10 0
Present value say 37 10 0

£80 0 0 ... 14,250
= 1.35d. per mile.
= 1.3d. per mile.
DC97.

Sir,—I took delivery of a two-speed Humber in April last. My mileage to date is 4,500 miles, chiefly in the Midlands and the North of England, not more than 200 with a sidecar.

In addition to the cost of machine (£50) I have spent £17 10s. upon it as under:

Licences	£1 10 0
Overalls	1 15 0
Lamp, horn, whistle, and watch	2 17 6
Extra toolbag and spare tube	1 0 0
New cover and belt	3 10 0
Petrol, 50 gallons	3 0 0
Oil and carbide	1 0 0
Sundry spares, outfits, repairs, etc	2 4 0
A.A. subscription	0 13 6

£17 10 0

Running expenses may be reckoned at from 1d to 1½d. per mile, depending upon what is allowed for depreciation.

GEO. E. QUINCEY.

Sir,—As you invite readers to publish their motoring balance-sheets, and as I have just got mine out for my own edification, I give it below. You will notice one item I have included—fines. In these days of special attention on behalf of the police to our body, and as even the most careful driver is liable to fall foul of them sooner or later, I have decided that it should be a fair charge (pecuniary) against the pastime.

Machine, 3½ h.p. clutch 1911 model, well-known make	£55 0 0
Horn and lamp	3 11 0
Speedometer	4 4 0
Spare valves	0 10 6

	£63 5 6
Depreciation on above, say	12 0 0
Petrol	1 18 6
Lubricating oil and carbide	0 12 6
Licences	1 10 0
Overalls	1 18 6
Small repairs and sundries	1 3 3
Small additions and alteration	0 17 0
Fines	1 14 6

£21 14 3

Mileage, 3,200. Cost per mile, 1.73d.

EDGAR REWN.

THE SINGLE-CYLINDER SIDECAR OUTFIT.

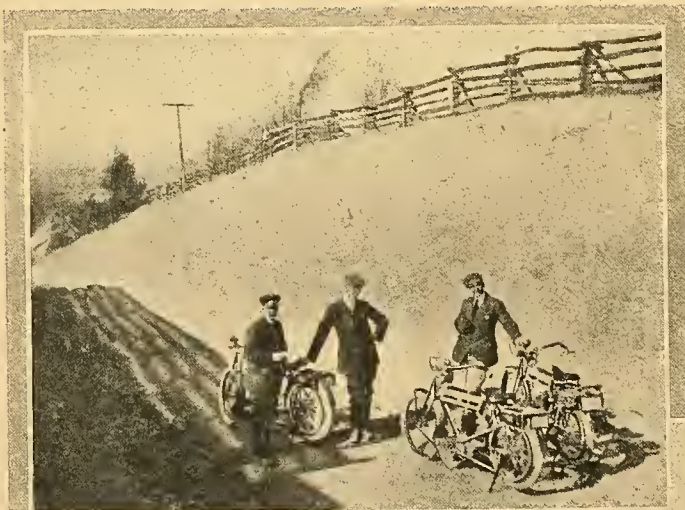
By B. H. DAVIES.

OPINIONS seem to differ as to the practicability of a single-cylinder outfit. Mr. Hugh Gibson shows imperfect logic in arguing that the popularity of such outfits proves their perfection. He might as well infer that the 1907 solo mount is as good as the 1911, because there are thousands of 1907 machines on the road. It is largely a matter of cost.

Hundreds of riders use $3\frac{1}{2}$ h.p. single-geared sidecar outfits because they can afford nothing better; if these men got a £100 rise in income, most of them would probably go in for a big Clyno, Chater-Lea, Bat, or Indian outfit, with a twin-cylinder engine, a chain drive, and a two or three-speed gear.

The fact is that a clever rider can get a lot of fun with a $3\frac{1}{2}$ h.p. single-geared outfit. Did not I once tour round Devon on a $2\frac{3}{4}$ h.p. belt-driven tricar and a load of 26 stones? Does not my friend Bischoff annually take a sidecar round Scotland with his $3\frac{1}{2}$ h.p. Triumph? But it is not every rider who can get good results with such limited material; and, personally, I infinitely preferred driving my old 9 h.p. Riley tricars, which would storm up absolutely any hill on bottom gear, and would only call for this for forty yards of Sutton Bank.

THE MOTOR CYCLE IN CANADA.



Four Miles from Orangeville, in the Caladon Mountains, Ont., Canada.

Briefly, one may say that the $3\frac{1}{2}$ h.p. single-geared outfit is quite possible. You need an adjustable pulley and two or three belts, and you must be prepared to drop your passenger on many hills if you visit the mountainous country where the real scenery lies, and even minus a passenger you may occasionally have a rare struggle to surmount a hill. If you add a two-speed gear with a low ratio of about 7 or $7\frac{1}{2}$ to 1, you can take your passenger up all ordinary hills, without fooling round with dirty belts and a possibly reluctant pulley; or, again, if you get a chain-driven machine, with a low gear of 9 or 10

to 1, you may just coax it up real bad hills with a passenger on board.

My experience is that the crying need of the single-cylinder outfit is a *multi-speed* gear. The average owner, who is not a first-rate tuner, cannot climb long easy slopes like Hindhead on top gear; and the protracted grinds on bottom gear set more men against single-cylinder passenger outfits than anything else. Either you have to race the engine, which implies noise, vibration, and rapid wear, or you have to creep up, sternly throttled down, at 10 m.p.h.

The three-speed gear will enormously popularise $3\frac{1}{2}$ h.p. sidecar work, for the direct drive would be fast and quiet. Moreover, an ideal three-speed gear for passenger work, in my opinion, should embody chain transmission. We get good results with a variable gear and belt transmission in bad weather with solo mounts.

Wanted, a Weatherproof Transmission.

A motor cycling acquaintance, residing in a level southern county, told me recently he should sell his $3\frac{1}{2}$ h.p. belt-driven single and get a shaft-driven F.N. for the winter. His dislike of belt troubles is perhaps exaggerated, for he never uses a sidecar. But his prejudice shows that an all-round sidecar outfit requires a more weather-proof transmission than the belt. But the sidecar market is abnormally complex.

A host of men who use belt-driven $3\frac{1}{2}$ h.p. sidecar outfits frankly admit their defects. But they say: "I cannot afford two machines; I do a lot of solo riding, and when I go out minus the sidecar I want a light, simple, fast machine—a T.T. roadster in fact!" If they bought their mounts solely for passenger work, they would go in for the less simple leviathan types. I reiterate that a good chain-driven three-speeded $3\frac{1}{2}$ h.p. would be enormously popular among sidecarists. Many have been waiting till the Show. There have never been so many good sidecar outfits there. Perhaps the gear question will also be definitely solved.



Up in the Caladon Mountains, 48 miles from Toronto. All the machines are Triumphs.

**ROYAL ENFIELD, No. 39.**

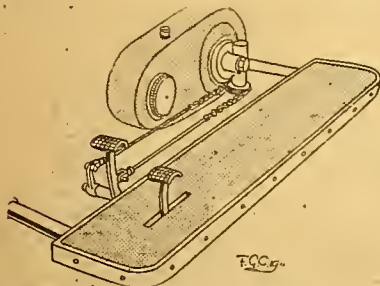
6 h.p. MODEL: 76 × 85 mm. twin-cylinder; m.o. side by side valves; Amac carburetter; chain transmission throughout; Enfield two-speed counter-shaft gear.

THE ENFIELD CYCLE CO., LTD., Red-ditch.—The 6 h.p. Enfield is specially constructed for sidecar work. It is fitted



Enfield twin valve lifters.

with an enlarged and strengthened Enfield two-speed gear with rubber cushioning device for taking the shock of the drive. Improved handle starting has been fitted for 1912. A 650 × 65 mm. back tyre is adopted to take the strain transmitted to the rear wheel of a combination passenger machine. Drip-feed lubrication is employed to the engine. Neat rubber-covered footboards are fitted, and the gear control is operated from a handle



Method of operating the two-speed Enfield gear.

fixed to the top tube. A new feature of this model is the easily detachable rear mudguard and carrier which facilitate tyre repairing. We described this model in detail on October 26th, since when no important alterations have been made.

THE second annual exhibition at Olympia of motor cycles and accessories was thrown open to the public on Monday last at 10.0 a.m. It is bigger, more complete, and better arranged than its predecessor, and the exhibits as a whole show a striking advance in finish and ingenuity. The floor of the Hall is packed with motor cycles of all sorts, the majority, if not all, possessing some new points in their design. Actual as well as potential motor cyclists will find much to attract their attention, both on the floor and in the gallery where the accessories are displayed. No reader who can conveniently attend should miss this opportunity of examining the very latest ideas in motor cycle design.

Our descriptions of the exhibits have been written by our own staff after a stand to stand tour of the Show, a specification of each different model preceding the comments.

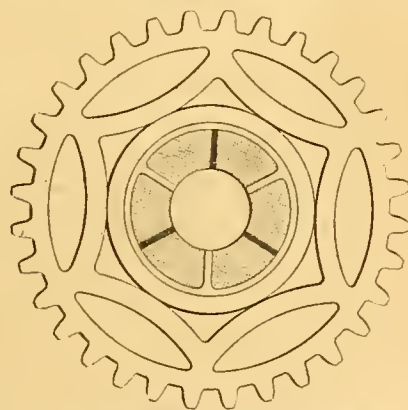
SPECIAL NOTE.

A number of 1912 models have been described and illustrated in recent issues, and for ease of reference we give the dates on which they appeared:

- Oct. 19. Multi-speed Rudge, Bowden counter-shaft gear, and 3½ h.p. Premier.
- Oct. 26. 6 h.p. Enfield sidecar, 2½ h.p. Calcott, Douglas, Brown and Hingston gear, and Motosacoche.
- Nov. 2. Two-speed Triumph, ladies' Premier, Kynoch, Hazlewood, Levis, Alldays, Puch, and N.S.U.
- Nov. 9. Two-stroke Stuart, 3½ h.p. Singer, Canoelet sidecar, Veloce, Brown, Indian, F.N., Midget-Bicar, Zenith-Gradua, New Imperial, Triumph, and Forward. Illston-Smith and Precision engines.
- Nov. 16. A.J.S., Edmund spring frame, Rex, A.S.L., N.S.U., Clyno, New Hudson, 2½ h.p. Enfield, Excelsior, L.M.C., Bradbury, P. and M., Bat, B.S.A., Scott, Matchless, P.M.C., Sturmeys-Archer gear, and A.C. Sociables.

2½ h.p. MODEL: 54 × 75 mm. twin-cylinder; side by side m.o.i.v.; Amac carburetter; chain transmission; Enfield two-speed gear.

This model was described in our issue of November 16th, and it is only necessary to remind our readers that it can be supplied with either single gear or the Enfield two-speed (in this case operated by pedals on the footboard). It is fitted with a new handle-starting device, and it will be remembered that on the 2½ h.p. model the valves are disposed in pairs, behind the rear V cylinder and in front of the front cylinder.

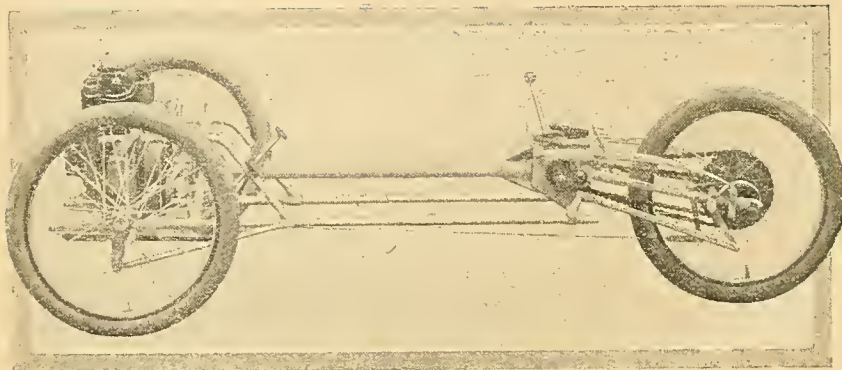


"Cash" drive embodied in the rear chain wheel of the Enfield. The tapered portions are rubber blocks to soften the impulses of the engine.

2½ h.p. MODEL: 64 × 74 mm., single cylinder; side by side m.o.i.v.; Amac carburetter; chain; Enfield two-speed gear.

The 2½ h.p. lady's model was also mentioned in the issue of November 16th. In this case also the gear is foot-operated, but a lever is fitted on the handle-bar to enable the gear to be put in the neutral position while the rider takes her seat. The rubber-cushioning device is fitted to this model as a standard. Mudguarding has been carefully studied in all models, and side flaps are fitted to both front and rear guards.

The Olympia Show.—

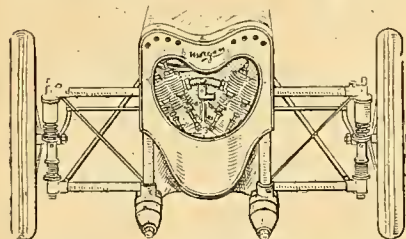


„The Morgan runabout chassis. Note the laminated rear springs.

MORGAN RUNABOUT, No. 127.

8 h.p. MODEL: 85 × 85 mm.; side by side m.o.v.; B. and B. carburetter; chain; two speeds; dog clutch counter-shaft.

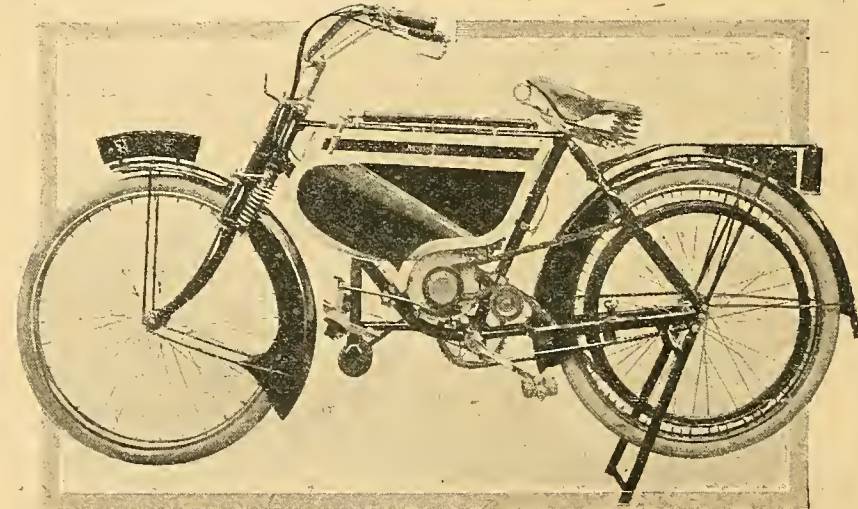
MORGAN AND Co., Worcester Road, Malvern.—Four models are shown—two single-seaters and two sociables—also a chassis without body. The magneto is placed in front of the engine and driven by bevel wheels. The single-seaters are



Front view of the Morgan runabout showing the enclosed engine and method of front springing.

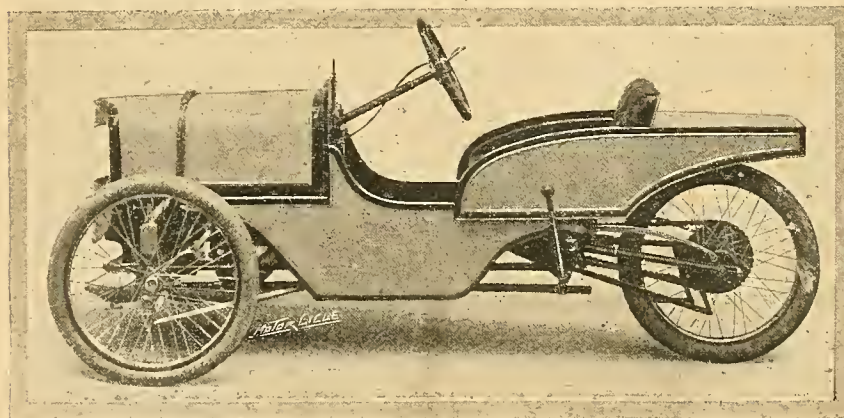
tiller steered, the throttle and gear levers being placed on the left-hand side of the body. The sociables are steered by wheels, which also carry the operating levers. The clutch, which is leather-to-metal, is operated by a pedal; a second pedal works one of the brakes. The second brake is brought into play by a hand lever. These machines made their

appearance at last year's Show, and since that time have made a very high reputation in numerous trials, both for speed



The 2 1/2 h.p. variable geared Motosacoché.

and reliability. The grey finish with dark lines gives a very attractive appearance. These runabouts are quite in the front rank of self-contained passenger motor cycles.



Near side of the single-seater Morgan runabout, in its latest form.

MOTOSACOCHE, No. 36.

2 1/2 h.p. MODEL: 64 × 90 mm.; side by side in front valves; Motosacoché carburetter; belt transmission; expanding pulley gear and jockey pulley.

MOTOSACOCHE, LTD., 65, Holborn Viaduct, E.C.—The 2 1/2 h.p. Motosacoché has undergone several important improvements for the 1912 season. It will be noted that the engine has an increased stroke while another important feature is the fixing of the exhaust pipe, which is brought to meet the cylinder instead of having the cylinder port brought out to meet the pipe. This obviates a large mass of metal and considerably improves the cooling of the engine. The special feature this year is the new variable gear. A double pedal on the left footrest operates an expanding pulley on the engine-shaft, while a jockey pulley operated from the handlebar takes up the slack of the Whittle belt. In this year's model the engine and tank are no longer carried on a separate chassis

but are fixed to the main frame, thus allowing a larger tank, considerably improving the appearance, and giving greater accessibility all round. An improved fixing is used for the side metal guards covering engine, etc.; these are hinged to the tank and prevented from rattling by clips carried on the crank case. Mudguarding has been particularly well carried out, large side flaps being fitted to both wheels. A foot brake is fitted on the belt rim, and has a simple adjustment to compensate for wear on the shoe. The control levers of the magneto and automatic carburetter are placed on the left handlebar, and an extra air lever is situated on the left side of the tank. The tank is finished in aluminium with a black panel, suitably lined, and carries petrol and oil gauges where they can be conveniently seen without detaching the side guards. The neat and strong method of attaching the engine to the frame was mentioned in a recent issue. It is worth noticing that the addition of a variable pulley gear adds only 2 1/2 lbs. weight to the machine.

The Olympia Show.—

2 h.p. OPEN-FRAME MODEL: 62 × 75 mm.; automatic inlet over exhaust valve; Motosacoche carburetter; belt transmission; Motosacoche expanding pulley gear and jockey pulley.

The 2 h.p. lady's Motosacoche is very neatly arranged, and is particularly light, both in appearance and actual weight. Dress-guarding has been carefully studied. The chief features of this model are the Druid forks, 24in. wheels, variable gear operated from the handlebar, and the 2 h.p. engine, which is fitted

the front or rear wheel. The magneto is carried in a separate compartment underneath the driver's seat.

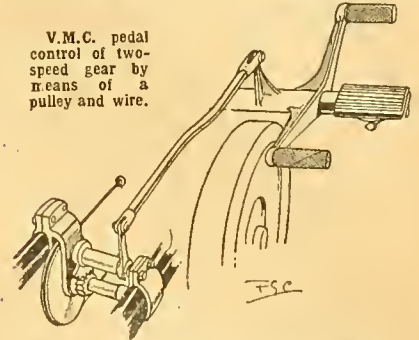
V.M.C., No. 58.

2½ h.p. MODEL: 68 × 76 mm.; outside flywheel; B. and B. carburetter; belt transmission; V.M.C. two-speed gear.

VELCE, LTD., Fleet Street, Birmingham.—This is one of the most up-to-date bicycles in the exhibition. The two-speed gear and clutch are incorporated in the engine, forming one unit. The clutch of the double cone type is capable of being

through the tank, showing the rider that the lubricant is flowing properly. In case of an excess of pressure, a plunger is forced upwards, uncovering an extra hole, so that the excess flows back to the reservoir. The oil is then passed through a

V.M.C. pedal control of two-speed gear by means of a pulley and wire.



passage in the crank case on to the gear-shaft, the gear wheels, and clutch operating mechanism. A hole in the cam is so arranged that it allows oil to be sprayed in the cups on the connecting rod, whence it passes into the cylinder and to the gudgeon pin. The gear wheels always run in an oil bath, the level of which is kept constant by the oil pump. Care has been taken to avoid leakage of oil in the joints and bearings. Sufficient oil is carried in the crank case for over 200 miles. The diameter of the driving pulley is 6in., so that an efficient belt drive is provided. The whole of the tank is devoted to the carrying of petrol, and there is room for 1½ gallons. The frame is dropped at the rear, and follows standard lines. The magneto is carried forward, and is well protected by means of a shield.

OSMOND-PRECISION, No. 20.

3½ h.p. MODEL: 85 × 88 mm.; side valve; B. and B. carburetter; belt.

OSMOND, LTD., Sparkbrook, Birmingham.—Two motor cycles, both fitted with 3½ h.p. Precision engine. The machine is on standard lines, and presents no special features, except that it is soundly constructed throughout. Druid forks are employed, and the front mudguard has side flaps extending from the crown head nearly to the bottom of the wheel.

2 h.p. open-frame Motosacoche, the ladies' favourite

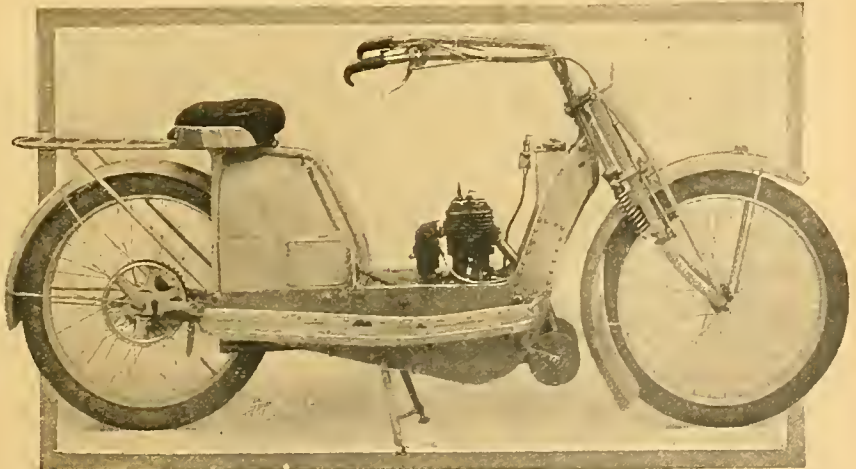
with an atmospheric valve disposed over the exhaust valve. No cam gear in the ordinary sense of the word is employed, but the original system of Motosacoche valve operation by which the valve tappet is operated by a shoe sliding in grooves cut on the flywheels. On this model a Lycett rubber belt is used for the fixed gear, and a ball race is fitted to the bottom of the pulley, so that when the pulley is fully expanded a free engine is obtained without any drag. If the variable gear is specified the Whittle belt is used as on the men's machine. In other respects the ladies' model remains practically unaltered.

SWAN, No. 91.

3½ h.p. MODEL: 85 × 85 mm.; side by side m.o.i.v.; chain; two-speed gear.

THE SWAN MOTOR MFG. CO., Frodsham, near Warrington. This machine is a distinct departure from the standard. The main portion of the frame is of a heavy gauge sheet steel. The rear forks are tubular, and are suspended on laminated springs. The oil tank is carried in the front adjacent to the head, while the petrol tank is carried to the rear beneath the driver's seat. This seat is of the pan type, and is provided with a heavily padded cushion. The only parts of the mechanism which are visible to the eye are the cylinder and the carburetter, the crank case, etc., being entirely enclosed. Footboards of ample size are provided, as also a stand, which raises

moved to either side, so that either one or other of the gears is put into action. Only six gear wheels are required, including the magneto and gear pump drive. The gears are operated by means of a pedal. Lubrication is arranged on thoroughly up-to-date lines—a rotary oil pump, driven from the end of the magneto-shaft, draws oil from the sump and the crank case to a large filter inside the crank case, which on its way passes through an indicator, raising a light rod passing

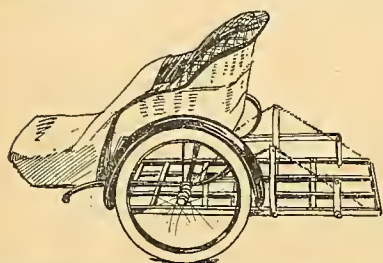


The open spring-frame Swan motor cycle—one of the novelties at Olympia.

The Olympia Show.—

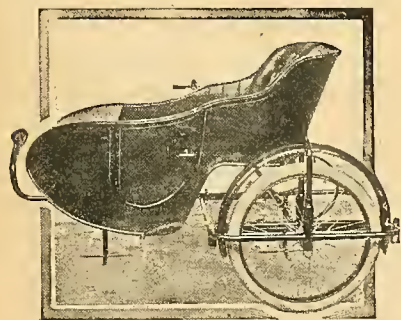
MILLFORD, No. 65.

MILLS AND FULFORD, LTD., Coventry.—This firm, one of the oldest and best known sidecar manufacturers in the country, have introduced several improvements for this year. As regards the frame, the longitudinal member nearest the bicycle is now made in one piece, with double swan neck bends, which bring it up to the down tube of the machine. This tube is telescopic, and may be adjusted to suit any length of wheelbase, while the clip attached to the machine can be moved backwards or forwards so that the necessary width may be obtained. The clip fastening to the chain stays of the machine is also capable



A folding luggage under-carrier fitted to a Millford sidecar. It is the invention of the Rev. J. Haslam.

of universal movement. The tube it carries is suspended at two points, firstly on the main longitudinal member nearest the machine, and also on another tube parallel to it. By loosening the necessary bolts it may be slid backwards or forwards on these two tubes so as to adjust itself to the required length. The clip attached to the bolt fixed to the chain stays is capable of up or down movement so as to adjust itself to the height of the machine, allowing a 28in. wheel machine to adapt itself comfortably to a



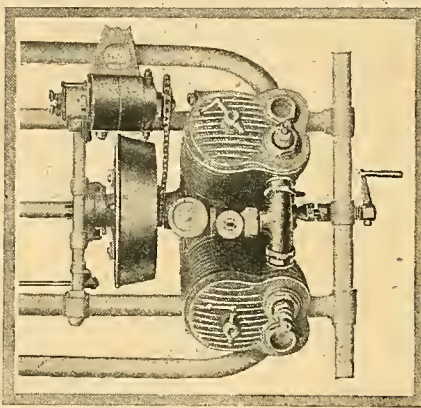
The new Millford coach-built sidecar with radiator spring wheel.

26in. wheel sidecar. In whatever position this clip may be turned, it is firmly secured by an ingenious device. The securing bolt runs through two tubes halved and grooved to adapt themselves to the diar of the tubing, so that when the nut is screwed up the two halves grip the tube and lock the bolt securely. The bar supporting the body has a cross member brazed to it, so that the body is now supported fore and aft. No fewer than fifteen different types of bodies are shown on the stand. Some are made of wicker, others of cane, whilst several are of the coach-built variety.

CHATER-LEA, No. 112.

8 h.p. MODEL: 85 × 85 mm.; m.o.v. side by side; Amac carburetter; chain transmission; three-speed Chater-Lea gear.

CHATER-LEA, LTD., Golden Lane, E.C.—This stand is taken up with the display of 8 h.p. Chater-Lea sidecar models, which have performed so well in competitions during the past season. The engine is of Chater-Lea manufacture, and is on similar lines to the J.A.P., though it differs considerably in the arrangement of the timing gear. The crankshaft carries a large metal-to-metal disc clutch having twenty-nine plates. From this the drive is taken to a three-speed gear box, supported behind the engine by the chain stays, through a $\frac{7}{8}$ in. × $\frac{3}{4}$ in. Renold chain. On the same side the final driving chain is taken to the



Power plant of the Chater Lea runabout, showing the 8 h.p. twin-cylinder engine, the cone clutch, and magneto drive.

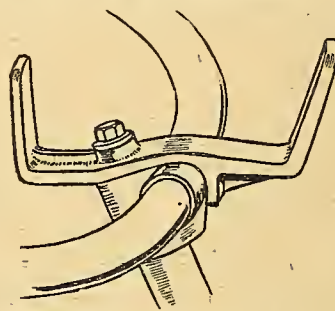
back wheel. The brakes are very large and designed for sidecar work, the rear one being a metal to metal contracting band on the right-hand side of the hub. The gear change is operated by a horizontal lever working in a quadrant on the top tube. Special attention has been paid to giving sufficient tank capacity, there being a petrol capacity of two gallons and a half and oil half a gallon. The machine is fitted throughout with ball bearings. Lubrication is by hand pump, the tank

being placed immediately underneath the saddle. The back wheel is shod with a 650 × 65 mm. voiturette tyre. The sidecars themselves well repay inspection, and in wicker-work, cane, and coachbuilt finish are very neatly turned out.

BRADBURY, No. 116.

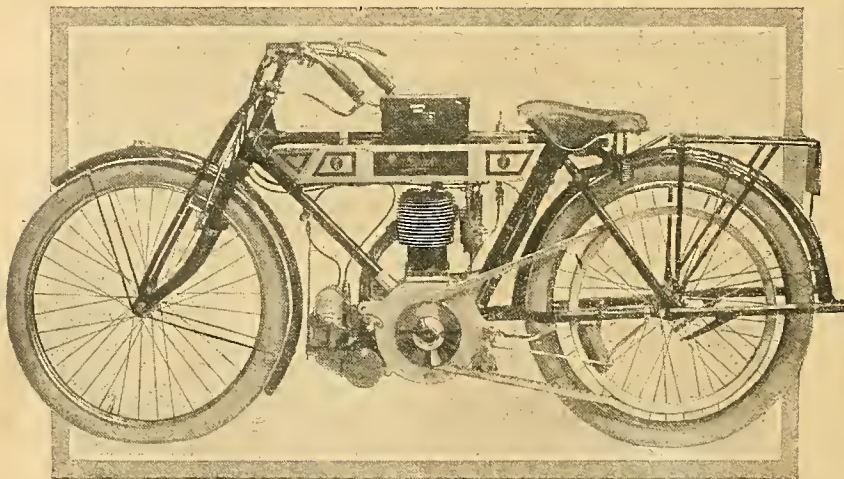
$3\frac{1}{2}$ h.p. MODEL: 89 × 89 mm.; m.o.v. side by side; B. and B. carburetter; chain; Bradbury two-speed gear.

BRADBURY AND CO., LTD., Wellington Works, Oldham.—The range of models shown on the Bradbury stand is ex-

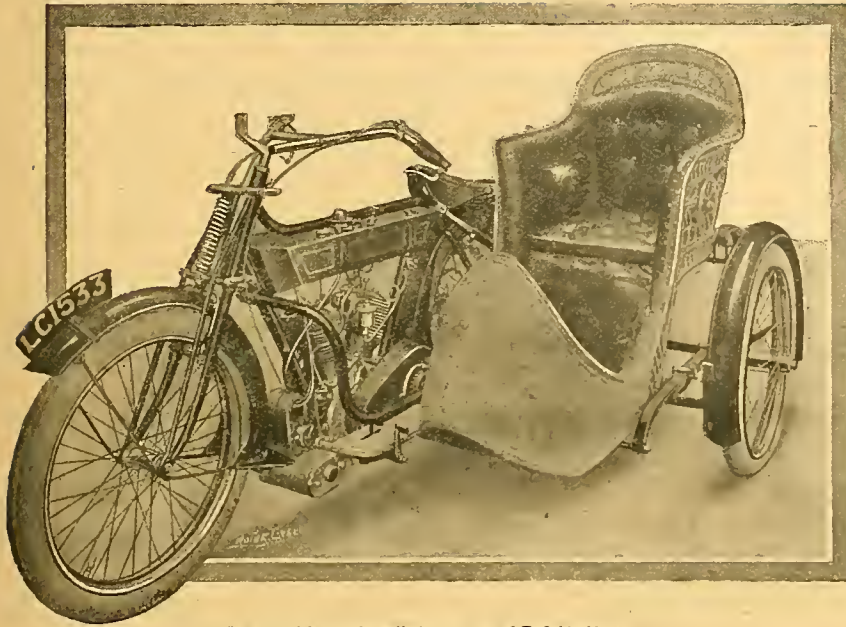


Combined lamp and generator bracket on the 1912 Bradbury.

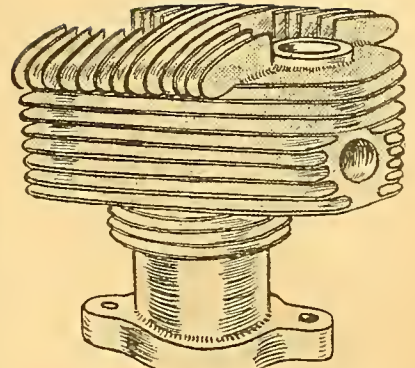
tremely complete, as in addition to the two-speed chain-driven model specified above, which has been fully described in *The Motor Cycle*, there are no less than four others, viz., a belt-driven single-gear machine, a T.T. model on similar lines, a two-speed belt-driven mount with N.S.U. engine-shaft gear, and a belt-driven clutch model with Villiers hub clutch. The T.T. model is an extremely neat little machine with shortened wheelbase, low frame, dropped handle-bars, and large engine pulley. The foot brake is arranged on the bottom bracket, and is large and immensely powerful, being operated by the heel. This model is fitted with fixed girder forks, but spring forks can also be supplied. Large side flaps are fitted to the front mudguards on all models, and a commodious square tool box is carried on the top tube. The magneto is the latest type Bosch.



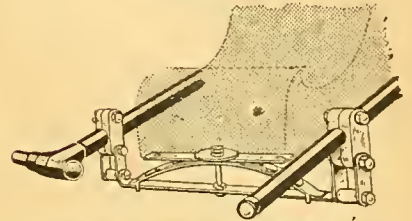
The 1912 model T.T. roadster Bradbury. Observe the tool-case on top tube.



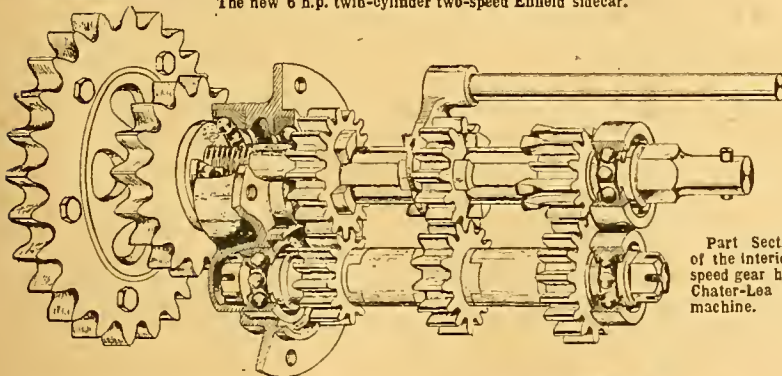
The new 6 h.p. twin-cylinder two-speed Enfield sidecar.



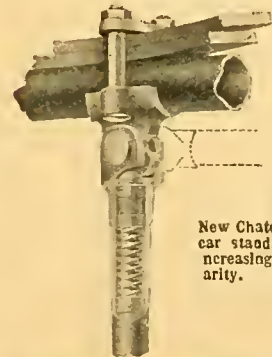
Improved radiator fin arrangement on the A.C. standard engine.



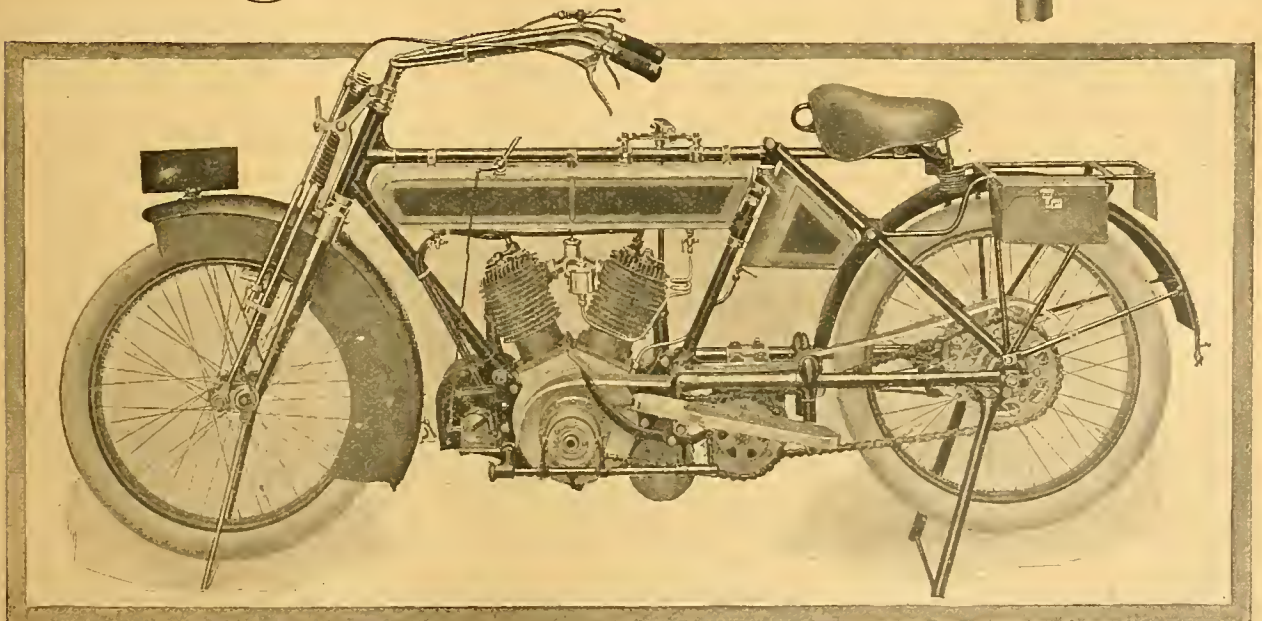
Showing the transverse leaf spring under the foot of the 1912 Montgomery sidecar.



Part Sectional drawing of the interior of the three-speed gear box fitted to the Chater-Lea 8 h.p. sidecar machine.



New Chater-Lea sidecar stand, a fitting increase in popularity.



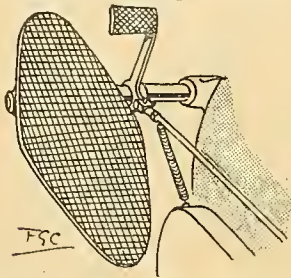
8 h.p. chain-driven three-speed Chater-Lea sidecar machine, showing gear and clutch control.

The Olympia Show.—

CLYNO, No. 83.

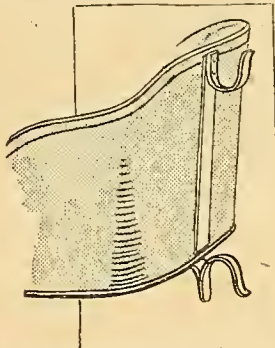
5.6 h.p. MODEL: 76 × 82 mm.; m.o.i.v. side by side (enclosed); Amac carburetter; chain; Clyno two and four-speed gear.

THE CLYNO ENGINEERING CO., Pelham Street, Wolverhampton.—The 5.6 h.p. Clyno has proved itself to be one of the most successful passenger machines on



New design Clyno footplates and brake pedal.

the market, as the recent experiences of one of the staff of *The Motor Cycle* on Porlock Hill amply proved. The chief features of the machine—the enclosed valves, the enclosing of the driving chains in aluminium cases, and the

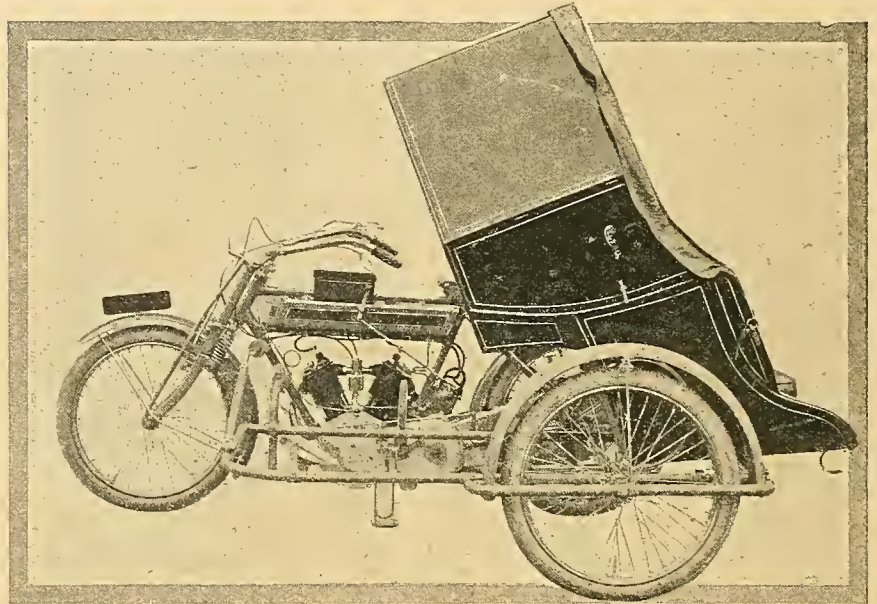


Clyno method of carrying a spare tyre. The cover is merely stretched over the hooks.

simple form of change-speed mechanism by internal expanding clutches—are well-known to our readers. The gears are suspended on a special carrier which can be dropped away by undoing the necessary bolts, while provision is made for adjusting the clutches easily with the aid of a screwdriver. The chief improve-

ments for 1911 consist of a kick starting device and a four-speed gear which may be had at a small extra cost. The four speeds are obtained merely by the

on the near side of the front of the square frame to a point on the down tube immediately below the secondary tube of the frame. Those who are interested in



Accessibility to the engine and gear of the Clyno sidecar has been well studied. The body may be lifted up as shown.

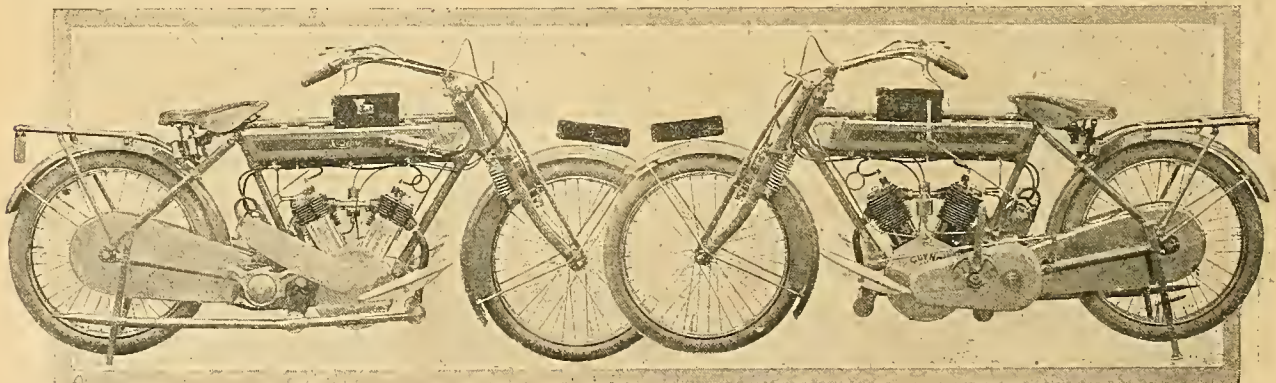
addition of one extra chain and clutch. The cylinders exhaust into two expansion chambers which are connected with a long exhaust pipe (extending to a point behind the rear axle), which is flattened at its rearward end, causing the exhaust to be exceedingly silent. The Clyno sidecar is also worthy of special mention; the comfortable coach-built body is suspended at the rear on Cee springs, and at its forward end on an inverted transverse semi-elliptical spring. The frame is square shape and entirely surrounds the body. The sidecar is carried separately in an extension of this, so that the axle is supported on both sides. The rigidity of the attachment is considerably improved by the addition of an extra stay to the down tube of the bicycle. Of these two stays one runs from the longitudinal member nearest the bicycle to a point on the down tube level with the top of the front cylinder, while the other is hinged from a point

machines specially constructed for sidecar work should make a special point of visiting this stand.

NEW IMPERIAL, No. 42.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; Roc two-speed gear.

THE NEW IMPERIAL CYCLE CO., LTD., Lower Loveday Street, Birmingham.—This company is showing a neatly carried out 3½ h.p. model fitted with a Villiers hub clutch. The engine used is a 3½ h.p. Precision. The machine is on standard lines, and has a dropped top tube which gives an extremely low saddle position. Mudguarding has received special attention, side flaps being fitted on the mudguards to both front and back wheels, while a large shield is fitted over the magneto, which lies in front of the engine. Both brake and clutch pedals are carried on separate lugs. Handle-bar controlled magneto is employed, and all lugs,



(1) Valve side of the 1912 Clyno, showing valve covers, magneto position, foot plates, and method of operating gears.

(2) Gear side, showing the improved foot starter. The enclosed chains give the Clyno an exceedingly neat appearance.

The Olympia Show.—

including those carrying the carburettor and magneto controls, are brazed to the frame and handle-bars. A special fitting is the ratchet exhaust lift. The machine shown is finished throughout in transparent bronze, there being no nickel fittings with the exception of the saddle pillar and a few nuts and bolts. This finish gives the machine a particularly neat appearance, and should make it extremely waterproof.

4½ h.p. MODEL: 90 × 96 mm.; side by side; B. and B. carburettor; belt; Roc two-speed gear.

This model is specially built for sidecar work, and has a frame designed throughout to withstand the extra strain of the attachment. The description of the 3½ h.p. machine applies to this model also, with the exception of the fact that it is finished in green tastefully lined with black and a paler green. Two pairs of footrests are fitted to the 4½ h.p. model, the rear footrests taking the place of the pedalling gear on the 3½ h.p. type. Druid spring forks are employed throughout, and neat V-shaped handle-bars with a cross tie-rod.

2½ h.p. MODEL: 70 × 76 mm.; side by side; B. and B. carburettor; belt; Armstrong three-speed gear.

The 2½ h.p. model is fitted with a loop frame and has the Armstrong three-speed as a standard fitting, but free engine or fixed gear can be supplied if required. The finish is in black with a green and white panel tank. In other respects this machine resembles the 3½ h.p. These types have been described in detail in a recent issue.

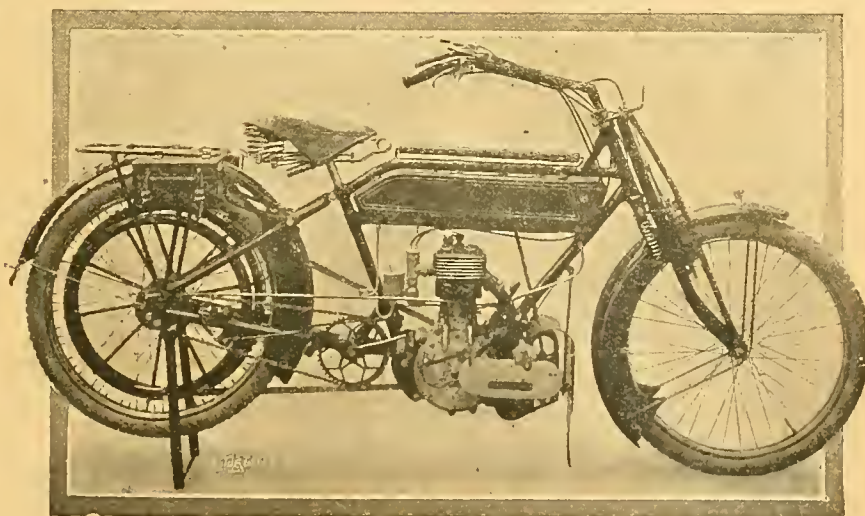
CALTHORPE, No. 77.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburettor; belt.

THE CALTHORPE MOTOR CYCLE CO., Barn Street, Birmingham.—This is a standard 3½ h.p. model, with drop frame, Druid spring forks, and a stand which when out of use springs up automatically into position.

2½ h.p. MODEL: 70 × 76 mm.; side by side m.o.i.v.; B. and B. carburettor; belt.

This machine follows standard lines throughout, except that it is shown fitted up in Tourist Trophy style, with dropped handle-bars and footrests.



The 3½ h.p. New Imperial. This machine has what is known as an "oil" finish.

4½ h.p. MODEL (Special Sidecar): 90 × 96 mm.; side by side m.o.i.v.; B. and B. carburettor; belt and chain; Calthorpe two-speed gear.

The 4½ h.p. mount is specially constructed for sidecar work. Free engine to gear box the transmission is by chain enclosed in a gear case. The gear box is carried on the bottom bracket. The gear wheels are always in mesh, and engagement is effected by means of internal expanding clutches brought into operation by a long lever at the side of the tank. The driving pulley on the gearshaft is of large dimensions, so that the wear of the belt is reduced to a minimum. Wide footboards

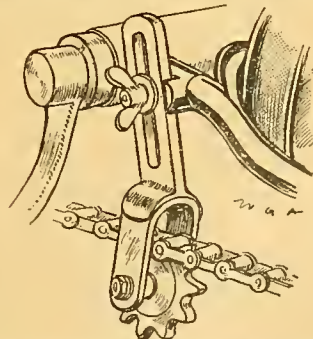
are provided. One of these machines is shown fitted to a sidecar provided with a handsome coach-built body, with high side door and Cape cart hood and screen. In the dashboard shelves are provided for tools, and at the front of the seat a further locker is provided for this purpose, while

under the sidecar frame is a platform for luggage, and beneath it a special holder for a petrol tin. It must also be mentioned that this outfit is provided with a special carrier for a spare cover, which is placed between the machine and the sidecar.

PUCH, No. 90.

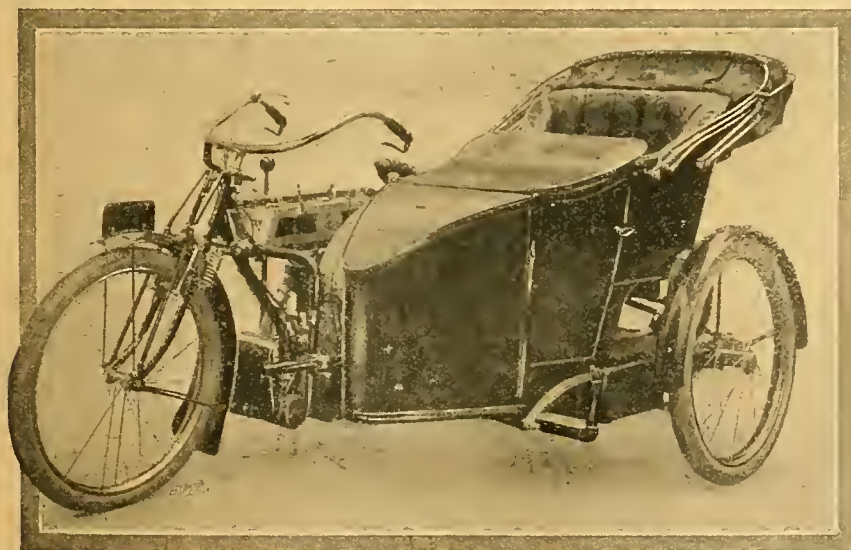
3½ h.p. MODEL: 76 × 100 mm.; side by side m.o.i.v.; B. and B. carburettor; belt.

THE PUCH MOTOR CYCLES AGENCY, Notting Hill Gate, W.—The Puch machine makes its public appearance in England for the first time at this exhibition. The makers, it will be seen, favour the long-stroke engine. The exterior finish is particularly good. An under-gear pulley is fitted, and the tension



Jockey sprocket on the Puch sidecar machine, showing the bracket and wing nut for adjustment.

of the belt may be varied by means of a handle placed at the side of the tank. By the aid of this handle the belt may be so much slackened that the engine is free, and after it has been started by the pedals the pedal on the spring-up stand may be depressed and, while the rider is still in

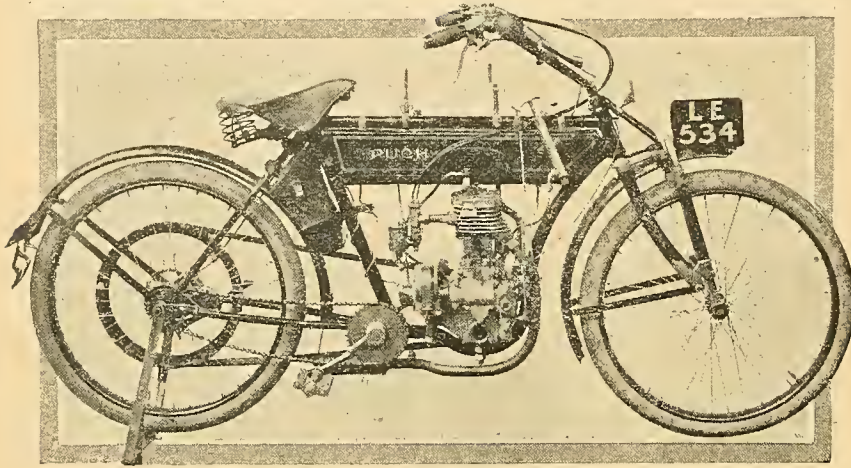


model two-speed Calthorpe, with comfortable coach-built sidecar.

The Olympia Show.—the saddle, the stand will fly into position and the engine may be started by gradually tightening the belt. The frame of

machine is rigid at the rear. The change of speed is effected by a lever provided with a wood handle adjacent to the saddle, while opposite to it is a ratchet

the improvements which may be noted are the size of the petrol tank and the provision of a foot engine starter. This is extremely neatly designed, and is arranged to be absolutely proof against the likelihood of danger from back firing. The pedal bracket for this purpose is attached in front of the crank chamber, and drives a claw clutch sprocket on the crankshaft through a chain. This claw clutch is held out of engagement with its meshing teeth by mechanical means, except when the engine is being started. The large sprocket is fitted with an ingenious pedal clutch arrangement which in the event of a back fire occurring causes the pedal to be thrown free. Both models are supplied with single gears and free-engine clutches, this clutch being operated in all types by a lever placed on the right-hand side of the machine and frictionally held to a quadrant. In the two-speed geared machines the clutch has been considerably increased in frictional surface. The chain from the counter-shaft to the back wheel is covered

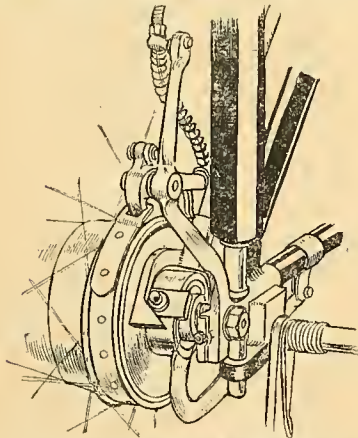


The new 2 h.p. Puch, showing position and novel method of driving the magneto.

this machine is sprung both at the rear and front on spiral springs enclosed in tubes.

2 h.p. MODEL: 68 x 70 mm.; m.o.i.v.; B. and B. carburetter; chain.

The valve, gear, magneto (which in all cases is the Ruthardt), and oil pump are driven by skew gearing, the shaft of which runs at the side of the crank case. It may be mentioned that an additional pump is supplied for injecting the



The Puch two-speed gear and clutch operation, also showing vertical tube of spring frame.

necessary amount of oil into the crank chamber. The transmission is by single chain, and in the rear hub is a multiple disc clutch. A 2 h.p. machine is also shown fitted with direct belt drive and chain-driven magneto. In all cases the magneto is at the rear.

6-7 h.p. MODEL (Twin): 80 x 90 mm.; a.o.i.v.; B. and B. carburetter; single chain; epicyclic two-speed gear.

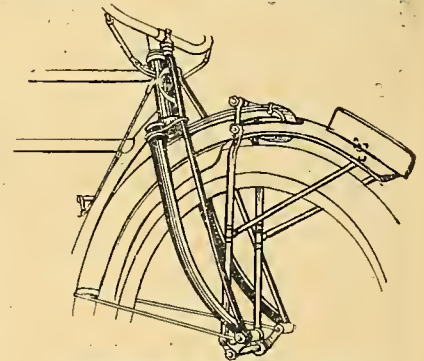
This is quite a practical sidecar machine. A pulley is fitted to the end of the engine-shaft for the purpose of driving the fan, which is enclosed in a casing, the outer part of which is covered with wire netting. The frame of this

brake lever controlling an external band brake on the rear hub. The sidecar is provided with a motor car type of wing, capacious cylindrical petrol tank at the back, and a sprag which may be used as a stand. The two cylinders exhaust into an expansion chamber, and thence runs a long pipe in easy curves, which is bolted to the sidecar frame, and terminates in another expansion chamber. The handlebars are of great length and are supported by means of additional stays. The machine is a distinct departure from English ideas, and is well worth a close inspection.

INDIAN, No. 107.

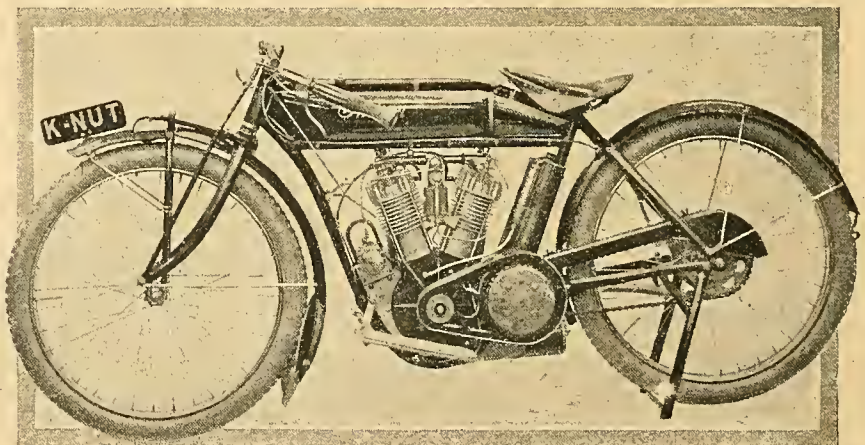
7 h.p. MODEL: 82½ x 93 mm.; m.o. overhead inlet valves; Indian carburetter; chain transmission; two-speed Indian counter-shaft gear.

HENDEE MFG. Co., Great Portland Street, W.—For next year two types of Indian machines are being made, viz., the 3½ h.p. single and 7 h.p. twin, both of which are alike in all respects except the number of cylinders. The standard colour of the machine is blue. Amongst



Laminated spring fork of the new Indians.

with a neat, quickly-detachable case. Both brakes are on one side of the rear hub, one being an internal expanding metal-to-metal type and the other a contracting band lined with Raybestos. This arrangement considerably facilitates the removal of the back wheel when necessary. The carburetter on all models is the well-known Indian, with annular float chamber and fitted with a pilot jet for slow running. A novelty in connection with the 1912 Indian is the folding footplates.



The 1912 7 h.p. Indian racer.

The Olympia Show.—

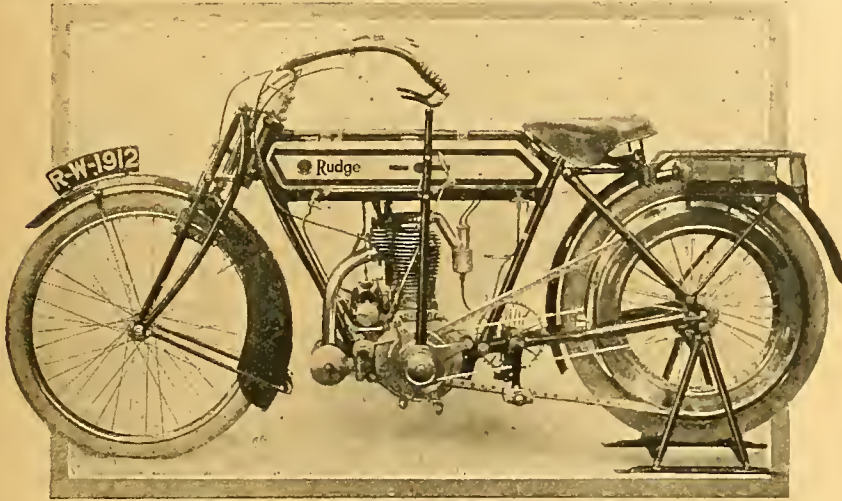
RUDGE-WHITWORTH, No. 115.

3½ h.p. MODEL: 85 × 88 mm.; mechanical valves; B. and B. carburetter; belt; Rudge-Whitworth variable gear.

RUDGE-WHITWORTH, LTD., Crow Lane, Coventry.—Six models are shown on this stand, two as above, two T.T. machines,

the Bowden cable is used to push instead of the inner cable being used to pull. Both the valve springs are fitted with an ingenious and novel cotter, the great advantage of which is that, owing to the pin itself being only in compression, there is practically no chance for it to break. The dished spring washer used with this device also allows a slightly longer spring. The silencer has been improved, and is

comes close to the footrests, is a special asbestos-lined shield to protect the rider's boot. In the case of both the above models the rear mudguard is so constructed as to clear the movable portions of the rear forks. In all cases the



The 3½ h.p. multi-speed Rudge in its latest form.

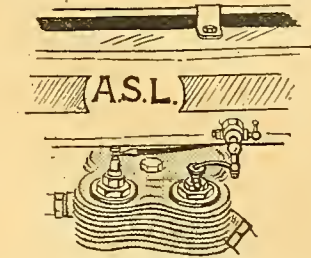
and two tourist models with Rudge clutch on the engine-shaft. Among the improvements which have been carried out on all the machines are shorter pedal cranks on the starting gear axle, giving a comfortable alternative footrest position; a larger belt rim brake which is self-aligning and bears uniformly on the rim over the whole surface of the shoe. Two methods of adjustment are provided, so that an almost unlimited amount of wear can be taken up. The appearance of the machine has been considerably improved

furnished with a large foot-operated cut-out. The holes in the silencer are arranged so that the exhaust does not disturb the dust.

A.S.L., No. 103.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; Amac carburetter; belt; N.S.U. two-speed gear.

A.S.L., LTD., Corporation Street, Stafford.—This machine has a Precision engine. The frame is suspended on Sharp's air springs. A description of a run on this machine was recently referred to in these pages. 22in. wheels may be employed, and they serve to bring the



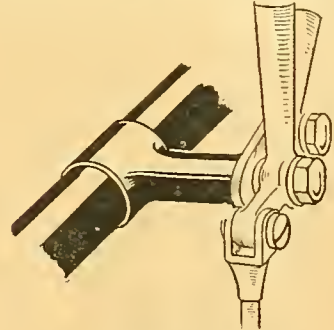
Petrol injector employed on the A.S.L.

spark lever is handle-bar controlled. Other specialities are a special cushion seat, an adjustable pulley, and a Best and Lloyd semi-automatic lubricator. One of the twins is shown with a sidecar.

A.J.S., No. 128.

2½ h.p. MODEL: 70 × 82 mm.; side by side; Amac carburetter; chain; two speeds on counter-shaft.

A. J. STEVENS AND Co., Retreat Street, Wolverhampton.—Three of these models are shown. They are this year

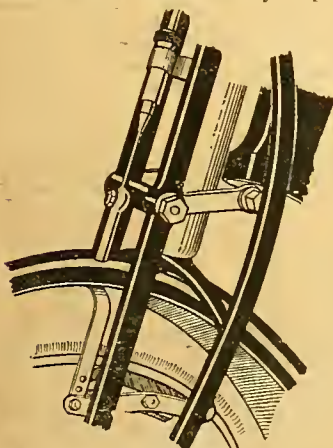


A.J.S. change-speed quadrant.

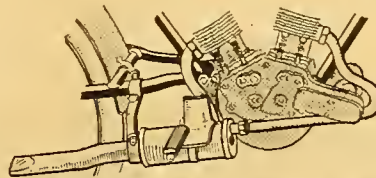
fitted with footboards, and the brake is operated by the heel. The change speed lever is on a lug brazed to the top tube, and a foot starter can be fitted as an extra. Another 2½ h.p. model is shown with a belt drive.

5 h.p. MODEL: 70 × 82 mm. twin; side by side; Amac carburetter; chain; two-speed counter-shaft.

There are two models of greater power. These models include a kick starter as a standard and 2½in. tyres. Both models



The front fork and rim brake on the new 3½ h.p. Rudge.

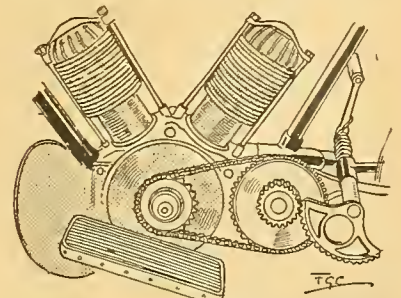


Silencing arrangement on the new twin A.S.L.-Fafair. Note the shield to keep the rider's foot off the exhaust pipe.

rider's weight as near to the ground as possible. The wheels are tyre with Moseley ribbed covers, specially manufactured for the firm, and Bosch magnets are supplied, while both front and rear brakes are of the external contracting band type.

5-6 h.p. MODEL: 70 × 80 mm. Fafair; side by side m.o.i.v.; Amac carburetter; belt.

The exhaust pipes of the twin-cylinder lead into an expansion chamber, from which there issues a long pipe of large size flattened at its rearward end. Attached to the rear exhaust pipe, which



Details of the A.J.S. kick starter through gear and segment.

by the substitution of a plain curved chain stay in place of the usual type, which is cranked round the belt rim. An inverted lever operates a new type of exhaust valve lifter, which is extremely neatly arranged, a rather noticeable feature being that the outer covering of

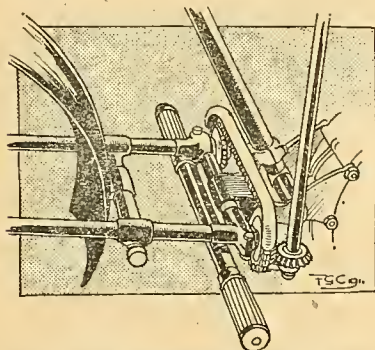
The Olympia Show.—

are fitted with neat petrol primers and the well-known A.J.S. friction clutch; they also have Druid forks. The arrangement of the toolbag is especially neat. This slides bodily into a metal case placed under the carrier, which also supplies the place of a number plate. These machines were fully described in our last issue.

ZENITH-GRADUA, No. 79.

3½ h.p. MODEL: 85½ × 85 mm.; m.o.i.v.; B. and B. carburetter; belt; Zenith-Gradua gear.

ZENITH MOTORS, LTD., Weybridge.—The chief feature of the 1912 Zenith is the new system of attaching the back wheel, which allows the latter to be removed instantly. The details of this interesting system appeared in *The Motor Cycle* issued on November 9th. Though the improvement is seemingly a very small one, it is none the less of great importance, and we may mention that models are shown on the stand which serve to show how quickly the rear wheel may be removed. The finish of these machines is of the best, and their many successes on the road are a proof of their excellence. The machines are particularly well equipped. A well-



Shield over the Zenith-Gradua duplex chain and gear operating mechanism.

designed luggage carrier is fitted, terminating in a V, which carries the number plate and a reflex rear light. The top side of the gear operating chain is now provided with a guard. Spacious tool-bags which incorporate an inner tube case are supplied. Side wings are now fitted to the front mudguard, while the rear guard is enclosed on the off side, and is of ample dimensions. In all other respects this excellent machine remains unaltered.

Except for the fact that a 6 h.p. engine is fitted, the details of the twin model are the same as above. A working model of the Gradua gear is shown on the stand, and a large number of machines, some with sidecars.

P.M.C., No. 108.

6 h.p. MODEL: 76 × 85 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; two-speed hub gear.

THE PREMIER MOTOR CO., LTD., Aston Road, Birmingham.—Two models of the Rex-Jap machine, which may be described as being Rex motor cycles with the exception of the engine, are shown, one conforming with the specification above and the other being an 8 h.p. model with 85 × 85 mm. engine. The

Bosch magneto is placed immediately behind the crank case. The two-speed gear is made under Roc licence, and enables the engine to be started by handle with the wheel on the ground. Automatic drip-feed lubrication is provided. The tank is of a sensible and large size and is painted in distinctive colour.

Shown on this stand, and intended for use with these models, is a very fine example of a coach-built sidecar, a great feature of which is the extraordinary lightness. The sidecar wheel is sprung on a pair of quarter elliptic springs furnished with radius rods, so that it is impossible for the wheel to get out of alignment. An excellent feature in this arrangement is that for an extra heavy passenger the springs can be slid along the clips so as to be greatly stiffened. The frame of the sidecar is extended backwards, and supports a large luggage grid and also a carrier for a spare cover. This sidecar is fitted with very quick detachable fittings, which allow the combination to be assembled or erected in less than one minute.

6 h.p. MODEL: 95 × 102 mm.; fore and aft m.o.i.v.; J.A.P. carburetter; chain; hub two-speed epicyclic gear.

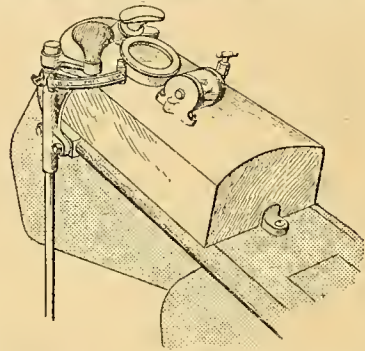
The Motorette three-wheeler is shown in two types, both for passenger work and commercial use. The engine is water-cooled, the radiators being placed on each side of the bonnet, which is immediately behind the side-by-side passenger seats. In front of each is a scuttle dashboard with hinged flap, carrying a wind screen. The engine case is surmounted by a large luggage carrier. Lubrication is of the semi-automatic type, a large supply of oil being carried in a separate tank, from which it is forced by a hand pump into the engine sump. The flywheels are cast with large fan blades, which induce a draught of air through the vertical tube radiators.

DOUGLAS, No. 114.

2½ h.p. MODEL: 60 × 60 mm.; side by side m.o.v.; Douglas carburetter; chain and belt; Douglas two-speed counter-shaft gear.

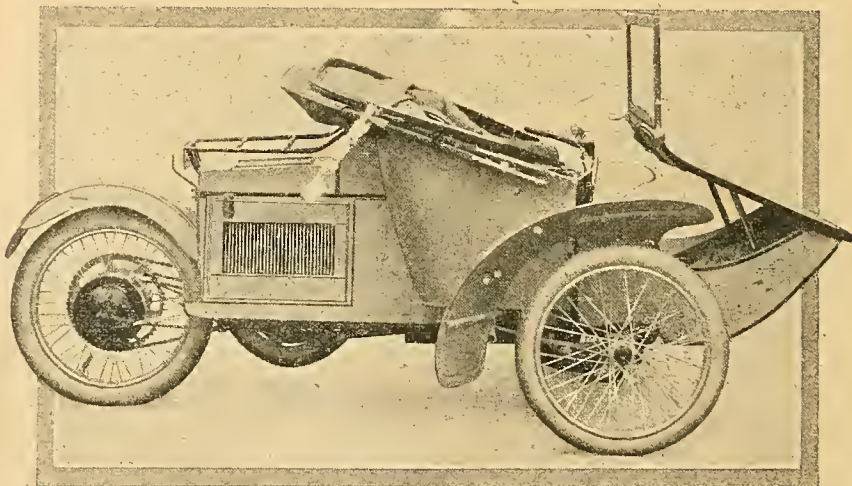
DOUGLAS BROS., Kingswood Bristol.—Most of the many Douglas improvements

have been fully illustrated and described in recent issues. Two models in addition to the above are shown, viz., a fixed gear machine with chain drive to the counter-shaft, and belt drive to the back wheel, the belt in all models being carried on the right-hand side of the machine. The third model is of the open frame type, and is intended primarily for ladies' use. The design is thoroughly neat and work-

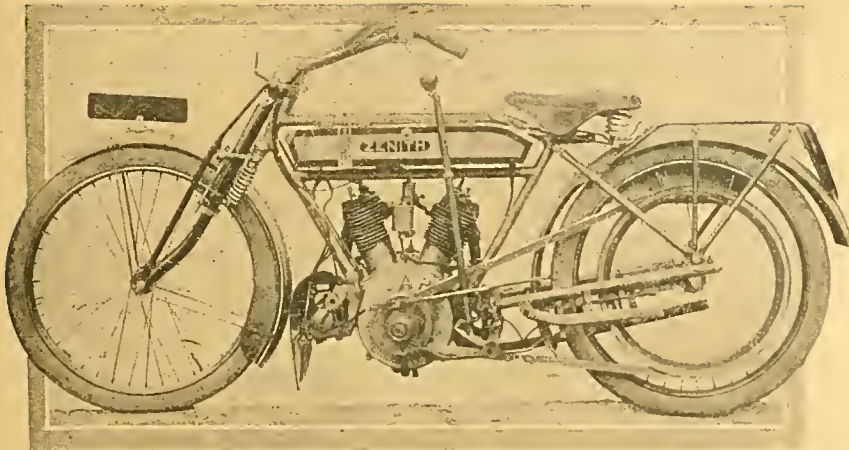


Douglas open frame, model showing gear control lubricator gauge and glass filter, as seen from saddle.

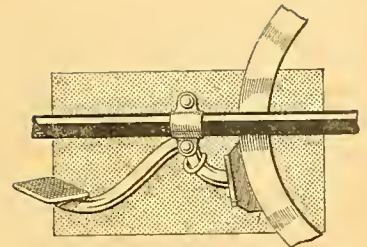
manlike looking. The frame is considerably strengthened by having a double diagonal tube which in the front supports the oil and petrol tanks and lower down the casing which completely covers the engine. In this casing there is a trap door through which the back cylinder can be primed. The engine cover entirely prevents the possibility of a skirt becoming entangled with the flywheel. This machine has a two-speed gear and foot starter, both of which devices have been thoroughly described. Amongst minor improvements to all models may be mentioned the very sensibly arranged pannier tool-bags, which are set below the carrier so as to facilitate access to the bags when a suitcase is on the carrier. A generator bracket is brazed to the centre of the handle-bars, large filler caps with glazed lids are provided, and the lubrication is by drip feed through a glass barrel. The Douglas machines have earned an enviable reputation for reliability in all the long distance trials, particularly in the A.C.U. Six Days' events.



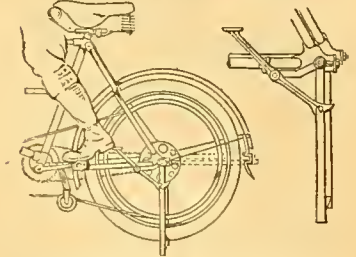
Off-side of the new P.M.C. Motorette with water-cooled engine.



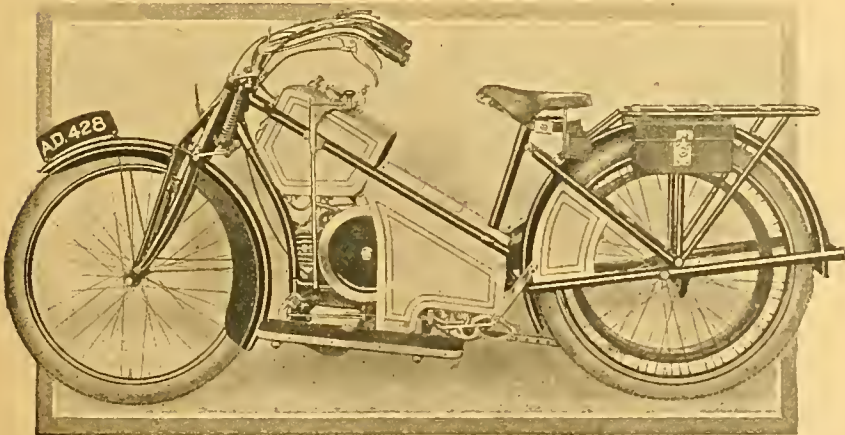
The new 6 h.p. twin Zenith-Gradua with Gradua variable gear.



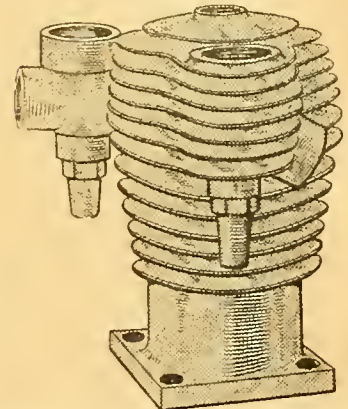
Simple form of belt rim brake on the Puch.



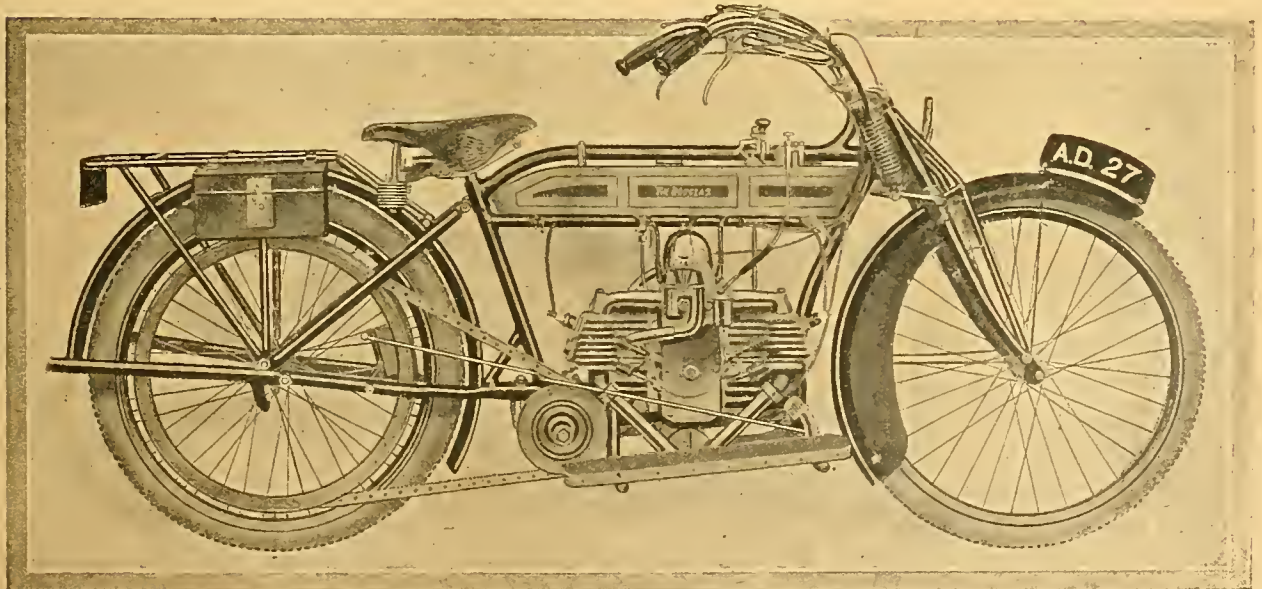
Puch automatic stand. By pressing a pedal the stand flies out of action.



The open frame two-speed 2½ h.p. Douglas, which is suitable for the use of either sex.



Cylinder of a 4½ h.p. Quadrant, showing peculiar arrangement of exhaust valve at side and inlet valve at rear.



Valve side of the two-speed 2½ h.p. Tourist Douglas. The clutch pedal on the new model is fitted at the front of the left footboard.

The Olympia Show.—

CENTAUR, No. 123.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.v.; B. and B. carburetter; belt; Centaur two-speed hub gear.

THE CENTAUR CO., LTD., Stoke, Coventry.—This old-established firm has re-entered the motor cycle industry with a comprehensive range of models. The 3½ h.p. is a neatly finished machine with commendably large size tank, Druid spring forks, engine set *désaxé* with gear-driven magneto immediately behind the

sensible and neat dressguard over the belt is employed, and also an aluminium fender covering the whole of the top part of the cylinder.

ARNO, No. 61.

3½ h.p. MODEL: 84 × 89 mm.; side by side m.o.v.; Amac carburetter; belt; Sturmev-Archer three-speed gear fitted to order.

THE ARNO MOTOR CO., LTD., Gosford Street, Coventry.—The Arno de Luxe model is a particularly handsome machine finished in a colour which is known as

position afforded is very low, the height from the ground being only twenty-seven inches. The last-named features apply to all models. Two T.T. machines are also exhibited which resemble the above, except that they are fitted with dropped handle-bars.

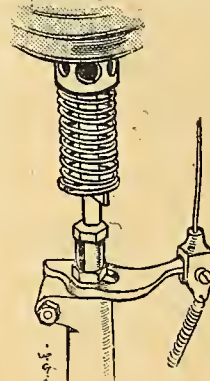
Lightweight MODEL: 65 × 70 mm.; belt.

A particularly neat-looking machine, and, as it is equipped with good stand, inggage carrier, Druid spring forks, and other refinements, is a thoroughly practical lightweight. In all models the magneto is neatly carried behind the engine.

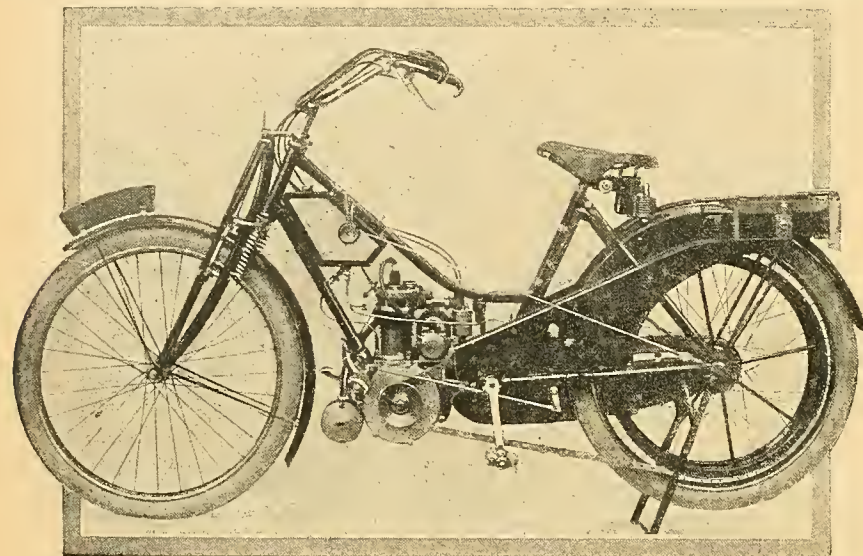
P. AND M., No. 70.

3½ h.p. MODEL: 82 × 88 mm.; side by side m.o.v.; P. and M. carburetter; chain; P. and M. two-speed counter-shaft.

PHILON AND MOORE, LTD., Tottenham Court Road, W.—Several interesting improvements have been incorporated in the new model. A front wheel stand is fitted just beneath the crank case, which when out of use springs automatically into position. Last week we described the new foot starting device, the carburetter (the lid of the float chamber of which is held in position by a spring, the sliding back of which allows it to be removed instantly), and the cover for the gearshaft, allowing oil to be squirted into the bearing. An important improvement in the engine is the provision of drilled cylindrical washers between the valve springs and the cylinder, which effectually keep the heat from the springs and allow them to retain their tension for a much longer period. The petrol filler is not provided with a vent hole, so that splashing is impossible, the vent being on a guide on the needle valve feed to the priming device, which pos-



P. & M. exhaust lifter and valve spring cage.



The new 3½ h.p. three-speed open-frame Centaur.

crank chamber, large dome-ended silencer with foot-operated cut-out, foot-operated rim brake, etc. The same model is made with a two-speed hub gear manufactured under Roc patents. This model has long indiarubber covered footboards, in front of which are the pedals for the two-speed gear and brakes. The engine can be started with a handle when the back wheel is on the ground.

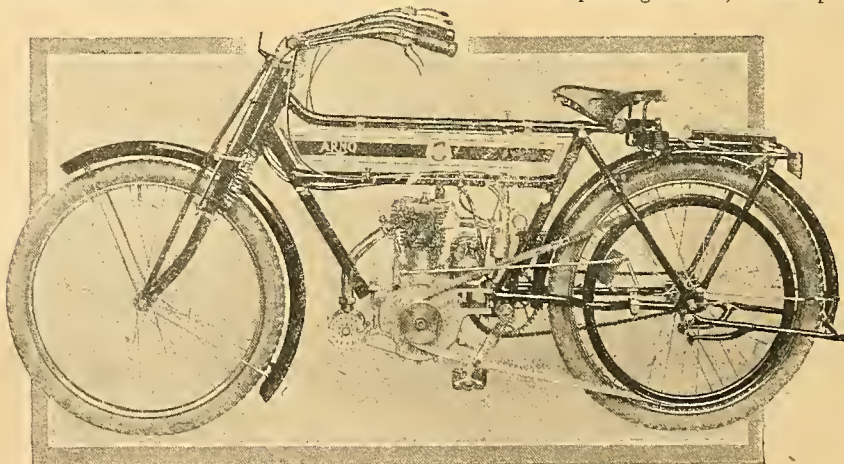
3 h.p. MODEL (Twin): 60 × 60 mm.; side by side m.o.v.; B. and B. carburetter; belt.

The 3 h.p. model is a very well finished little twin in which the cylinders are also set *désaxé* on the crank chamber. Both exhaust pipes are brought to a large aluminium ended silencer which is placed immediately in front of the crank chamber, the rear exhaust pipe being swept round in a graceful curve. The rest of the specification is the same as for the larger single cylinder model.

2 h.p. MODEL: m.o.v. side by side; B. and B. carburetter; belt; Armstrong three-speed hub gear.

This model, which conforms to the same specification in general details as the above, is shown both with the fixed gear and variable hub gear, and both as a gentleman's and lady's mount. The latter is particularly well-designed, and should gain a large measure of popularity. The complication of small parts usually associated with ladies' models is done away with, and the gear makes it a mount capable of going anywhere. A

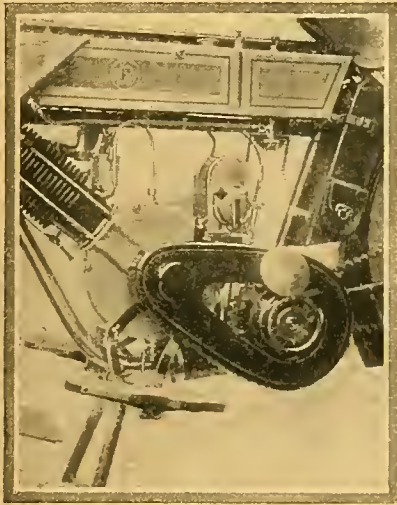
primrose. The attachment of the engine unit is worth studying, as the engine, magneto, carburetter, and silencer may be dropped clean away from the frame by undoing four bolts. The strengthening of the head and the design of the rear portion of the frame carrying the saddle also deserve inspection. Points of convenience are well studied. The oil pump is carried at the rear of the tank, close to the rider. Magneto handle-bar control and side wings to both rear and front mudguards are fitted. The saddle



The 1912 pattern 2½ h.p. lightweight Arno.

The Olympia Show.—

sesses a small groove to allow the air to reach the petrol. The rear brake is improved, and is worked by the rider's heel, the pedal operating the rod, which pulls directly on to the brake band. The front wheel is especially well protected by means of a very efficient mudguard. A variation of the above model is the



The 1912 3 1/2 h.p. P. & M. power plant, showing the enclosed chains from engine to countershaft, and gear inspection and lubrication hole.

colonial type, in which all the parts usually plated are black. A larger petrol tank is fitted; extra girders to the forks, heavier spokes and rims, and footrests placed in a higher position, so as to afford an ample ground clearance.

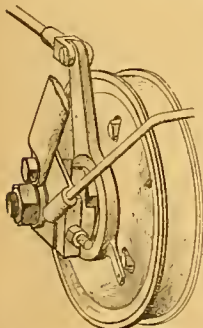
2 1/2 h.p. MODEL (Lightweight): 66 x 76 mm.; B. and B. carburetter; chain; P. and M. two-speed gear.

The well-known 2 1/2 h.p. model, which has acquitted itself so well since its introduction, remains practically unaltered except that the B. and B. carburetter is now fitted. The finish of the P. and M. machines is excellent throughout.

BAT, No. 63.

3 1/2 h.p. MODEL: 85 1/2 x 85 mm.; side by side m.o.i.v.; B. and B. carburetter; belt and chain; P. and M. two-speed gear.

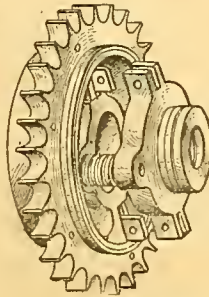
THE BAT MOTOR MFG. CO., Kingswood Road, S.E.—The chief improvements in the Bat were described in our last issue. Among these we may mention the latest type of control and the P. and M. gear, while it must be recorded that the chief features in this and other Bat models are the insulating of the rider from road shocks by means of the well-known Bat spring seat and footrests, the



The Bat clutch operating lever.

neat method of carrying the magneto in a compartment of the tank, and driving the armature by means of a vertical shaft and bevel gearing.

Similar to the above is the standard model, which is single-gear. The T.T. model has a 3 1/2 h.p. J.A.P. engine, 90 x 77 1/2 mm., and other particulars as above. In this type of machine the magneto is carried in the front of the engine and is chain-driven. The frame is dropped at the rear, while a cylindrical tank and rigid forks are fitted.

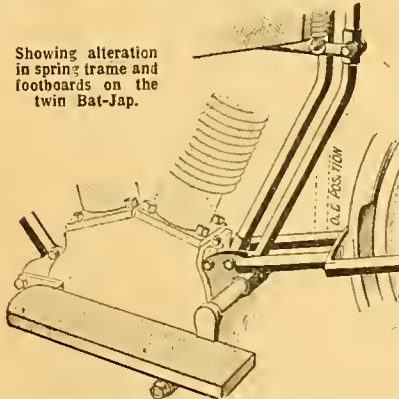


The clutch mechanism on the 1912 Bats, shown detached and separated.

5-6 h.p. MODEL: 76 x 85 mm.; side by side m.o.i.v.; B. and B. carburetter; belt and chain; Bat two-speed gear and clutch.

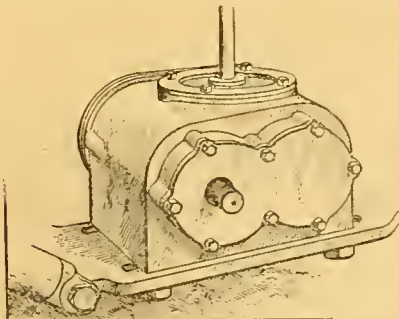
The 5-6 h.p. and 7-8 h.p. twins are similar in detail. The latter model was fully described in our last issue, and is especially designed for sidecar work.

Showing alteration in spring frame and footboards on the twin Bat-Jap.



Particularly to be noticed in the chain-driven model is the improvement in the Bat spring frame.

As regards the twin T.T. machine, there are two types, the 5 h.p. and 8 h.p.



The Bat method of attaching gear box to slotted plate.

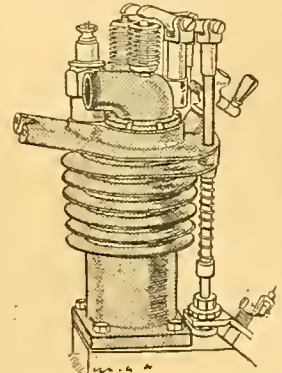
T.T. models, 85 x 65 and 90 x 77 1/2 mm.; inlet and exhaust overhead; B. and B. carburetter; belt drive. The firm are especially to be congratulated on the efficient manner in which their machines are displayed. Placed as they are on special stands, they may be inspected

with the greatest facility. Altogether the Bat exhibit is a most imposing one.

MOTO-REVE, No. 44.

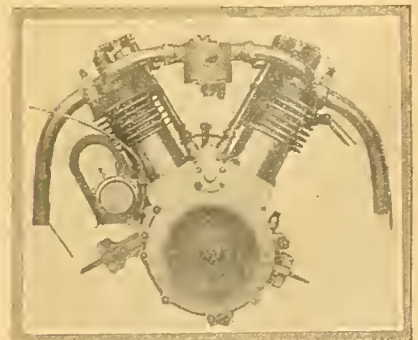
3 h.p. MODEL: 53 x 77 mm.; overhead valves; Moto-Reve carburetter; belt; Villiers or Moto-Reve two-speed or Armstrong three-speed gear.

THE MOTO-REVE CO., LTD., Acton Vale, W.—The 3 h.p. Moto-Reve is quite a new model. It has two cylinders set at 60°. All valves are mechanically operated and disposed in the head, the tappets being adjustable. These valves are of particularly large diameter, having an area of over half that of the piston,



A cylinder of the 4 h.p. M.R. twin, showing design of overhead valve mechanism.

and so arranged that it is impossible for them to fall into the cylinders, unless the break should occur close to the head, which is rendered extremely unlikely, as a very large radius is employed from the stem. This model can be fitted either with fixed gear, Villiers two-speed, Armstrong three-speed, or a new two-speed Moto-Reve gear. This new gear lies in the hub, and consists of two pairs of pinions always in mesh operated by dog clutches. A separate clutch of the expanding metal band type is fitted at one side of the hub. The gear is particularly simple and small, and can be fitted to the existing models. The firm's own type Druid spring fork is employed without alteration, and the front mudguard is fitted with side flaps from the crown head downwards. A larger silencer is fitted on the 1912 mounts, having a hand-operated cut-out. Large diameter spring petrol and oil filler caps are used on the standard 3 h.p. The above description applies to the 4 h.p. model which made



The 3 h.p. twin-cylinder M.R. engine with overhead valves.

The Olympia Show.—

its debut in the Isle of Man races. This model, however, has an engine of 63 mm. bore and 80 mm. stroke.

2½ h.p. MODEL: 67 × 85 mm.; overhead valves; M.R. carburetter; belt; two or three-speed gear.

The 2½ h.p. is another new Moto-Rève model. It has a single-cylinder inclined engine, but in most other respects closely resembles the 3 h.p. model described above. As in the case of the 3 h.p. model, comfortable footrests are fitted, and the magneto is carried at an angle behind the cylinder instead of in front. The 2 h.p. model is a cheaper edition of the 2½ h.p. An automatic inlet valve lies above the exhaust valve, and the engine has a bore and stroke of 62 × 85 mm. In this case no footrests are fitted, and the magneto is handle-bar controlled. It is sold as a fixed gear model only. A point worthy of notice is that all Moto-Rève magnetos are manufactured by the company, and in every case except that of the 2 h.p. machine the armatures run on ball bearings. All brakes are provided with a simple form of adjustment.

TRUMP-J.A.P., No. 135.

3½ h.p. MODEL: 85.5 × 85 mm.; side by side m.o.i.v.; B. and B. (variable jet) carburetter; belt; Sturmev-Archer three-speed gear.

TRUMP MOTORS, LTD., John Bright Street, Birmingham.—The tank and filler caps on this machine should be specially noticed, the tank being riveted and very strong. The filler caps are 2in. diameter and hinged to prevent loss. The front forks are an adaptation of the Druid with rather shorter springs. The saddle position is very low without using a dropped top tube, the height from the ground with the rider's weight in the saddle being about 28in. The Albion clutch hub and fixed gear are also supplied. The steering head is made from one piece of metal, instead of having the lugs brazed to a tube in the ordinary style.

6 h.p. MODEL: 76 × 85 mm.; side by side m.o.i.v.; B. and B. (variable jet) carburetter; belt; Albion two-speed hub or free engine.

The twin cylinder is specially suitable for sidecar work, and is designed for that purpose. This machine has handle start-

ing. All the models have the new Bosch water-proof magneto, and are finished in grey, wheel rims plated and lined green, which gives them a very pleasing appearance.

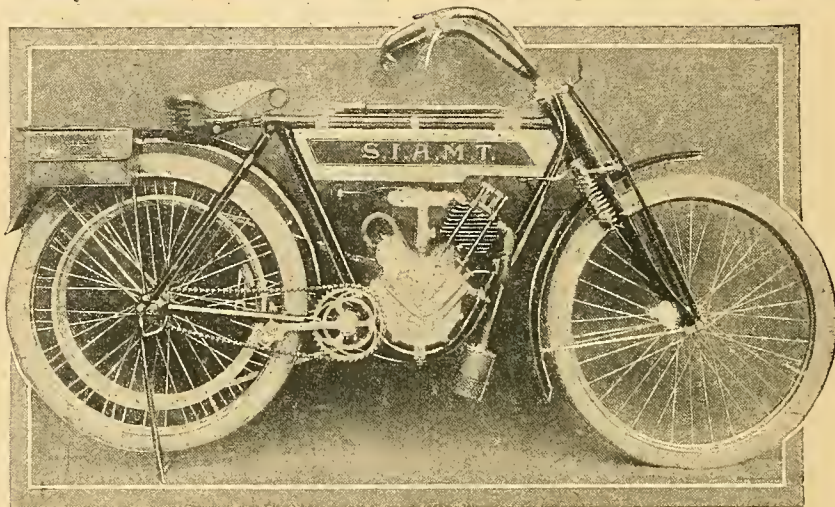
3½ h.p. MODEL (racer): 90 × 77.5 mm.; side by side m.o.i.v.; C.A.P. carburetter; belt.

This machine follows the lines of that previously described, but has no mud-

supplied with this machine, while a specially strengthened lamp bracket is worth inspection.

2½ h.p. MODEL: 70 × 76 mm.; side by side m.o.i.v.; B. and B. carburetter; belt.

This model is fitted with Druid spring forks. The engine is the well-known Precision. The magneto is carried in front, and is provided with a guard to



The new S.I.A.M.T. This mount, which is of Italian origin, can be supplied with Druid spring forks as shown.

guards or carrier. The forks are rigid, and the handle-bars, of course, differently shaped. The weight comes out at about 150 lbs.

TORPEDO, No. 67.

3½ h.p. MODEL: 86 × 86 mm.; m.o.i.v.; B. and B. carburetter; belt.

F. HOPPER AND CO., LTD., Barton-on-Humber.—One of these models is fitted with a two-speed gear and free engine in the rear hub, controlled by a pedal mounted on the footrest. In the case of this model the cylinders are held in place by swing bolts which considerably simplify their removal. The magneto is carried in front, and is protected by a guard. A practical type of spring fork, allowing a front brake to be fitted, is

protect it from wet. One of the 2½ h.p. machines shown is fitted with a free-engine clutch in the rear hub.

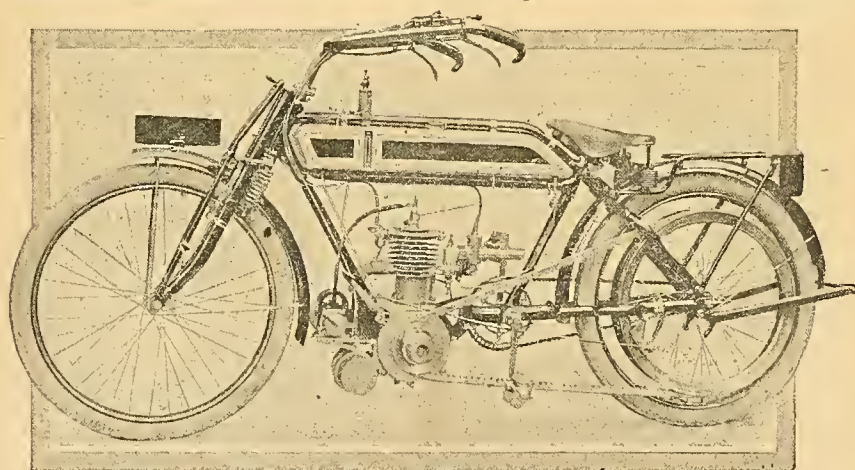
STUART, No. 62.

2½ h.p. MODEL (Two-stroke): 71 × 75½ mm.; Amac carburetter; belt drive.

NYE AND CO., Gray's Inn Road, W.C.—This interesting machine was fully described in a recent issue, and forms one of the most attractive features on Messrs. Nye's stand. The two-stroke engine unit merits the closest inspection, as it is full of interest. The Stuart engine unit is also shown separately.

S.I.A.M.T.

The successful little S.I.A.M.T. is one of the most interesting lightweights which is to be seen in the exhibition. Its engine (68 × 72 mm.) is a distinct departure from the standard. The whole of the various details were fully described and illustrated in a recent issue; therefore a brief mention of one or two of the more recent additions will suffice. In connection with the overhead valves, stops are provided to prevent a broken valve from falling through into the cylinder, while recesses are made in the cone joint formed by head and cylinder (in the cylinder itself), also with this intent. The top of the piston is hollow, and when the head is removed and the piston is at the top the resultant space is cup-shaped. It is easy, therefore, to clean off any carbon deposit which has formed without dismantling the engine. The exhaust port is of ample dimensions. All control wires terminate in loops or eyes, wider at one end than the other, and so arranged that it is only necessary to push forward the



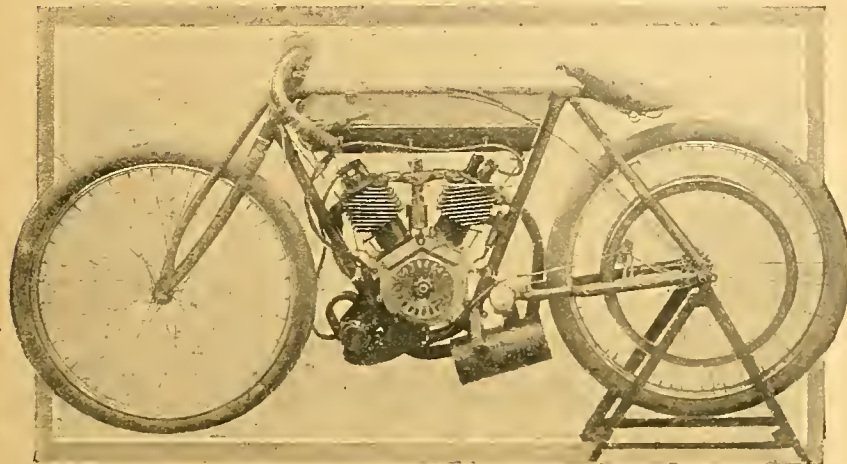
2½ h.p. two-stroke Stuart from the belt side. This interesting mount was described in our issue of Nov. 9th.

The Olympia Show.—

control stud to allow it to slip through the wide end of the loop, when it is required to detach the wire. The lever

the carrier and mudguard with the object of facilitating tyre repairs. Stands are fitted to both wheels, and Druid forks are standard. Both the engines are manu-

and force pump combined, which allows the oil either to be sent direct to the engine or permits it to flow into the cylinder at whatever rate the rider desires. A multiple disc clutch is now



The winner of the Mont Cenis Hill-climb—the twin-cylinder S.I.A.M.T. in its racing form.

carrying the belt rim brake shoe is forked at its lower end, the stud on which it works passing through the lever, which is held in position by a spring, with the result that to loosen the wire, one has only to detach the brake and the wheel may be withdrawn—a matter of a minute. The machine in general has been greatly improved in detail since we last saw it, and now thoroughly conforms to English ideas. A square-sided tank, good stand and carrier, a comfortable saddle, and other refinements are fitted, while Druid forks may be had if desired.

P.V.-J.A.P.

3½ h.p. MODEL: 60 × 76 mm.; side by side m.o.i.v.; B. and B. carburetter; belt.

The most interesting part of this machine is the rear springing described in last week's issue of *The Motor Cycle*. The rear portion is also on view as a separate exhibit. The complete machine is fitted with J.A.P. automatic lubrication, Chater-Lea spring forks, and wide footboards, under one of which a tool box is carried. The petrol tank is of ample capacity. The springing of the rear frame should be carefully studied, and it will be noticed that the top tube is neatly sloped away at the back. In addition to the above a 3½ h.p. Triumph motor bicycle with Mabon variable pulley gear and a 6 h.p. Enfield sidecar are to be seen on Nye's stand.

EDLIN. No. 143.

2½ h.p. MODEL: 76 × 65 mm.; overhead m.o.i.v.; B. and B. carburetter; belt.

EDLIN SONS, LTD., Sherlock Street, Birmingham.—This engine is shown in a temporary frame. It is fitted with an easy starting device which relieves the compression by means of a cam and lever. It is brought into action by rotating the valve tappet, which has an extending piece fitted through an angle of 90°. A frame, without an engine, of a suitable size to take the 3½ h.p. 86.4 × 85 mm. engine shows the manner of turning back

factured by G. H. Illston and Son, 67, Bishop Street, Birmingham.

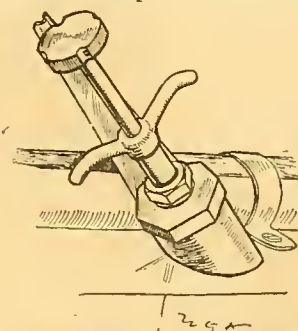
F.N., No. 126.

2½ h.p. MODEL: 65 × 75 mm.; side by side m.o.i.v.; F.N. carburetter; bevel gear; F.N. two-speed gear, sliding type.

THE F.N. MOTOR AGENCY, Great Portland Street, W.—This model, with multiple disc clutch, remains practically unaltered, with the exception that the mudguards have been strengthened and an improved type of carrier has been fitted.

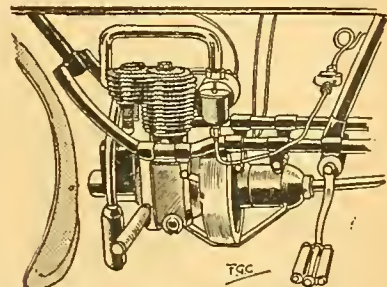
5-6 h.p. MODEL (Four-cylinder): 52½ × 57 mm.; exhaust m.o., inlet a.o.; F.N. carburetter; bevel gear, two speeds.

With regard to the four-cylinder, several useful improvements have been introduced for 1912, among which we may mention a semi-automatic lubricator

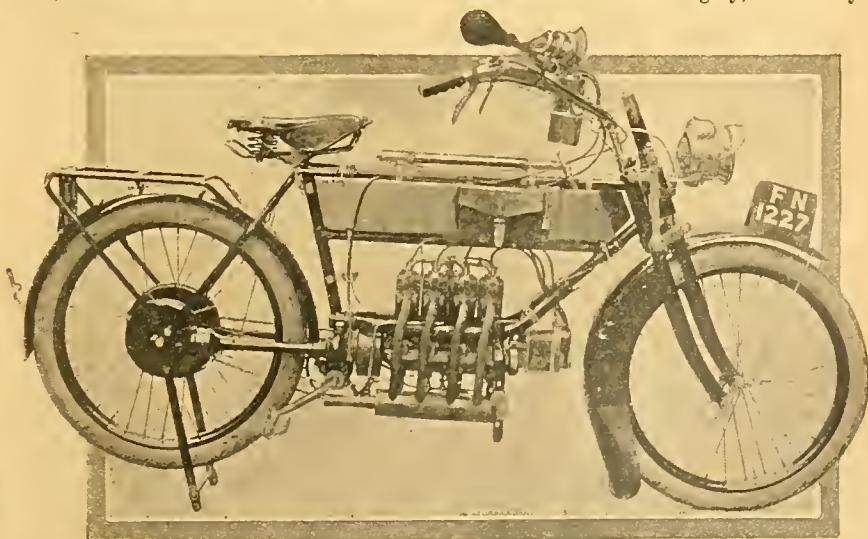


Combined hand and drip feed oil pump on the 1912 F.N.

fitted to this machine, and the magneto is of the self-contained type (that is to say, the distributor is not carried separately). The distributor is a very neat piece of workmanship, and is so constructed that wet is absolutely excluded. The whole magneto is entirely



The single-cylinder F.N. power unit, showing engine cradle. The petrol filter has a glass top, weather and oil proof. Side shields are fitted to the front mudguards, and an improved type of luggage-carrier is now attached. The most striking machine among the four-cylinders is one enamelled in French grey, while yet



Valve side of the 1912 model four-cylinder F.N. with disc clutch.

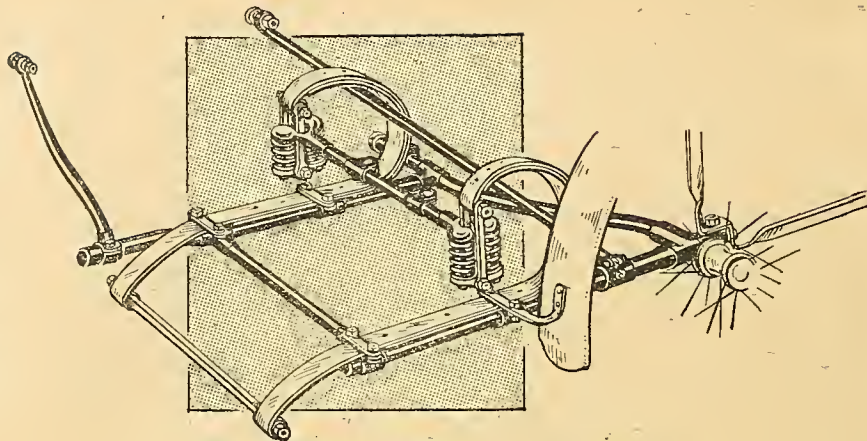
The Olympia Show.—

another of these is fitted with a sidecar and the F.N. two-speed gear, which is manufactured especially for the F.N. Agency by the Western Motor Co. of Bath. Two examples of both the four and single-cylinder engines are shown in section, so that the splendid workmanship may be clearly seen.

REX, No. 73.

4 h.p. MODEL: $84\frac{1}{2} \times 95$ mm.; side by side m.o.i.v.; B. and B. carburetter; belt; Rex two-speed gear; also with plate clutch and handle starting.

THE REX MOTOR MFG. CO., LTD., Earlsdon, Coventry.—The single-cylinder models have been re-designed for 1912, a



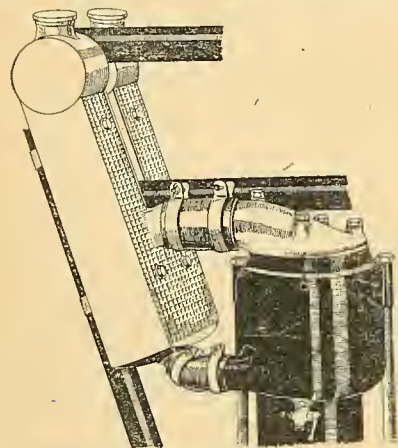
Showing the construction and springing of the 1912 Rex sidecar frame.

of the carrier. All the machines are fitted with the Rex spring cantilever saddle pin and the T.T. type of exhaust

worked by the rider's heel. The magneto is handle-bar controlled in all types. The inflator clips are brazed to the front forks.

6 h.p. MODEL: $75\frac{1}{2} \times 95$ mm.; side by side m.o.i.v.; B. and B. carburetter; Rex two-speed gear.

The principal features of the Rex twin, such as the tank, saddle, and efficient mudguards on the front wheel, wide rubber-covered footboards, etc., are the same as in the single-cylinder models. All touring machines are provided with a special bracket bolted to the head for carrying a generator. The T.T. twin is of the same dimensions as the above, but is single-gear and has a flat handlebar. One of the most interesting machines in the exhibition is the 4 h.p. water-cooled Rex. Except for the water cooling this machine is similar to the other single-cylinder model. The water-cooling system is particularly neatly carried out. Both outlet and inlet pipes are of ample dimensions, while the radiator is of the honeycomb type and should be particularly efficient. The circulation, of course, is on the thermo-syphon system. The water-cooled machine is fitted to a sidecar, the basket body of which calls for special comment. Its exterior lines are particularly graceful, and it is upholstered in Quaker grey-coloured leatherine. Pockets are provided on each side of the foot-

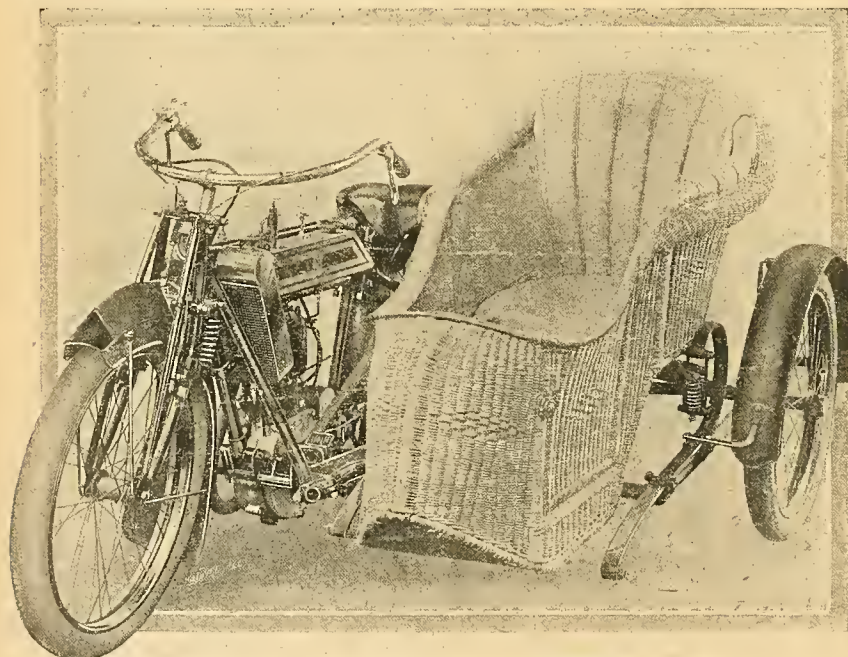
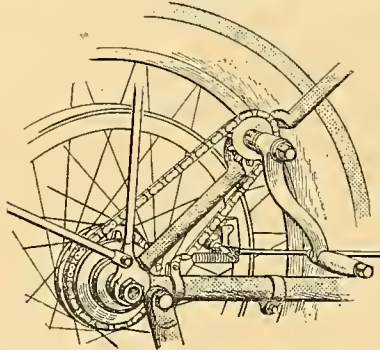


Arrangement of the water-cooling system on the 4 h.p. water-cooled Rex.

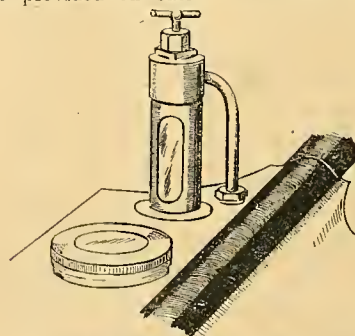
detailed description having already been published in these pages. The well-known two-speed hub gear remains unaltered. The starting handle is carried in a leather holster strapped to the side

Handle-starting device, consisting of a chain sprocket with clutch mounted on the right-hand back stay.

pipe, consisting of a long pipe extending to beyond the rear axle, the end of which is flattened. A cut-out is provided



The 1912 pattern 4 h.p. two-speed single-cylinder water-cooled Rex with sidecar.



The Rex sight drip-feed oiling system, also showing glass-topped filler cap.

board, while a high side door is fitted. The padding at the back is supplemented by springs, while upholstered rolls run along the side arms. The Sidette is also shown, the motive power of which is a 6 h.p. Rex twin engine. This machine is one of the most practical sidecar combinations in the exhibition.

The Olympia Show.—

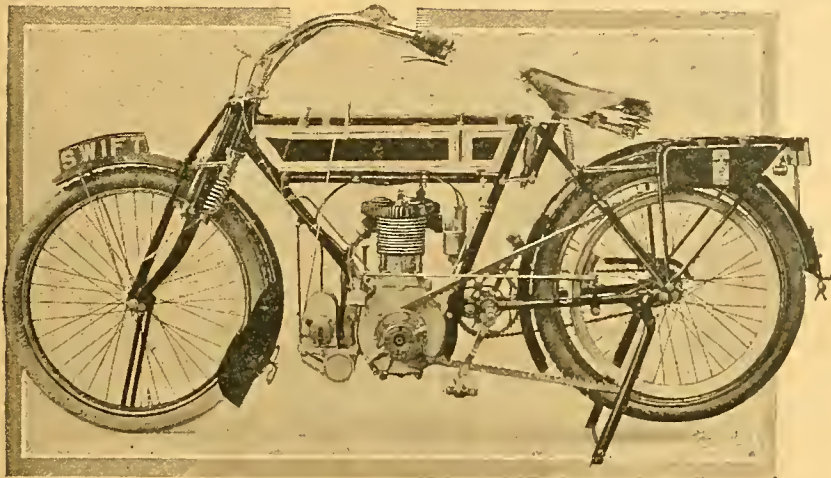
SWIFT, No. 41.

3½ h.p. MODEL: 85 × 85 mm.; side by side; B. and B. carburetter; belt; variable gear by expanding pulley.

THE SWIFT CYCLE CO., LTD., Coventry.
A Swift motor cycle is exhibited for the

United Kingdom for the Moto-Rève engine which is fitted to this model. These engines have a patent spiral piston ring. A machine with this engine is claimed to do 53 miles an hour on the road. Further models are the 4 h.p. with Moto-Rève engine, twin-cylinders 63 × 80 mm., m.o.i.v. overhead type,

machine, while a semi-circular piece clips over the end of the mudguard, preventing mud from being thrown back. These flaps may be folded back out of use when not required from the front wheel. A well-made sidecar frame is shown with tubular luggage carrier underneath. It is fitted with lamp bracket and Chater-Lea spring wheel. A sidecar stand for home use is made of cast iron, and is provided with two legs on which a cross member of the sidecar frame rests. The A.J. sidecar stand is designed to be clipped



The new Swift 3½ h.p. bicycle, with spring saddle pillar.

first time for some years. It is on standard lines throughout with a straight top tube. The magneto is situated in front of the engine and is protected by mudflaps on the front wheel guards. A neat ratchet cut-out is fitted, and the variable gear is controlled by a lever on the handle-bar. The gear consists of an expanding pulley, the outer flange being forced by a spring to take up belt slackness. For starting purposes a decompressor is fitted, and is operated by a pedal on the right-hand side. A neat front wheel stand is employed. This model can also be supplied with an adjustable pulley and fixed engine. Both types are fitted with pedaling gear. The variable gear mount shown is fitted with an ingenious spring saddle pillar, which can be fitted at small extra cost. The decompressor is similar to that fitted on the Ariel machines, and consists of a secondary exhaust cam, brought into action by the pedal referred to above.

WULFRUNA, No. 59.

1½ h.p. MODEL: 63 × 66 mm.; side by side m.o.i.v.; Amac carburetter; belt drive.

THE WEARWELL CYCLE CO., Wolverhampton.—In this model the magneto is carried at the rear, out of the way of the elements. Druid spring forks are fitted and a good stand and luggage carrier, while it is, in fact, a thoroughly practical lightweight. Two other models are shown fitted with Stevens engine—2½ h.p. 76 × 82 mm. and 3½ h.p. 85 × 88 mm. These models in the main resemble the type first described.

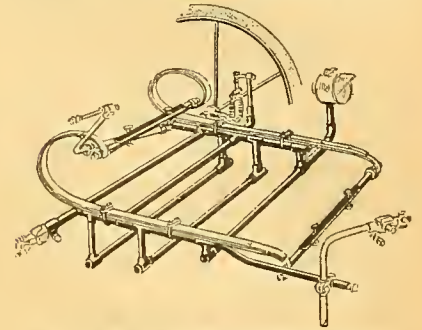
2½ h.p. MODEL: 67 × 85 mm. Moto-Rève engine; side by side m.o.i.v.; M.R. carburetter; belt drive.

A speciality is made of this particular model, and it is interesting to note that the company are sole agents in the

M.R. carburetter, transmission by belt. This machine is fitted with the Millennium hub gear. It is interesting to record that the 4 h.p. M.R. engine recently secured a world's record in France, doing 105½ miles in two hours, and beating the previous record set up on a 9 h.p. twin René-Gillet.

E.L.I., No. 54.

THE E.L.I. MOTON MFG. CO., Station Road, Bristol.—Several interesting accessories, including the E.L.I. mud shields, the invention of Mr. Eli Clarke, specially designed to protect the front wheel. The side shield is made of metal and lined with leather, and is strapped over the front mudguard. Additional side flaps are provided for very bad weather, which lie at right angles to the

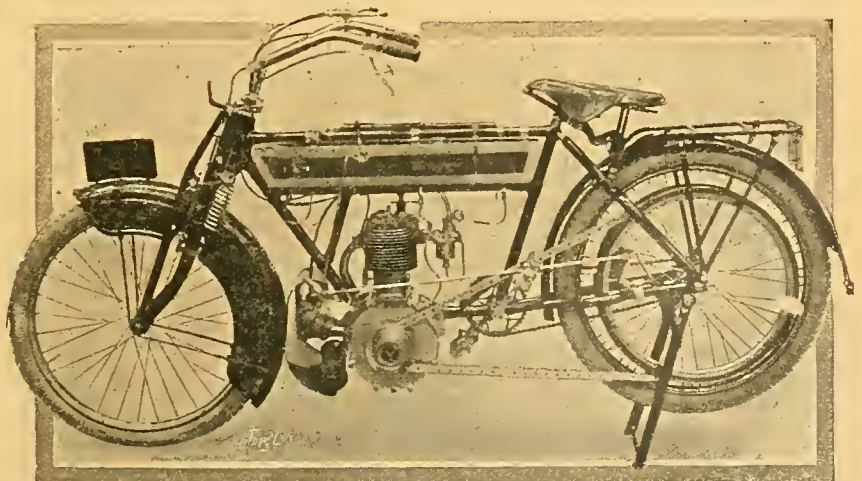


Chassis of Eli Clarke sidecar, showing extra tubes for carrying luggage, also form of springing.

on to the sidecar axle, when pressed down by the foot, and the sidecar pulled towards the rider, the combination is jacked up. There is no necessity to disturb the passenger. This is the invention of Mr. A. J. Sproston. There is also a new type of link motion spring fork, and a 3½ h.p. E.L.I. motor bicycle fitted with Precision engine. This machine has a B. and B. carburetter, belt transmission, and 2½ Dunlop tyres. The engine has mechanically operated side by side valves.

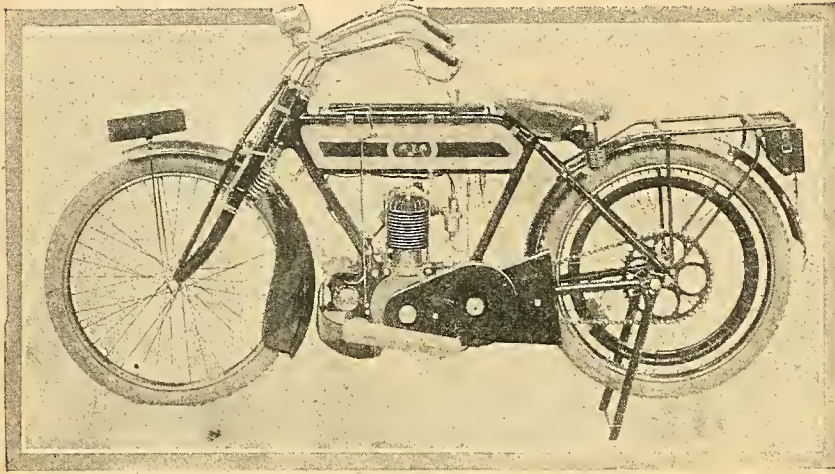
COMFY SIDECAR, No. 96.

J. WARD, High Road, Leytonstone, E.—Three types of Comfy sidecars are shown on this stand, all attached to Zenith-Gradua machines. The sidecar is sensibly designed. All tubes are telescopic and adjustable, and a folding stand is placed adjacent to the sidecar wheel, enabling the latter to be jacked up. The body is mounted on comfortable C springs, so far the most successful type.

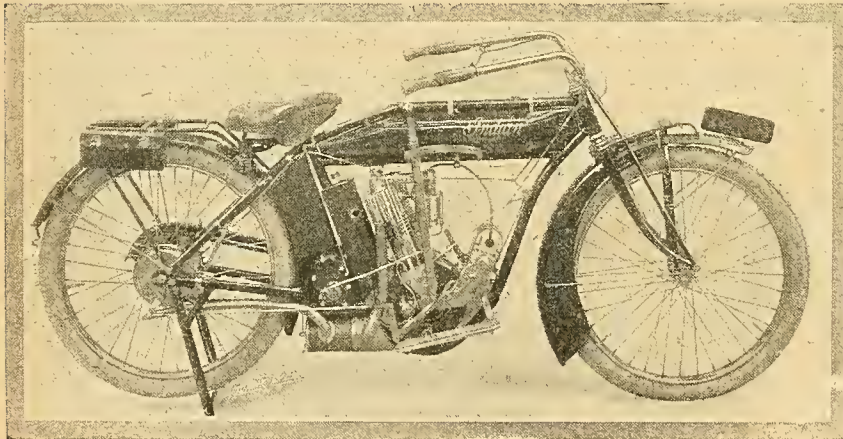


3½ h.p. 1912 model Wulfruna. The 2½ h.p. model is similar in design.

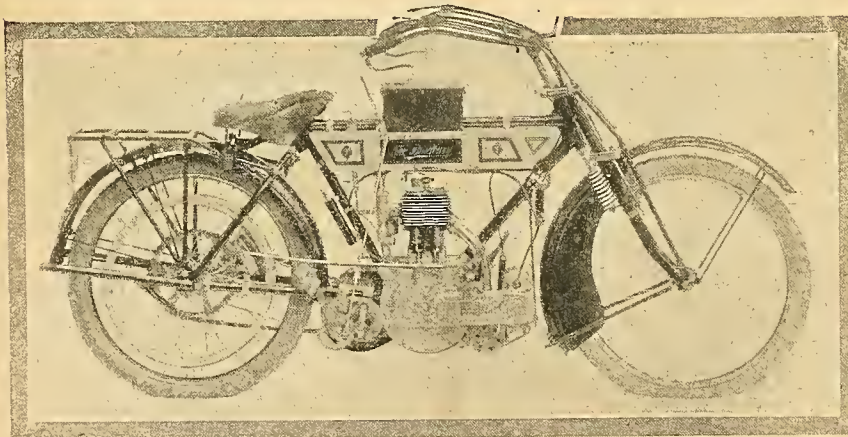
Single-cylinders, Chain-drive, Counter-shaft Gears.



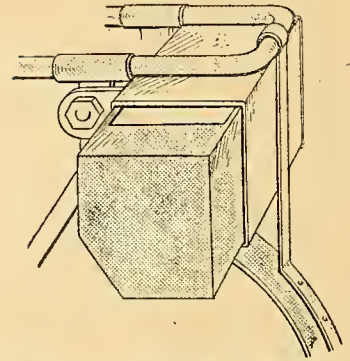
2 1/2 h.p. A.J.S. chain-driven two-speeder



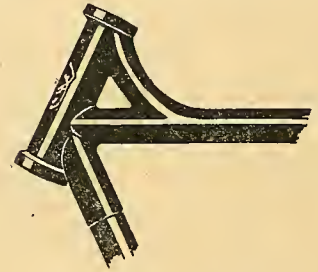
3 1/2 h.p. two-speed single-cylinder Indian.



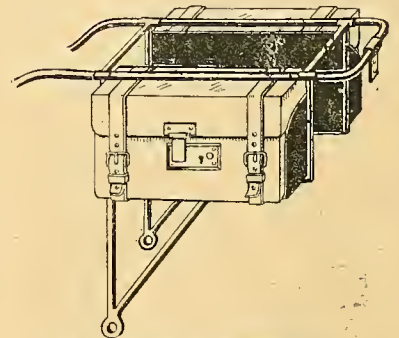
The new 3 1/2 h.p. Bradbury, with chain drive and counter-shaft two-speed gear.



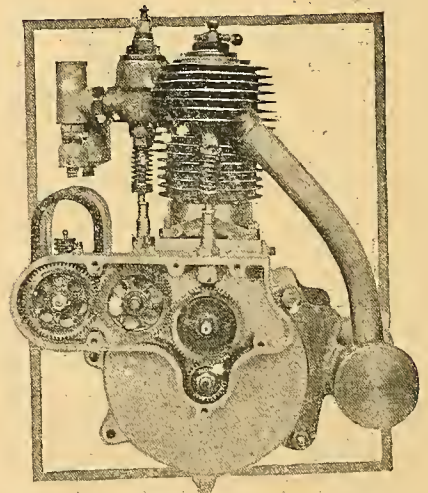
Steel cased toolbox, number plate, and mudguard stay on the new A.J.S.



Design of Douglas steering head.

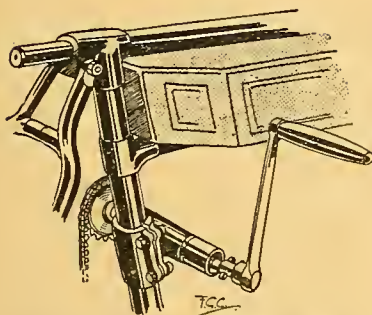


B.S.A. metal supports for pannier bags.

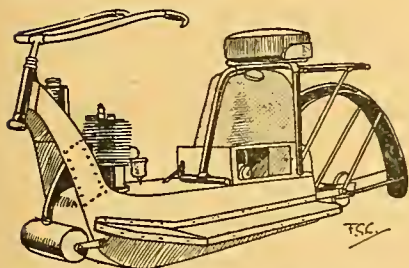


3 1/2 h.p. Quadrant engine showing timing gear and magneto drive.

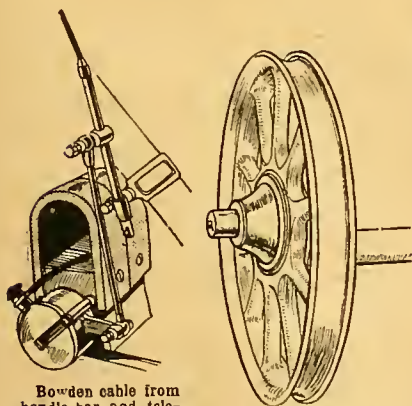
Passenger Machines at Olympia.



Engine starting handle affixed to seat tube of the Enfield sidecar twin.

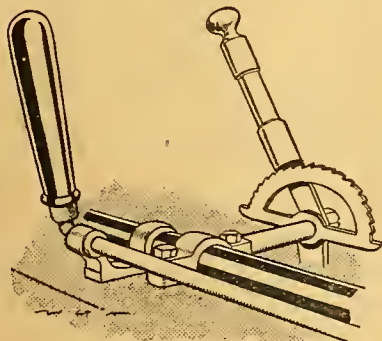


Showing construction of the frame of the new open frame 350cc, one of the most notable departures from standard design at Olympia.

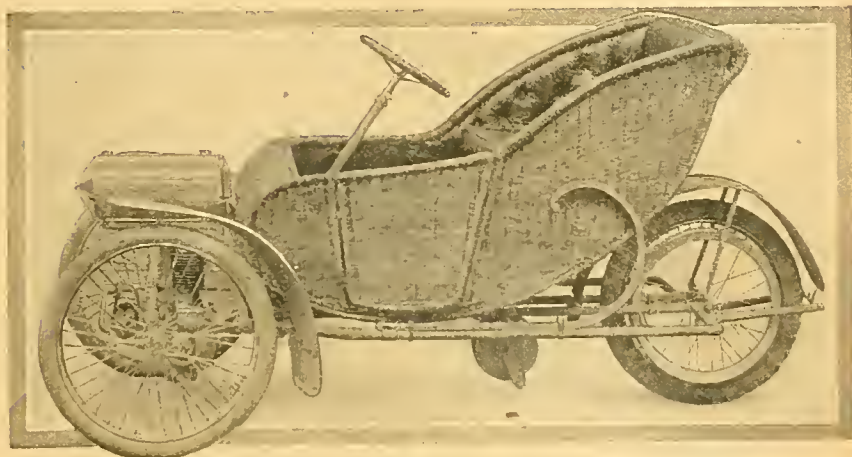


Bowden cable from handle-bar and telescopic rod operating the contact breaker on the Calthorpe.

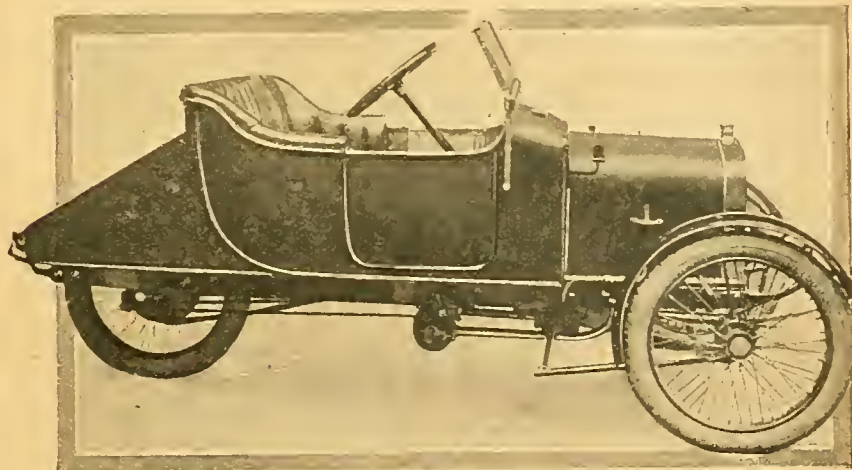
Sankey steel detachable wheel fitted to the A.C. de Luxe model sociable.



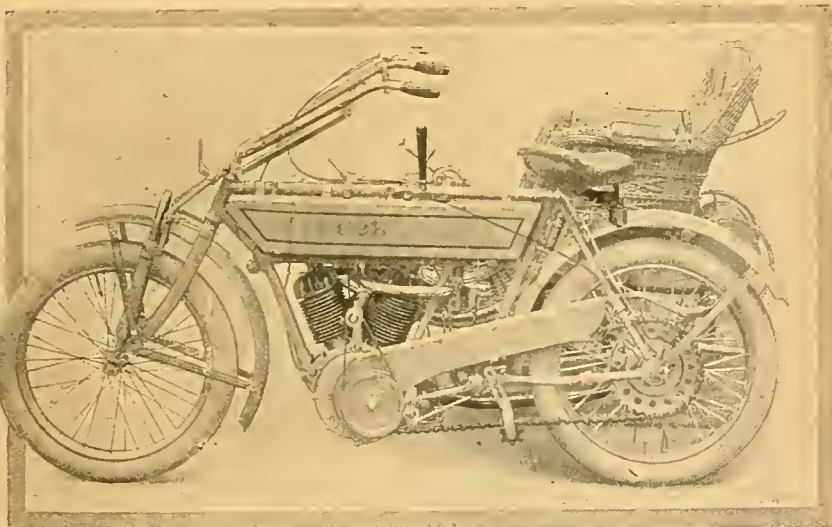
The 7 h.p. Puch sidecar gear and clutch levers on top tube.



Probably the lightest two-seater on the market. The 4 h.p. cane-seated Antotrix.



Two-seater Tyseley sociable on the Bowden Brake Co.'s stand in the Gallery.



Puch two-speed chain-driven sidecar combination.

The Olympia Show.—

ERIC SOCIABLE, No. 98.

6 h.p. MODEL (Twin-cylinder opposed): side by side m.o.i.v.; Longuemare carburetter.

THE P. AND C. SYNDICATE, LTD., 82, Amptill Road, Bedford.—Quite the most attractive exhibit on this stand is the

gine—consequently the largest fins surround the parts which most require cooling. There are springs underneath the tappets to keep them up to the valve stems, so as to avoid clatter. The piston head is dome shaped, having a minimum amount of obstruction. The fixing of the gudgeon has been improved by the addition of a locking bolt provided with a

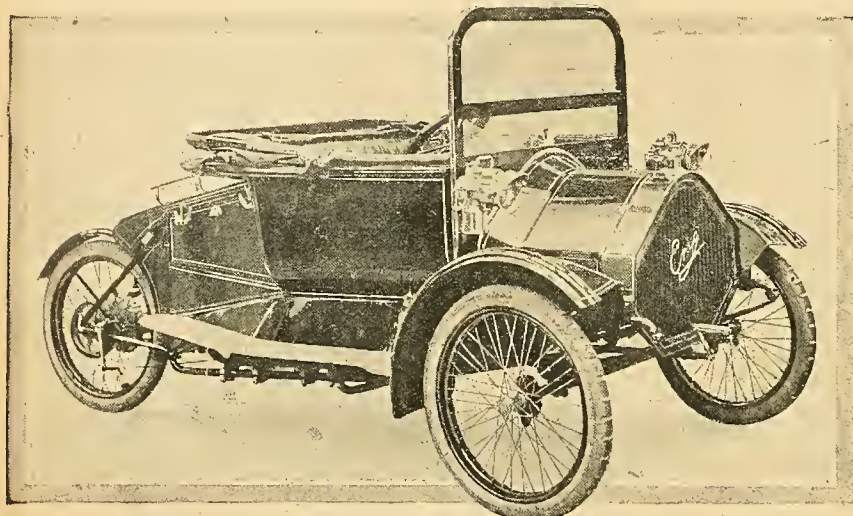
pedal is depressed the shoe adapts itself to the rim. Side shields to the front mudguards are fitted in all cases. A similar model is also shown with a disc clutch in the rear hub.

2½ h.p. MODEL: 66 × 79 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; also with Armstrong three-speed gear.

This machine is fitted with Druid spring forks, and is in other respects similar to the model described above.

3½ h.p. MODEL (twin): 66 × 80 mm.; overhead m.o.i.v.; B. and B. carburetter; belt; Millennium two-speed hub.

This engine was shown for the first time last year, with special connecting rod arrangements causing both cylinders to fire evenly. The radiating fins are cast horizontally with the ground. This and all other Premier models have the magneto set neatly behind the engine. The two-speed gear is controlled by a pedal mounted on the footrest. In the



The Eric sociable—a car on three wheels.

Eric Sociable, quite a novel type of three-wheeled vehicle which follows car lines. In front is a dummy bonnet and radiator, the whole of the mechanism being carried at the rear. The engine is placed just behind the driver's seat, is set transversely across the frame, and is of the twin-cylinder opposed type. The valves are horizontal, and are on the upper side of the cylinders. Immediately above the crank case the magneto is carried. Aft of the engine is a leather-to-metal clutch, while behind it is a three-speed gear box. The drive is by cardan-shaft. The forward end of this shaft is provided with a double universal joint, while at its rearward end yet another universal joint is fitted. The final drive is by bevel. The steering is by wheel, and the change-speed lever is in a gate. Sight-feed lubricators are placed in view of the driver on the dashboard. The body is provided with a high side door, Cape cart hood and wind screen. The steering is by chain and cable, the former passing round a sprocket at the bottom of the steering-shaft, the cables going from the chains to the steering arms.

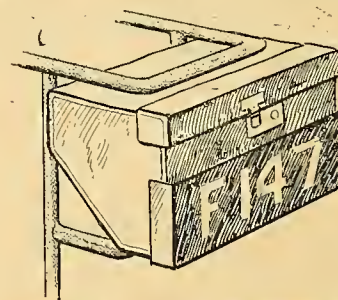
A 3½ h.p. Singer and a 3½ h.p. Zenith motor cycle are also shown on this stand.

PREMIER, No. 64.

3½ h.p. MODEL: 85 × 88 mm. side by side m.o.i.v.; B. and B. carburetter; belt; Millennium two-speed or Armstrong three-speed gear.

THE PREMIER CYCLE CO., LTD., Coventry.—The following are the chief Premier improvements for 1912. The diameter of the radiating fins decreases towards the lower portion of the cylinder, producing an appearance similar to the Gnome en-

Fastnut washer. The oil pump is fitted with a non-return valve. Druid instead of the Premier forks may be fitted if desired. Both tank stoppers are fitted with vents specially designed to prevent splashing. The rear mudguard is divided and held by a neat sort of clip and bolt, allowing the tyre to be exposed. These mudguards are specially wide in the case of the Millennium two-speed machine, so as to prevent mud being thrown on to the rider from the belt rims. On the single-cylinder models the brake is operated by one rod having a direct pull from the pedal lever. The brake shoe is pivoted on a stud fixed half-way up the arm which carries it, so that when the

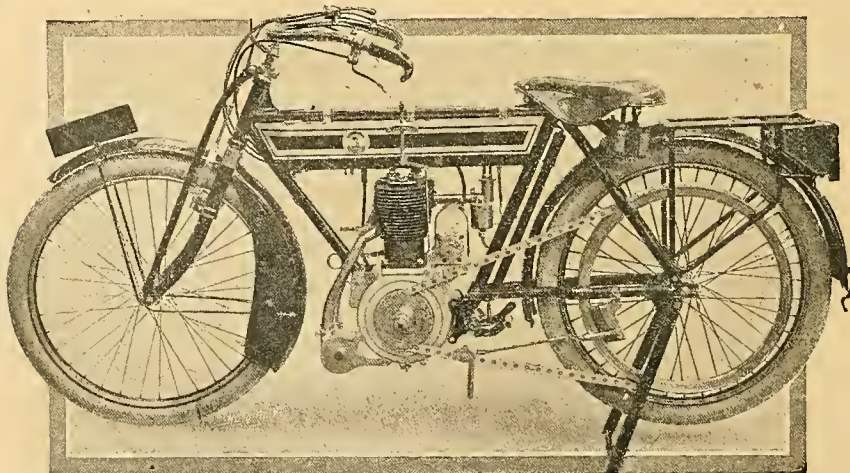


Premier toolbag and number-plate combined in rear end of carrier.

case of this machine both silencers are separate one from the other. The excellent finish of these machines calls for special comment.

PILOT, No. 56.

THE PILOT CYCLE AND MOTOR CO., Soho Road, Birmingham.—The Pilot Cycle Co. are showing some examples of their sidecars with rigid frame and bodies of various patterns.



Latest T.T. roadster rpattern 3½ h.p. Premier.

The Olympia Show.—

FORWARD, No. 95.

2½ h.p. MODEL: 56 × 70 mm.; side by side m.o.i.v.; Amac carburetter; belt.

THE FORWARD CYCLE AND MOTOR CO., Edmund Street, Birmingham.—This is a

cable or a system of links and springs. The chief object of this idea is that if it becomes necessary to use pedals, the boards may be lifted up with the toe, and will remain in a vertical position until they are required. The Browning folding sidecar is also an item of interest. To detach the sidecar it is only necessary

machine can be wheeled through a door way like a motor bicycle.

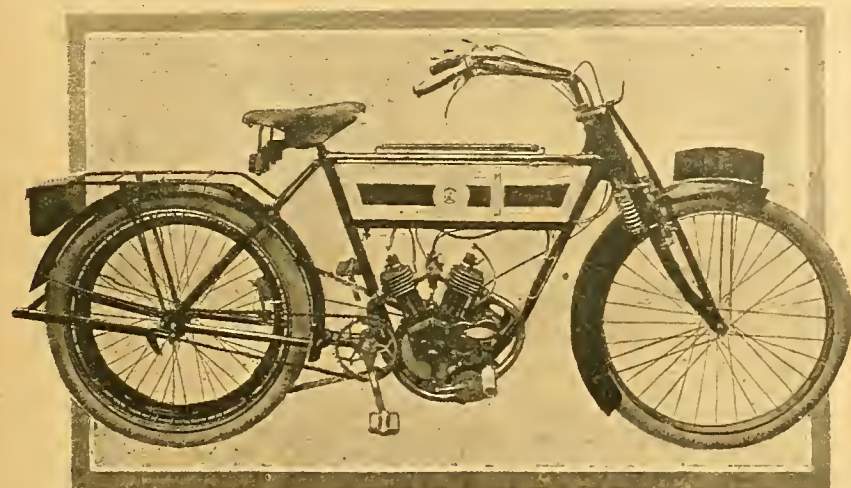
N.S.U., No. 104.

6 h.p. MODEL: 75 × 90 mm.; overhead inlet valves; belt; two-speed gear.

THE N.S.U. MOTOR CO., LTD., Great Portland Street, W.—The frame, which has the top tube dropped at the rear, has a specially strengthened head which is made of a steel stamping. The engine is carried in a loop, as in all other N.S.U. 1912 models. The rear portion is sprung, which improvement was introduced at the last Olympia Show. The engine has the radiating fins cast horizontally with the ground. Overhead mechanical inlets are fitted, the tappet rods of which are adjustable, while the exhaust valve spring is provided with a special adjustable cap which allows the tension of the spring to be varied and facilitates the removal of the cotter and the valve itself. The N.S.U. two-speed gear is of the type described in a recent issue of *The Motor Cycle*, and has an adjustable pulley. Foot-rests are provided. A model similar to the above is strengthened where necessary, making it specially suitable for sidecar work. In the case of this machine the rear spring is enclosed; this casing serves to lock up the rear spring portion, as it is not possible to employ it when a sidecar is fitted. If the machine is desired to be used as a single the casing may be removed by undoing four bolts. One of the sidecars shown has a large cylindrical tank at the rear carrying an extra supply of petrol. The sidecar has a wide wing of the car type and new front for the footboard to protect the passenger's legs from draught.

3½ h.p. MODEL: 85 × 88 mm.; overhead m.o.i.v.; N.S.U. carburetter; belt.

This machine is particularly suitable for solo riding, and is thoroughly up-to-date in every respect. The top tube of the



1912 pattern 2½ h.p. twin-cylinder Forward, which has a loop frame.

particularly neat-looking lightweight, which follows standard lines throughout. We may mention that the magneto is handle-bar controlled, and the machine is well equipped, Druid spring forks, a good saddle, stand, luggage carrier, toolbag, and reflex light being fitted.

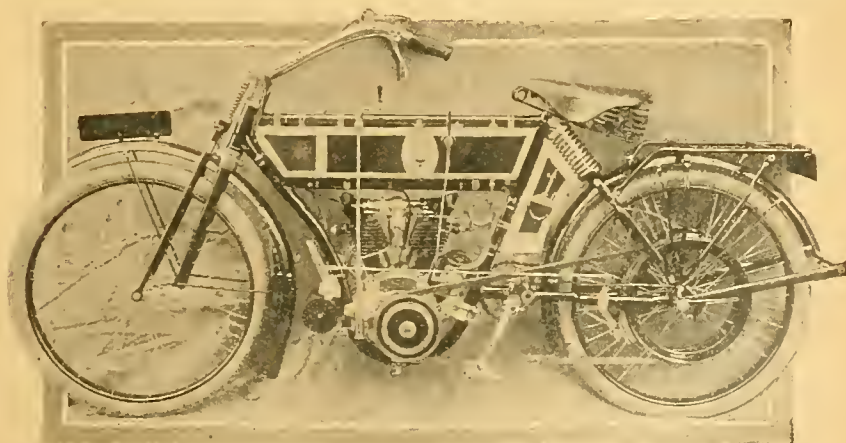
The mechanical features of the lady's model are the same as the above, but the chief point about the machine is the particularly neat way in which its working parts are enclosed. The petrol tank is carried in the top portion of the loop frame. The engine is entirely protected by a shield, the front and rear portions of which are open, and so designed that a strong draught of air impinges on the cylinders. The pedalling chain is carried in a gear case, and a proper skirt-guard is fitted over the rear wheel. This is one of the most neatly designed ladies' motor bicycles we have yet seen. Another gentleman's model shown is fitted with the Armstrong three-speed hub.

WIN-PRECISION, No. 16.

3½ h.p. MODEL: 85 × 88 mm.; side by side; B. and B. carburetter; belt; Villiers two-speed or Armstrong three-speed gear.

THE WINCYCLE TRADING CO., LTD., 106 and 107, Great Saffron Hill, London, E.C.—Two models of the Win-Precision motor cycle are shown—one of the fixed engine type, the other with two-speed and still a third, to which the Armstrong gear can be fitted at option. The frame and fittings are on standard lines throughout. A straight top tube is used, Druid forks, mud flaps on the front wheel, and a large shield is fitted over the Bosch magneto which lies in front of the engine. An ingenious foot-board is being shown which can be attached to the footrest quite simply. The rear end is suspended either by

to undo two locks under the foot of the sidecar body, and the latter with the springs still attached can be slid forward and lifted off, when it can be hung on the back of the machine or moved to a convenient spot. One of the front corners of the frame is then detached by loosening a spring clip attached to the front down tube of the cycle, and the front bar of the sidecar is then swung backwards and upwards on the rear bar until the sidecar frame has the appearance of



3 h.p. twin-cylinder N.S.U. with undergeared pulley. The bore and stroke are 58 × 75 mm.

a gate at right angles to the machine. The next movement swings the sidecar frame round on to a vertical pivot on the rear of the machine until it lies parallel against it. The wheel of the sidecar is then allowed to swing freely when it lies close and flat against the machine. When detached and folded the sidecar has a width of 7 in., so that the

frame is dropped at the rear and is sprung both fore and aft. The front forks have been slightly altered so that the clip of the spring under compression is used as a lamp bracket. The engine is provided with the same valve arrangements as on the twin just described, and as in all other cases the magneto is carried at the rear. The carburetter is the well-known N.S.U.

The Olympia Show.—

automatic type, which follows the lines of carburettors on motor cars.

3 h.p. MODEL (Twin): 58 × 75 mm.

This machine has the ordinary type of frame with straight top tube. The engine is fitted with the N.S.U. valve gear, which has been in use for many years and has proved its excellence, while an undergeared pulley is fitted.

2½ h.p. MODEL (Sidecar): 66 × 78 mm.; overhead i.v.; N.S.U. carburetter; belt.

The frame is of the ordinary type with straight top tube. The magneto in this, as in all other models, is neatly carried behind the engine. The inlet valve is the overhead mechanical type, and is arranged similarly to that of the 3 h.p. twin. The frame is sprung fore and aft. In all models where a two-speed gear is not fitted an adjustable pulley is provided. The large type of gear has an adjustable pulley incorporated with it, while the small type of gear remains as before. The N.S.U. two-speed gear may be fitted to all models. The machines are examples of the very best workmanship, design, and finish.

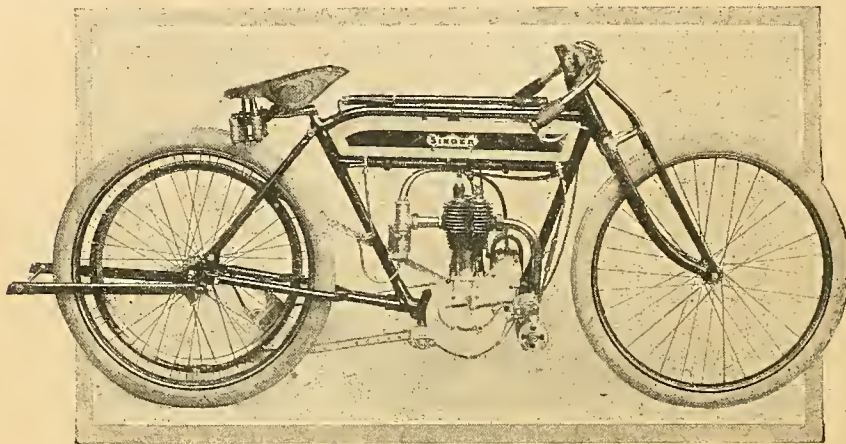
SINGER, No. 110.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; belt.

SINGER CYCLE CO., LTD., Coventry.—The standard single-gear machine has undergone very few important alterations, those which have been made, however, being excellent detail improvements in every way. The magneto is in front of the engine, and is gear driven, the timing gear case being very neatly arranged and containing quite the minimum number of pinions. The exhaust lifter is also enclosed in this case. The frame is slightly dropped, and the tank is somewhat altered in design, a special feature of this being the fact that clips on the top tube are absent, the base of the tank being secured to platforms brazed on to the second tube. Another excellent feature which applies to all models is the handle-

bar control, which is furnished with an arrangement which entirely prevents the levers altering their position through vibration. These levers are entirely of

the gears are thrown into operation by dog clutches, the pinion teeth being always in mesh. The belt is taken from a large pulley on the right-hand side of



The 2½ h.p. Singer stripped for racing.

metal, and are unusually long. This model is made with single gear, either with a Villiers clutch hub or as a T.T. machine with dropped handle-bars and rigid forks in place of the usual Druids. In the free engine model the operation of

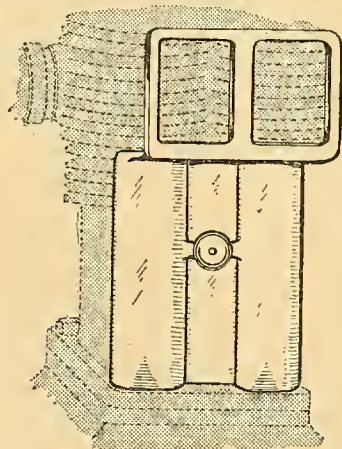
the box. A 2½ h.p. model is made with the gear arranged in a similar way. This machine has a bore and stroke of 69 × 80 mm., and is practically a reduced facsimile of the 3½ h.p., except that in the attachment of the tank the platforms are not brazed in position but are clipped. The 2½ h.p. machine is made either single-gear with a Villiers free engine hub only or with the Singer two-speed gear.

A late arrival on this stand was the new lady's model, which was fitted with a 2½ h.p. engine placed vertically in the frame, the magneto being in front of the cylinder as in usual Singer practice. The machine is of very neat design, and has a very efficient guard over the belt to protect the rider's dress. A Villiers clutch is fitted in the rear hub. The Singer range is very enticing.

L.M.C., No. 81.

4 h.p. MODEL: 89 × 92 mm.; side by side; B. and B. or Amac carburetter; belt; Roc two-speed gear.

THE LLOYD MOTOR ENG. CO., LTD., Monument Road, Birmingham.—This machine was described in a recent issue, and needs no more than a general description here. It is constructed throughout to withstand the strains of sidecar work, and has a very workmanlike appearance. The two-speed gear and

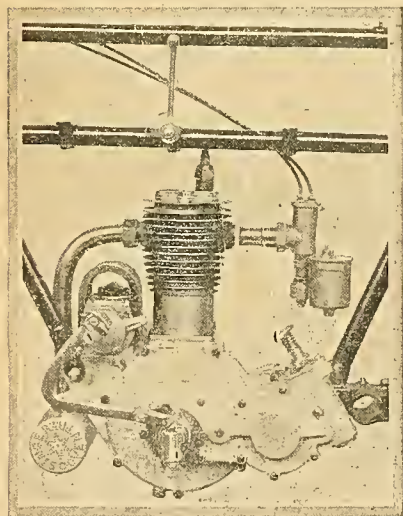


The combined valve cover and trouser guard on the 2½ and 3½ Singers.

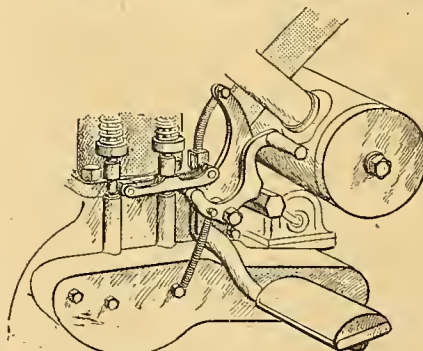
the clutch is carried out very neatly, while an excellent point is the fact that the belt rim spokes are reinforced with plates where they join the rim itself, thus making an extremely strong and rigid job. The silencer is fitted with a foot-operated cut-out.

4 h.p. MODEL: 88 × 88 mm.; side by side m.o.; B. and B. carburetter; gear and belt; two-speed Singer counter-shaft.

The 4 h.p. model is intended more especially for sidecar work, and as a full description of it has recently appeared in *The Motor Cycle*, it is unnecessary here to do more than touch upon its salient features. The general specification is the same as that of the 3½ h.p. model, except, of course, that the casting of the crank chamber is extended to enclose the counter-shaft gear box in which



New pattern 2½ h.p. Singer, showing two-speed counter-shaft gear.



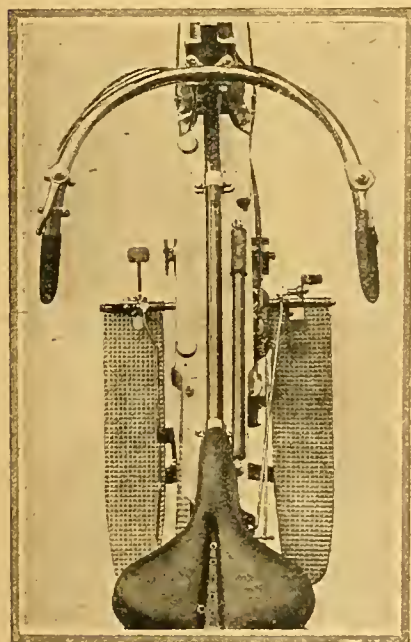
The L.M.C. pedal-operated exhaust valve-lifter

The Olympia Show.—

both brakes are operated by pedals placed on the long rubber-covered footboards. The spring forks have been re-designed, so that it is now a simple matter to withdraw the front wheel. The frame is on standard lines, but the tank has cut-away sides at the rear so as to avoid rubbing the legs. Mud-guarding is carefully carried out, with side flaps fitted to the front guard.

3½ h.p. MODEL: 85 × 88 mm.; side by side; B. and B. or Amac carburetter; belt; Auto-Varia gear.

This machine has undergone very few alterations for next year. As in the case of the 4 h.p., the spring forks have been improved. The Auto-Varia gear is too well known to need description. The silencer has been re-designed, and is fitted with an end plate to prevent



Plan of 4 h.p. "Sidecar" L.M.C., showing footboards and gear control pedals.

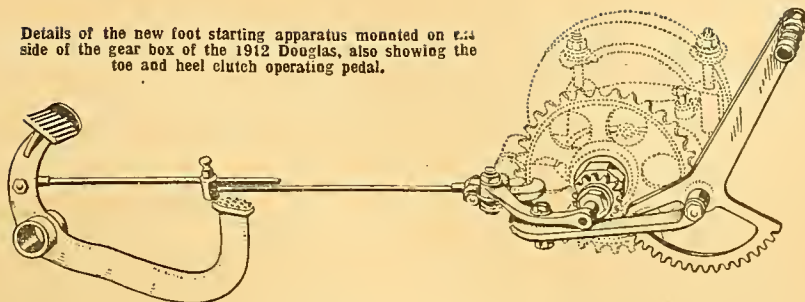
the exhaust gases impinging on the rider's foot or leg. This engine is also fitted to the Tourist Trophy type, and can be supplied either with fixed engine or a Roc type gear. In the case of the Tourist Trophy type, the footrests have been dropped to give a more comfortable riding position. A neat pedal-operated exhaust lift, as well as the usual hand control, is fitted to one of these machines, and the L.M.C. universally-jointed connecting rod used throughout. Other details will be found in a recent issue. Handle-bar magneto control is fitted as standard.

SERVICE, No. 129.

8 h.p. MODEL: 85 × 85 mm.; side by side m.o.i.v.; B. and B. variable jet carburetter; service belt; Roc hub two-speed gear.

THE SERVICE CO., High Holborn, W.C.
—This is one of the new models made by the Service Co. fitted with a J.A.P.

Details of the new foot starting apparatus mounted on the side of the gear box of the 1912 Douglas, also showing the toe and heel clutch operating pedal.



engine and Druid forks. The frame is on standard lines with top tube dropped at the rear. The arrangement of the exhaust pipes is distinctly neat. The finish is in grey, with blue panels on the tank. This model is suitable for sidecar or Colonial use. Two pannier toolbags are provided and a starting handle.

AUTOTRIX, No. 134.

4 h.p. MODEL: 85.5 × 85 mm.; side by side m.o.i.v.; Amac carburetter; two belts; variable pulleys on counter-shaft.

EDMONDS AND WADDEN, The Quadrant, Weybridge.—This sociable tricar has a light cane body upholstered in red. The engine—a J.A.P.—is placed in front immediately below the petrol tank, which is carried on a special bracket. The frame is light and simple in construction and the weight is about 280 lbs. A 650 × 65 mm. tyre is fitted to the back wheel. The front wheels are shod with 26 × 2¼ tyres.

3 h.p. MODEL: 85 × 85 mm.; side by side m.o.i.v.; Amac carburetter; chain; two-speed dog clutch on counter-shaft.

A more powerful tricar has a coach-built body. The J.A.P. engine is carried under the seat and fitted with a clutch on the crankshaft. The back wheel has a 700 × 80 mm. steel-studded tyre, the front wheels having 26 × 2½ motor cycle tyres. Platforms are provided at

the rear, on which luggage can be carried. Both machines have wheel steering; this is direct at present, but indirect steering will be fitted to the more powerful model. The engines are air-cooled.

3½ h.p. MODEL: 85.5 × 85 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; Villiers free engine hub.

Two models of the Brooklands are shown, one a roadster on standard lines with the magneto placed in front of the engine, handle-bar control, Druid forks, drop top tube, and pannier toolbags. The racing model has rigid forks and no mudguards. The ignition is by coil.

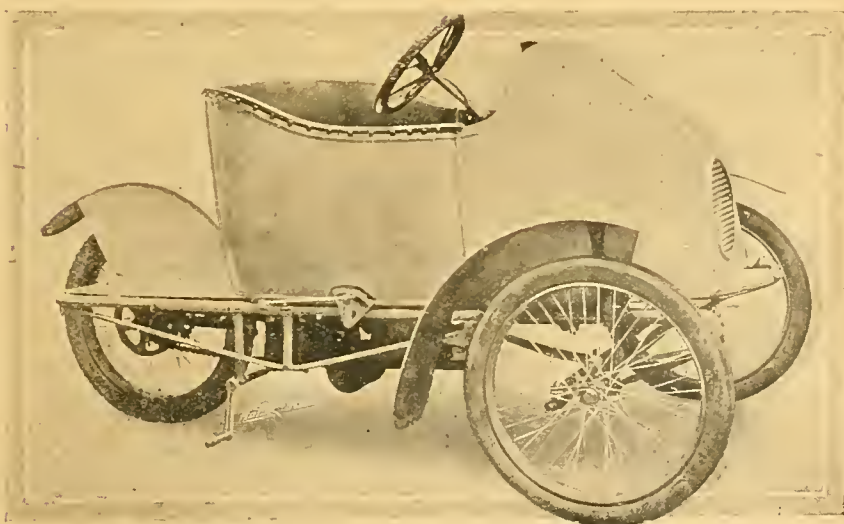
ELSWICK, No. 102.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; Eadie free engine.

ELSWICK CYCLES AND MFG. CO., Barton-on-Humber.—This machine follows standard lines throughout, having the usual type of frame with top tube dropped at the rear, Druid spring forks, Eadie free engine hub, Best and Lloyd lubricator, and Davison hinged filler caps are fitted.

2½ h.p. MODEL: 70 × 76 mm.; B. and B. carburetter; belt

The smaller machine is similar in most respects to the above as regards detail, except that the ordinary type of frame is employed. It is turned out ready for the road, fitted with covered magneto, luggage carrier, number plates, etc.



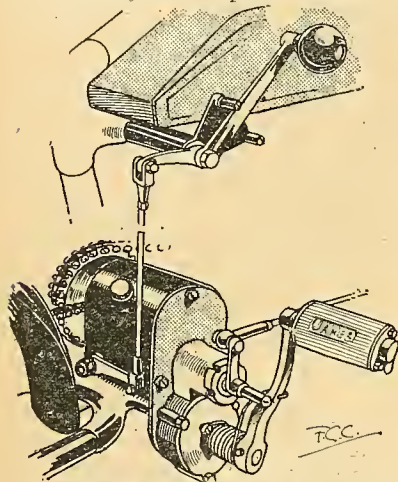
Autotrix sociable propelled by an 8 h.p. twin Jap engine through a three-speed gear.

The Olympia Show.—

JAMES, No. 69.

3½ h.p. MODEL: 86 × 96 mm.; side by side m.o.i.v.; B. and B. carburetter; chain; two-speed on counter-shaft.

JAMES CYCLE Co., Greet, Birmingham.—A two-speed chain-driven machine was among the late arrivals at the Show. It is fitted to a Canoelet sidecar, the whole turnout being very attractive. The foot starter is returned to its place by a spring; it can also be used as a footrest. The leather-to-metal clutch is controlled from the left handle-bar. The sidecar clips are brazed to the frame. The magneto is controlled by a lever on the tank, and is placed behind the

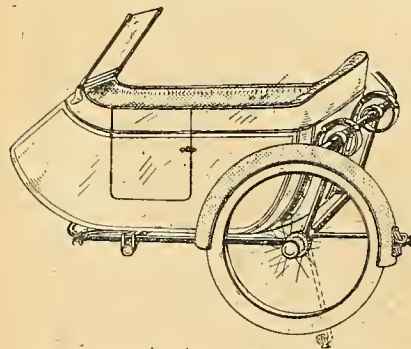


Countershaft gear and foot-starter on the 1912 James, one of the neatest units in the Show. The gear lever is now affixed to the tank tube as shown.

engine. The two-speed lever is carried on a lug brazed to the frame. The tyres are 2¼ in. studded, and the forks Druid pattern with curved lower links. A Lycett pan seat is fitted, and the front mudguard has side flaps. Other models shown have belt drive and fixed gear. They can also be fitted with two and three-speed gears, the latter either Armstrong or Sturmer-Archer.

CANOELET, No. 190.

MEAD AND DEAKIN, Sparkbrook, Birmingham.—The Canoelet sidecar, which we illustrated and described in our issue of the 9th inst., is to be seen on this stand. Three examples are shown, one attached to a Humber two-speed motor cycle, and a commercial body attached



The new Canoelet sidecar, showing the original method of suspending the body on leaf springs.

to a 5-6 h.p. Clyno. This body has no less than three separate partitions for carrying goods, as well as a place in the rear for petrol and oil. Thus the petrol is kept separate from any goods that may be carried. This body is interchangeable with the pleasure body, the chassis being the same in each case.

HUMBER, No. 40.

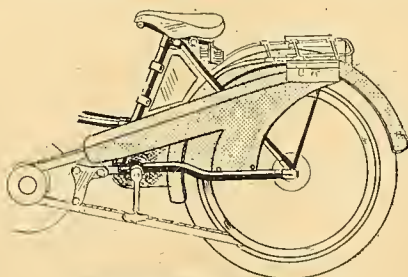
3½ h.p. MODEL: 84 × 90 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; Humber two-speed gear.

HUMBER, LTD., Coventry and London.

—The 3½ h.p. Humber engine has been re-designed for 1912 and now carries the magneto in a more convenient position behind the engine; the armature is driven by a train of gears. The frame has a dropped top tube, special type Druid forks and front wheel stand, and is fitted with rubber-covered footrests, from which the gear pedals are operated. The rearward portion of the back mudguard is hinged to facilitate tyre repairs, and the front guard is formed with side flaps extending slightly forward of the forks. The main portion of the petrol tank is formed from one piece of metal, and has a cylindrical oil tank let into it. The valves are operated by adjustable tappets. A half-compression device for easy starting is operated by a lever on the left handle-bar. This machine can be supplied with fixed gear and pedals or a free engine. Further descriptions of this model have appeared in our recent issues.

2½ (twin) and 2 h.p. (single) MODELS: 60 × 60 mm. and 60 × 70 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; Armstrong three-speed on both.

The engine of the 2½ h.p. model is identical with the winner of this year's Junior Tourist Trophy Race. It will



Dress-guard on the ladies' Humber.

be remembered that the cylinders are offset, and this feature applies to all Humber models. The position of mudguards, forks, frame, tank and magneto is similar to the 3½ h.p. model but on a lighter scale. A single silencer is fitted to the front of the engine and has a foot-operated cut-out on the left-hand side. This model can be supplied with free engine, Armstrong three-speed, or fixed gear. Pedals or double footrests can be fitted to any of these types at option.

The 2 h.p. single-cylinder lightweight remains exactly the same as before. A 2 h.p. lady's model is also shown, but this has only undergone slight alteration since it was last described in our pages.

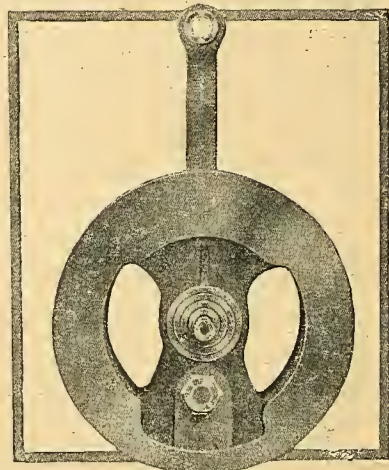
The Humber Co. are exhibiting a railway inspection trolley fitted with a 2 h.p. engine and driven direct by a single

chain. We hear this is for a special Argentine order. The company are also showing the actual mount on which P. J. Evans won the Junior Tourist Trophy Race and on which Sam Wright recently broke the Twin-cylinder Lightweight Hour Record.

QUADRANT, Nos. 93 and 94.

3½ h.p. MODEL: 85 × 88 mm.; inlet at rear and exhaust at side m.o.i.v.; B. and B. carburetter; belt.

"QUADRANT," Lawley Street, Birmingham.—The Quadrant engine is a distinct departure from the standard. The exhaust valve is at the side and the ex-



Method of balancing the Quadrant engine. The practice of cutting away the flywheel web, as shown, is gaining favour.

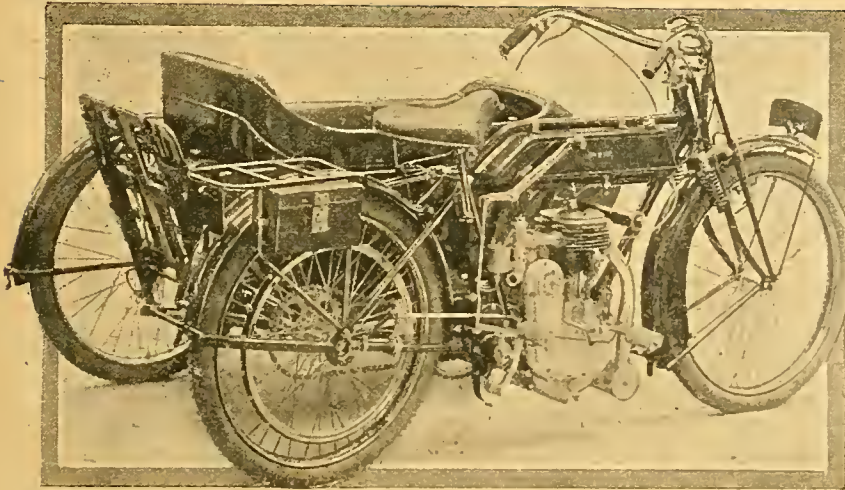
haust chamber is surrounded by deep radiating fins. The inlet valve is at the rear and without fins, the sparking plug being inserted above the inlet valve. The magneto is neatly placed behind the engine, well out of the way of the elements. A further feature of the engine is the clean and smooth exterior of the crank case. A small bore pipe conveys oil spray from the crank case to the combustion chamber. The down tube of the frame is gracefully curved, and the top tube is dropped away at the rear. The foot brake pedal is carried on a separate stud. Handle-bar control is provided to the magneto. One model is shown provided with the Armstrong three-speed gear, while on all types the design of the lamp bracket is worth inspection.

2 h.p. MODEL: 70 × 76 mm.; side by side m.o.i.v.; B. and B. carburetter; Villiers free engine hub.

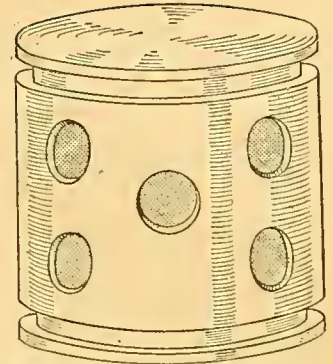
This is a particularly neat-looking machine, with gear-driven magneto placed behind the engine. Like most of the other models, it is finished in French grey, and is of a particularly pleasing appearance. Side shields are fitted to both rear and front mudguards. A separate belt rim is provided for the rear brake.

4 h.p. MODEL: 87 × 88 mm.

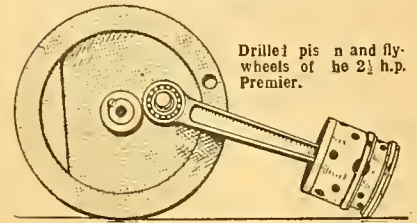
A 4 h.p. model is shown fitted with an Armstrong three-speed gear, wide petrol tanks, comfortable pan seat, and is a sensible touring mount of attractive appearance and excellent design. This machine is enamelled in black. A T.T. model is also shown.



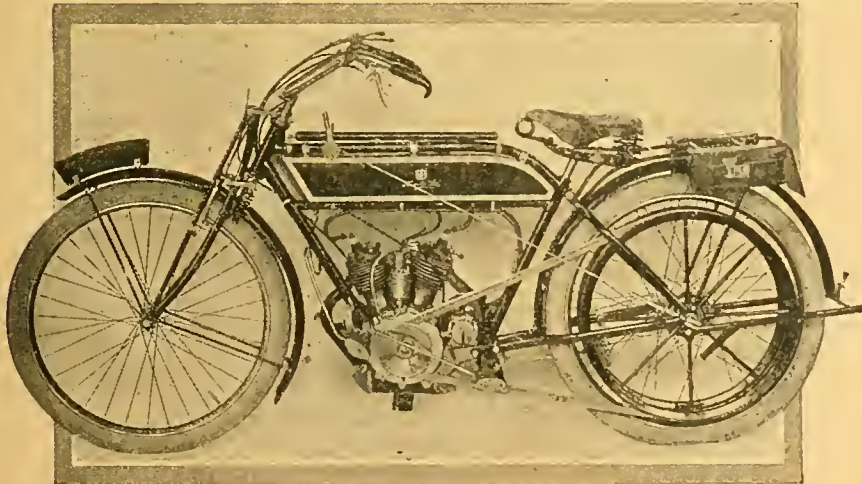
The latest two-speed James with Canoelet sidecar, one of the most attractive passenger models in the Show.



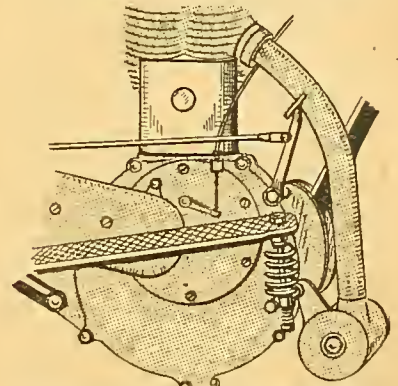
Quadrant drilled piston, which has a ring top and bottom.



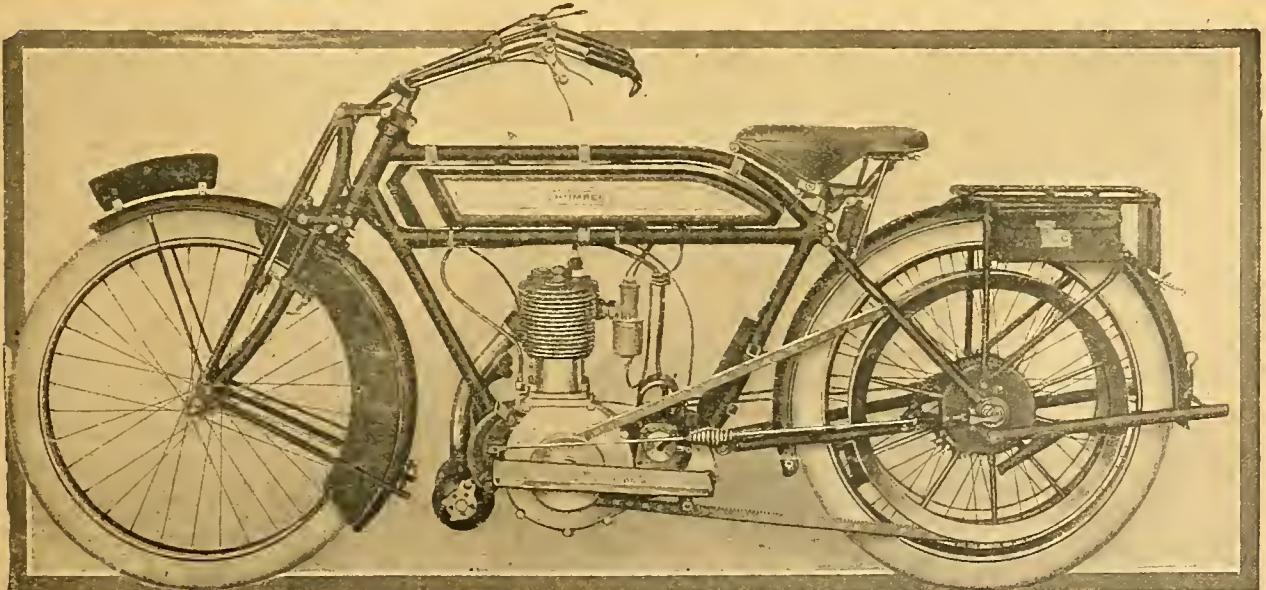
Drilled piston and flywheels of the 2 1/2 h.p. Premier.



Belt side of the three-speed 2 1/2 h.p. lightweight Humber.



Spring footboards as fitted to the 1912 Alldays. Observe also the valve cover.



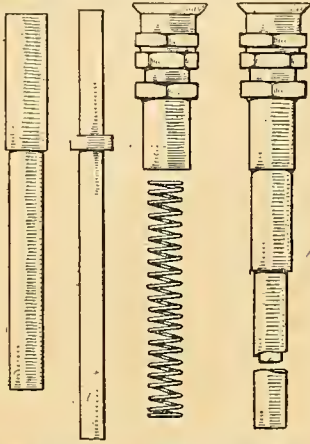
Belt side of the new 3 1/2 h.p. two-speed Humber.

The Olympia Show.—

TRIUMPH, No. 119.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; Triumph carburetter; belt.

TRIUMPH CYCLE CO., LTD., Coventry.—Motor cyclists have the choice of four different model Triumphs, each with the same power unit. These are (1) the free engine model, (2) the standard pattern with pedals, (3) the T.T. roadster with touring equipment, and (4) the T.T. racer.



Triumph adjustable spring tappet, shown dissected. In the new design the springs are enclosed.

The 1912 improvements, which are minor in character, have been already dealt with, but we may summarise the departures for next year. Amongst them may be cited the rounded top edge of the tank, which certainly makes a more enhanced appearance and cannot fail to give greater comfort for high speed touring; the spring fork, which is neater and undoubtedly a more efficient shock absorber; adjustable spring tappets; needle valves instead of petrol taps; new front brake; adjustable footrests, enabling a lower position for the foot. The sides of the belt pulley have a ring of round holes which considerably minimise the possibility of belt slip, especially in wet weather. The most novel feature is the new type of magneto advance, which is operated by a small pedal on

an extension of the left footrest, the connection requiring only a short rod. This distinctly original fitment seems to attract the show visitor more than anything else, and many are the discussions one hears as to its probable utility on lumpy road surfaces. The Triumphs, as usual, are among the best finished machines in the show, a veritable mass of glitter which seems to draw visitors like a magnet. Harry Long is there with his "40,000 miles in ten months" Triumph, and enjoys a chat with riders he met during his long travels.

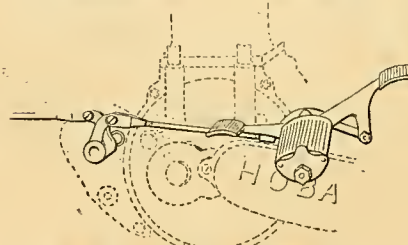
HOBART, No. 105.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; belt.

HOBART BIRD AND CO., LTD., Coventry.—The 3½ h.p. Hobart is a neatly-designed machine on standard lines with a dropped frame. It is fitted with Druid spring forks and Eisemann magneto, the latter being placed immediately in front of the engine, where it is driven by chain. Lubrication of the engine is of the automatic type, and consists of a Benton and Stone sight-feed drip lubricator, through which oil is drawn by the vacuum in the crank chamber. A Villiers clutch hub is fitted as standard to this model.

2½ h.p. MODEL: 70 × 76 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; Armstrong three-speed gear.

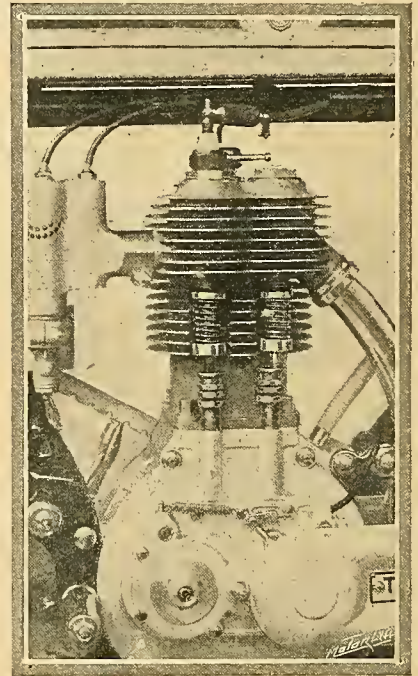
The 2½ h.p. Handy Hobart is a neat little machine on much the same lines



Hobart method of dividing clutch rod.

as the 3½ h.p., of which it is practically a reduced *facsimile*, except that it is fitted with a Best and Lloyd drip-feed lubricator worked by a spring plunger

pump. The saddle position is very low, and altogether the aspect of the machine is very neat and practical. It is supplied also with a fixed gear. Although rated at the same power, the ladies' Hobart has a different engine, which is 2 mm longer in the stroke and is placed in an inclined position. The requirements of ladies have been very well studied on this machine, as all the moving parts are covered in by easily-



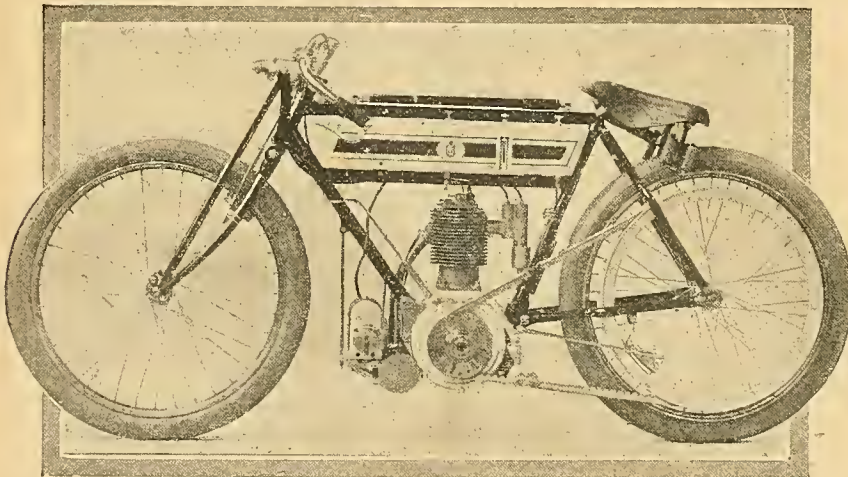
The Triumph power unit showing adjustable spring tappets.

detachable shields, which are secured in position by wing nuts. The saddle position is low, and a good point which ladies will appreciate is the fact that the width between the centres of the footrests is unusually narrow. This machine is fitted with an automatic Benton and Stone sight-feed lubricator. The three-speed Armstrong hub is operated by a lever at the side of the inclined petrol and oil tank, immediately behind the steering head. A new model for 1912 is a 4½ h.p. twin, the bore and stroke of which are 68 × 76 mm.; this is essentially designed to be a sidecar machine, and is fitted with the Millennium two-speed and free-engine clutch hub. A Best and Lloyd lubricator is used, otherwise the specification of the machine is the same as that of the 3½ h.p.

CALCOTT, No. 80.

2½ h.p. MODEL: 63 × 76 mm.; m.o.i.v.; B. and B. carburetter; belt.

CALCOTT BROS., LTD., Coventry.—This neat-looking little machine follows standard lines throughout, and it is interesting to note that the engine is manufactured by Messrs. Calcott Bros. at their own works. The magneto is carried behind the cylinder, and a simple and ingenious form of internal exhaust valve lifter is fitted. The spring forks are the well-known Druid. It is also



The 1912 3½ h.p. Tourist Trophy Triumph.

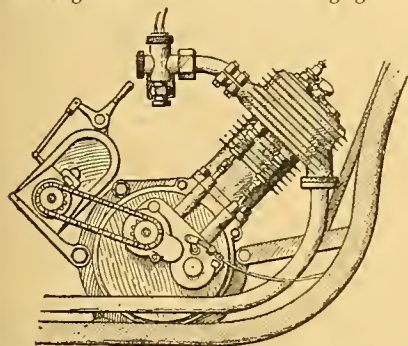
The Olympia Show.—

of interest to note that in this engine the firing point of the magneto is fixed. A spacious toolbag, which is flat, so that a bag can be strapped on it, is fixed to the luggage carrier.

WALL, No. 111.

4½ h.p. MODEL: 85 × 96 mm.; side by side m.o.i.v.; B. and B. carburetter; gear; two-speed Roc.

A. W. WALL, LTD., Hay Mills, Birmingham.—This firm may always be counted upon to provide something original. They now stage an improved form of sociable-seated tricycle. This has a very strong tubular frame, which is taken up in front to support the 4½ h.p. Precision engine. From the crank case of this is supported a casing in which is carried a bevel gear and also the pinion for the starting handle, the latter being geared



folded engine of the Wall commercial type tricycle.

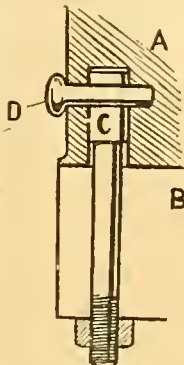
up in relation to the crankshaft. In contradistinction to the usual run of sociable tricycles, the Wall machine has one wheel in front and two driving wheels behind, these being carried on a neatly designed car type back axle fitted with a small differential gear, the final drive being by bevel pinion. The propeller-shaft has a universal joint at each end and is neatly encased. The body, which is most roomy and comfortable, is supported on long flat Cee springs. The machine is fitted with ball bearings throughout. On the same stand are

shown a number of the well-known Roc gears, which are already in use on so many machines in the Show. This gear works on the epicyclic principle and employs a pair of friction bands for the operation of the two gears.

SCOTT, No. 125.

3½ b.p. MODEL: 2½ × 2½ in., two-stroke; Scott automatic carburetter; chain; two-speed Scott counter-shaft gear.

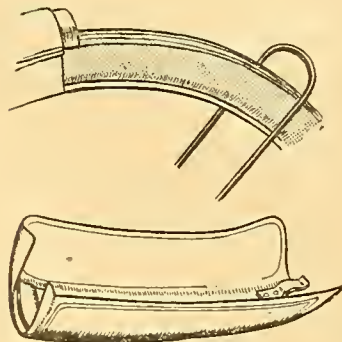
THE SCOTT ENGINEERING CO., LTD., Mornington Works, Bradford.—As the Scott 1912 improvements were very completely dealt with in our last issue, it is unnecessary to do more than touch upon the more salient points. The first of these is the re-designing of the engine, making the cylinders and crank chamber much neater. A very ingenious device has been introduced for allowing the quick detachability of the cylinders, it being only necessary now to slack off the four security bolts and withdraw four pins, when the cylinders come away clear. The bore of the engine has been slightly increased. The two-speed counter-shaft gear has been improved in detail, and is now furnished throughout with ball bearings, even the wedge bar operating the clutches being also fitted with roller thrust blocks. The mudguarding on this machine leaves little to be desired. The side flaps on the front guard are utilised as number plates. This part of the guard is also detachable to allow the front tyre to be easily got at. The carburetter has been refined in several details, the springs for the return of the air and throttle valves being now housed in tubular brass cases.



Clever method of securing the Scott cylinders to the crank case. (See page 1220 last week.)

A cylinder.
B crank case.
C Bolt. D Pin.

The standard colour of Scott machines is a very pleasing shade of purple, and



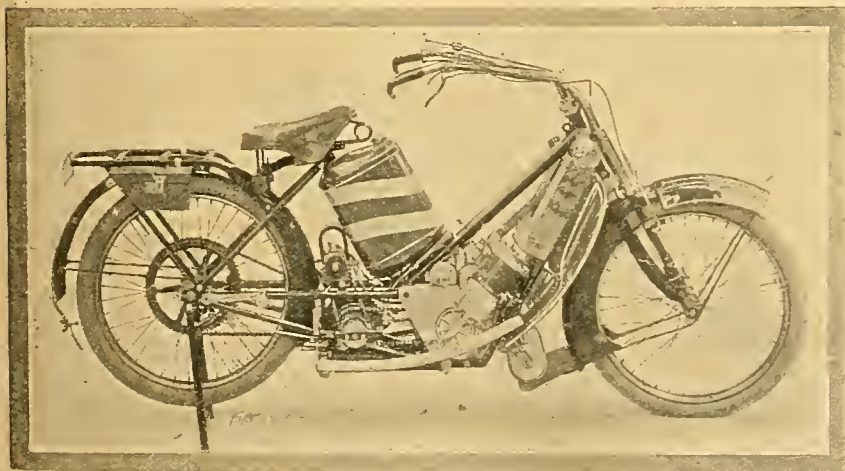
Scott detachable front number plate, shown upside down in the lower sketch. The upper one shows the spring mudguard stay and tongue of the fixed guard.

it need hardly be said that they represent some of the finest workmanship to be seen at Olympia. It will be difficult to get a Scott next year, judging by the order list we have seen.

ALCYON, No. 85.

2 h.p. MODEL: 47 × 72 mm. twin and 62 × 82 mm. single; fore and aft m.o.i.v.; Alcyon-Claudet carburetter; twin-cylinder, gear and chain; single-cylinder, belt.

G. N. HIGGS, Vauxhall Bridge Road, S.W.—The twin-cylinder model is quite an interesting mount. The cylinders are placed vertically side by side, the exhaust valve facing forward to enable it to receive the full benefit of the cooling draught. The two cylinders are connected by one branch exhaust pipe which leads into the main exhaust pipe. On the near side, and cast with part of the crank case, is the gear case containing the gear drive to the counter-shaft. On the counter-shaft inside the gear case there is a plate clutch put into operation by a lever on the top tube. By lifting a ratchet on the chain sprocket the pedals are connected to the engine, so that they may be used to start with the back wheel on the ground. By putting the ratchet into engagement the pedals and the rear wheel are connected by means of the chain, so that the pedals may be used for assisting the engine if necessary. The timing gear is on the off side. The finish of the engine is particularly good. Bowden actuated rim brakes are fitted, but in the near future a belt rim brake will be used. The machine is made to conform absolutely to English ideas, and is fitted with tapless oil pump, a capacious tank, carrier, tool bag, Alcyon spring forks, and Hutchinson tyres. The single cylinder machine is similar in most respects to the twin. The foot-rests fitted to both models are so arranged that the portion on which the rider's foot is placed can be folded away if not required. The 1912 Alcyons have not been placed on the market until they have been thoroughly proved, and the whole of 1911 has been devoted to this purpose. The recent track performances of this make of machine in the hands of Mr. N. D. Slatter fully justify the efforts Mr. Higgs has made towards its perfection.



1912 model two-stroke Scott, the improvements in which were detailed in our last issue.

The Olympia Show.—

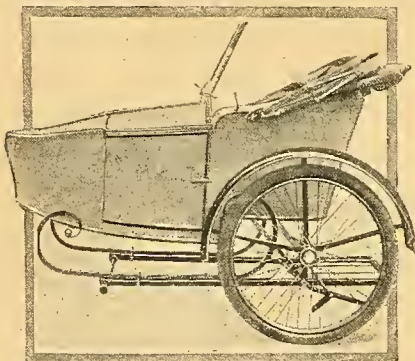
CORAH, No. 132.

3½ h.p. MODEL (Tourist): 85.5 × 85 mm.; side by side m.o.v.; Binks carburetter; belt; Albion two-speed hub.

THE CORAH MOTOR MFG. CO., King's Norton.—This machine is fitted with Corah patent forks. The magneto is placed on a bracket in front of the engine, protected by an aluminium guard. The carrier is easily detachable to facilitate the mending of punctures. The Albion free-engine clutch or fixed gear can be had as desired. The handle-bars are quite novel, the Bowden wires being partly inside, and adjustment being provided for them at two points.

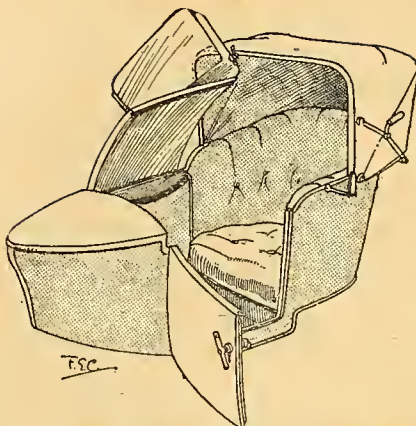
3½ h.p. MODEL (T.T. Racer): 90 × 77.5 mm.; overhead valves; C.A.P. carburetter; belt.

This model can also be had with the same engine as is fitted to the tourist machine. Aluminium footrests with rubber studs are provided. There being no carrier, the toolbag is placed over



The Turner sidecar. It is being exhibited on the Corah stand.

the tank, and knee grips are fitted. All models have both front and rear stands, and reflex lights are fitted as a standard. The firm is also showing a sidecar with a Turner body on a Corah chassis. There are C springs both in front and rear, and the body is fitted with hood and



The Turner coach-built sidecar with folding top, door, hood, and screen.

screen. This body is illustrated on this page.

4½ h.p. MODEL (Sidecar): 80 × 93 mm.; side by side m.o.v.; Albion two-speed hub.

This machine, designed for sidecar work, is to be seen outside the Show, and is used for demonstration purposes. The general lines are as already described.

HAZLEWOOD, No. 43.

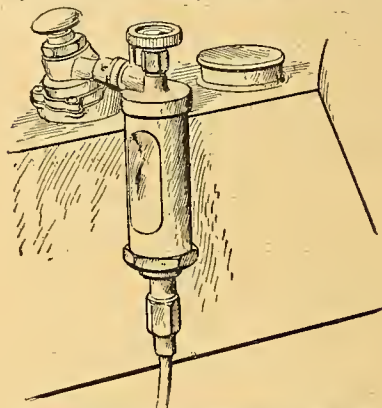
2½ h.p. MODEL: 70 × 76 mm.; side by side; B. and B. carburetter; belt; Armstrong three-speed gear.

HAZLEWOODS, LTD., West Orchard, Coventry.—This machine is quite a new departure for the Hazlewood Co. It is fitted with a 2½ h.p. J.A.P. engine. The machine is on standard lines throughout, having a dropped top tube, Druid spring forks, kick up stand and strong carrier. Great attention has been paid to the brake gear, which is very strongly carried out, the rear foot brake rod being fitted with a support, which is also used as a stop for the spring pushing the shoe out of action. The magneto is situated high up behind the engine, and is consequently well protected from mud. This machine can be supplied with a fixed gear and adjustable pulley. Both models are fitted with pedal gear.

ALLDAYS AND ONIONS, No. 38.

3½ h.p. MODEL: 85 × 88 mm.; side by side; B. and B. carburetter; belt; Roc two-speed gear.

ALLDAYS AND ONIONS PNEUMATIC ENG. CO., LTD., Matchless Works, Birmingham.—The Alldays machine, which was described in a recent issue, has several minor improvements compared with the 1911 model. A drop top tube is employed, aluminium footboards are sprung from the front end, and the magneto is carried behind the engine well out of the mud and dirt. A good feature of these machines is the simple detachment of the front brakes, rendering the front wheel very easy to remove. The model shown to us



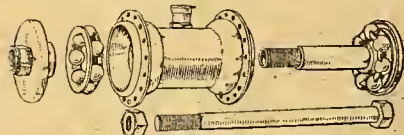
The Alldays' sight-feel adjustable oiler and hand-pressure pump.

is fitted with a new Middlemore back rest. This machine can also be supplied either with free engine or fixed gear and pedals.

B.S.A., No. 122.

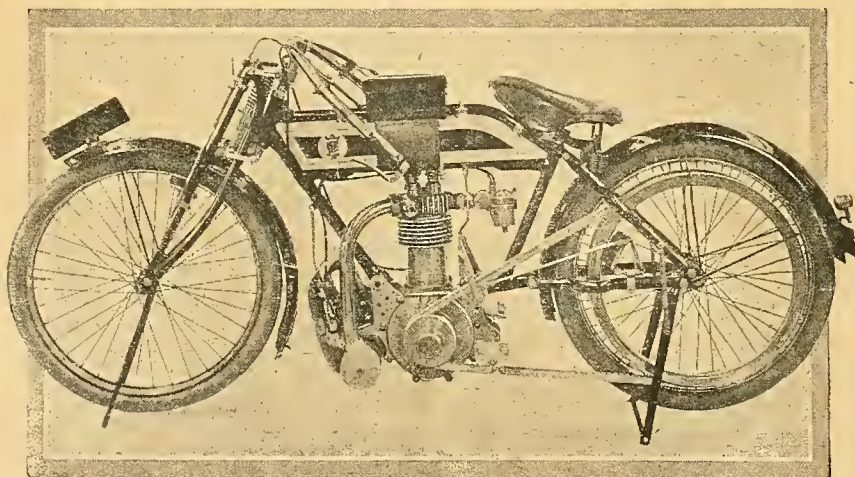
3½ b.p. MODEL: 85 × 88 mm.; side by side m.o.v.; B. and B. carburetter; belt transmission; B.S.A. two-speed gear.

BIRMINGHAM SMALL ARMS CO., LTD., Birmingham.—The B.S.A. machines on view at the Show exhibit a few notable differences from those which have proved so successful during the last year, the only new introduction being a two-speed gear model with B.S.A. hub clutch. This device was recently illustrated and described in *The Motor Cycle*, and it need only now be said that it is of the epicyclic type, having a low gear with a forty per cent. reduction in ratio below the high. The clutch is entirely enclosed, and is of the



The B.S.A. front hub. By unslackening the left-hand nut and taking out the bolt, the wheel is free to slide out.

metal-to-metal cone type. A good point in this gear is that only one kind of lubricant is required for the whole of the bearings. The magneto bracket is cast in one with the aluminium silencer end plates, but the aluminium magneto cover has been dispensed with, as a totally enclosed Bosch machine is used. The cut-



Corah T.T. model with overhead valve J.A.P. engine.

The Olympia Show.

out on the silencer is operated by a rocking pedal. B.S.A. spring forks are the

mounted on the crank case casting. After entering the interior of the crank case the gas is transferred *via* a horizontal pipe to

swinging the driving pulley radially on a gear wheel driven from the main shaft. The petrol tank is of the streamline type (see illustrations), whilst still another novel feature is the system of springing both the front and rear of the frame. The axles are fitted between strong spiral springs, which latter are enclosed in vertical casings. The Wooler is, in short, the novelty of the Show, and well worthy of careful scrutiny. The finish calls for admiration.

BROWN, No. 207.

3½ h.p. MODEL: 86 × 86 mm.; side by side m.o.v.; B. and B. carburetter; belt; three-speed gear, optional.

BROWN BROS., LTD., Great Eastern Street, E.C.—This year the firm is displaying some fine examples of the standard lightweight and a 3½ h.p. machine fitted with Armstrong three-speed gear and sidecar; also a sidecar combination of the same power with Bowden two-speed gear. The 3½ h.p. in essentials remains the same as last year, but numerous improvements have been embodied. For instance, in the Brown design of spring forks the sliding sleeve underneath the helical spring has been lengthened, so as to give greater surface and minimise the risk of grit working in.

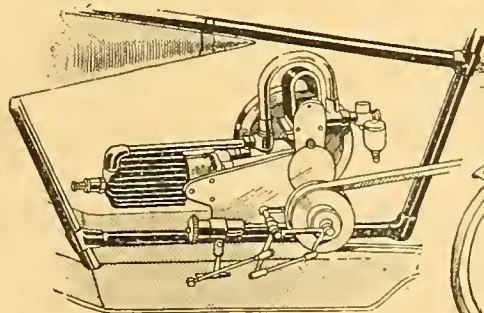
T.T. model B.S.A.—an entirely new mount.

same in general design as those of last year, but now have a generator bracket brazed on to the side of the blade. The hand brake and exhaust lifter are worked by inverted levers with enclosed Bowden cables. The handle-bar grips are furnished with helical grooves which are extremely comfortable and firm. The frame is of the dropped type. The lubrication of the engine is by a Best and Lloyd sight-feed drip lubricator, and the oil is forced through an adjustable nozzle by a spring behind the plunger.

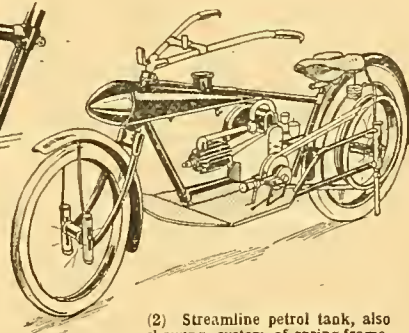
WOOLER, No. 62.

This machine possesses probably the most novel departures from standard practice, and it is sure to draw an interested crowd to Messrs. Nye and Co.'s stand No. 62. Unfortunately the machine is exhibited in an incomplete state. Power is derived from a horizontal two-stroke single-cylinder engine, which in itself is of entirely original design. An Amac carburetter is fitted at the rear of the crank case, the induction pipe being swept over the magneto, which latter is

the combustion chamber, being admitted by an automatic inlet valve of orthodox design. A variable pulley gear is fitted

THE WOOLER TWO-STROKE SPRING FRAME MACHINE, THE GREATEST NOVELTY IN THE SHOW.

(1) Arrangement of horizontal engine and gear.



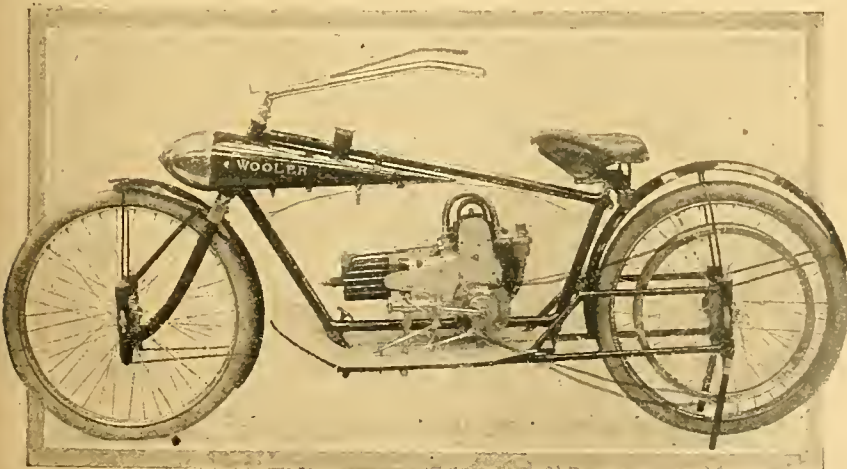
(2) Streamline petrol tank, also showing system of spring frame.

operated by pedals protruding through the footboards, and the slackness of the belt on the low gears is taken up by

Where possible cap nuts have been fitted so that grit cannot work into the threads. The cylinder dimensions of this design bring it within the 500 c.c. class. The engine, magneto and carburetter are self-contained, so that by removing three bolts the engine can be dropped out of the frame for overhauling. The magneto is in front, protected by a steel cover, in addition to the large leather flap on the front mudguard. The design of rim brake is so arranged that the shoe is applied at once for its full length on the inside of the rim.

2½ h.p. MODEL: 70 × 76 mm.; side by side m.o.v.; B. and B. carburetter; belt.

The lightweight machines are of very taking design, fitted with a small Precision engine. An improvement this year lies in the adjustable pulley now fitted to the engine. Druid type front forks, made under licence, are fitted, and the machine, which is very substantial, scales about 100 lbs. Magneto protection and other details are the same as in the larger model, and include a petrol filter in the tank. The two varieties of sidecar fitted are the Millford and the Duco.



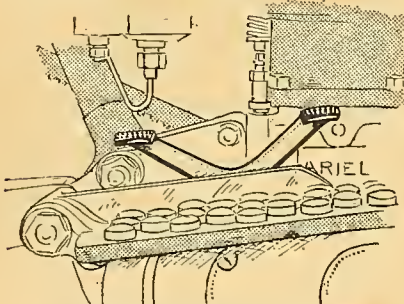
Clear side of the Wooler two-stroke spring frame machine.

The Olympia Show.—

ARIEL, No. 124.

3½ h.p. MODEL: 85 × 85 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; Ariel expanding pulley or Armstrong hub gears.

COMPONENTS. LTD. (Ariel Dept.), Bournbrook, Birmingham.—The improvements in this year's 3½ h.p. model relate only to details. Amongst the most notable of these is the re-arrangement of the half compression device, which is now operated by a rocking pedal on the right footboard, instead of, as previously, by the valve lifter lever. The internal design of the decompressor has been considerably modified, and now consists of two cams, which are brought into action by interconnected tappet rockers. The action is entirely positive. There is nothing to go wrong, and any number of intermediate positions can be obtained between full compression and the limit of low compression at which the engine will fire. A front wheel stand is fitted pivoted to special lugs on the forks. The standard carrier has been simplified and improved, and is now provided with a clip which allows the ready detachment of the rear mudguard. The 3½ h.p.



The toe and heel pedal on the right side of the 1912 Ariel operating the decompressor.

model is also supplied with a three-speed Armstrong hub gear. These machines can be fitted to order with a detachable tank and middle rail, the tank being supported by a long bracket plate running from end to end of the tube.

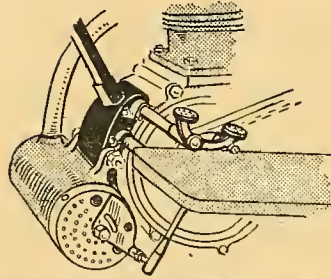
2½ h.p. MODEL: 71 × 75 mm.; m.o.i.v. side by side; B. and B. carburetter; belt; Ariel adjustable pulley and chain speed gear.

This neat little machine is practically a reduced facsimile of the 3½ h.p., and is very neatly designed indeed. It has Druid spring forks, chain-driven Bosch magneto which is in front of the engine, large side extensions to the front mudguard, and pannier toolbags. This model is also shown with a fixed gear.

MACBETH, No. 101.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; Roc.

COLMORE DEPOT, Colmore Row, Birmingham.—This is a most sensibly designed machine. The top tube is dropped at the rear. A Benton and Stone adjustable drip-feed lubricator, working by suction from the crank case, is provided. The two-speed gear is the well-known Roc. A cut-out, worked by a rocking pedal, is a particularly neat fitment, and there are comfortable footboards.



The toe and heel pedal operating the Macbeth cut-out.

The luggage carrier is exceedingly strong and well designed, and pannier toolbags are fitted. The spring forks are the well-known Druid. A similar model is also shown with fixed gear, and the magneto advance handle-bar controlled. The magneto is the new type of enclosed Bosch and is placed behind the engine. We may mention that the Precision engine may be had if desired instead of the above, which is the firm's own. In addition the Colmore Depot show the following: A 2½ h.p. Douglas, 3½ h.p. Zenith, 3½ h.p. New Hudson, 3½ h.p. Premier with Armstrong gear, and two sidecars. Also 7-8 h.p. three-speed chain-driven Chater-Lea with sidecar, and a 6 h.p. Matchless with sidecar.

ROVER, No. 113.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.v.; B. and B. carburetter; belt; Armstrong three-speed gear.

THE ROVER CO., LTD., Meteor Works, Coventry.—The 3½ h.p. Rover is much the same as last year, but the 1912 model possesses a number of minor improvements. Amongst these may be mentioned the shortened frame, the new stand, exhaust cut-out, new pattern Druid front forks with extra large springs, U shape of up-turned handle-bar with brazed on control lugs, and internal Bowden cables. The engine lugs have been very much strengthened, and the machine has been certainly improved by the fitting of a front stand. The Bosch entirely closed magneto is carried immediately at the rear of the cylinder, and is well protected from mud and wet. The magneto is controlled from the handle-bar. Two variations in this model are made, namely, the free engine type with Triumph free engine clutch in the rear wheel, and single gear type with direct belt drive. In all patterns large toolbags are fitted to the carrier, and the rear brake, which acts on a belt rim, is considerably strengthened. In the engine the valve gear has been provided with bigger wearing surfaces, and the magneto is now driven by a silent chain which obviates the likelihood of backlash developing through stretch.

NEW HUDSON, No. 75.

3½ h.p. COLONIAL MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; Armstrong three-speed gear.

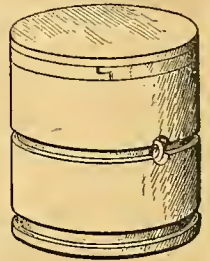
THE NEW HUDSON CYCLE CO., LTD., Summerhill Works, Birmingham.—The most interesting model on this stand is the Colonial machine fitted with a petrol tank to hold two gallons. It is shown fitted to a Montgomery sidecar. The

combination, finished in French grey, is a particularly attractive one. The new type of New Hudson engine and a number of interesting detail improvements are incorporated in this model, e.g., there are as few movable clips as possible on the machine. Whenever a bracket or a fulcrum has to be attached it is fastened to a lug brazed on the machine. The luggage carrier is riveted on to the mudguard, the mudguard clip is riveted on to the guard itself, so as to do away with screws as much as possible. This mudguard has a fork attachment, so that if the nut be loosened, and also the nuts on the carrier stays, both mudguard and carrier may be lifted clear away, and the back tyre is rendered accessible. This model has 10-gauge spokes and very heavy rims are fitted. The N.H. engine is a splendid piece of workmanship; the radiator fins are a very fine example of foundry work. Every part of this model has been strengthened and specially made to stand rough usage. The magneto is h.b. controlled, the Bowden operating mechanism being carried on a neat pillar attached to the magneto bed plate. The pedal crank axle is made to work stiffly, so that there is no possibility of the cranks spinning round when the rider desires to mount the machine. In this model ample crank case clearance is provided.

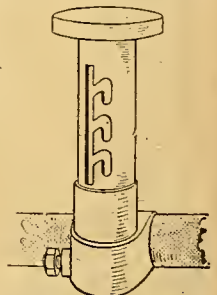
The 3½ h.p. standard model is very similar to the above, except for such small details as the fitting of a smaller tank. To either of these machines the J.A.P. engine may be fitted if desired.

2½ h.p. MODEL: 70 × 76 mm.; B. and B. carburetter; belt; Armstrong three-speed gear.

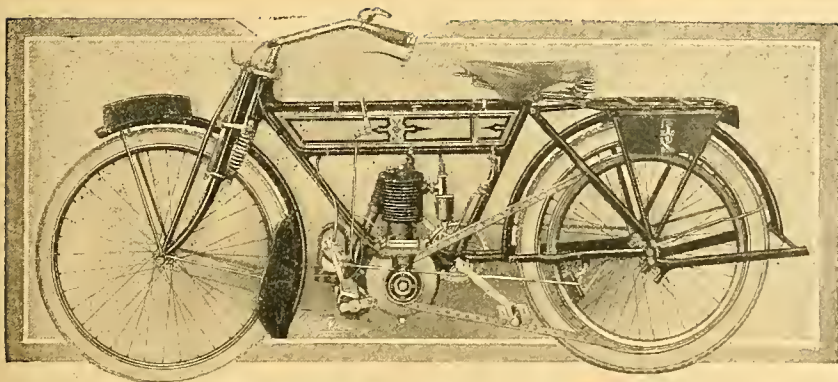
This machine is fitted with the 2½ h.p. J.A.P. engine, the magneto of which is carried behind. It is interesting to note that the magneto is carried behind in the case of this model, and that fitted with the New Hudson engine. Other special features of the New Hudson machines are the careful locking of the back axle nuts on the spindle to prevent their working loose, gauze filters for petrol and oil, and the special method of bolting the pannier bars to the back carrier. These panniers or toolbags are strengthened by steel strips inside, which are fastened by means of screws to clips brazed on the carrier stay. The method of adjusting the magneto chain is also clever. The finish of the New Hudson is particularly good, and to show that the firm is a thoroughly practical one, we mention the fact that the exhaust pipes are finished in black.



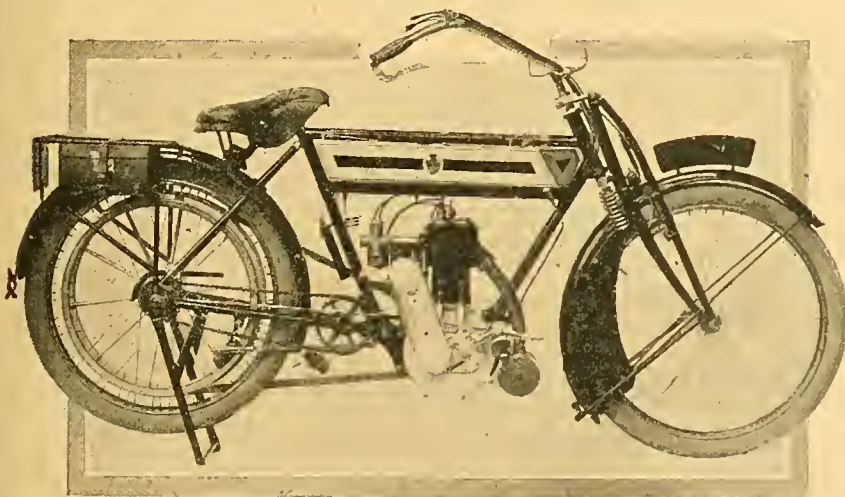
New Hudson three-ring piston.



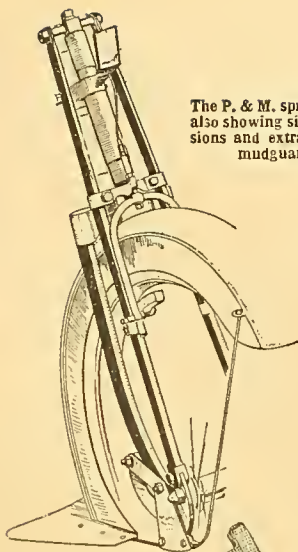
Notched leg of Clyno stand
are finished in black.



The new 2½ h.p. lightweight Ariel, with free-engine and expanding pulley.



Valve side of the 1912 3½ h.p. free-engine Rover.



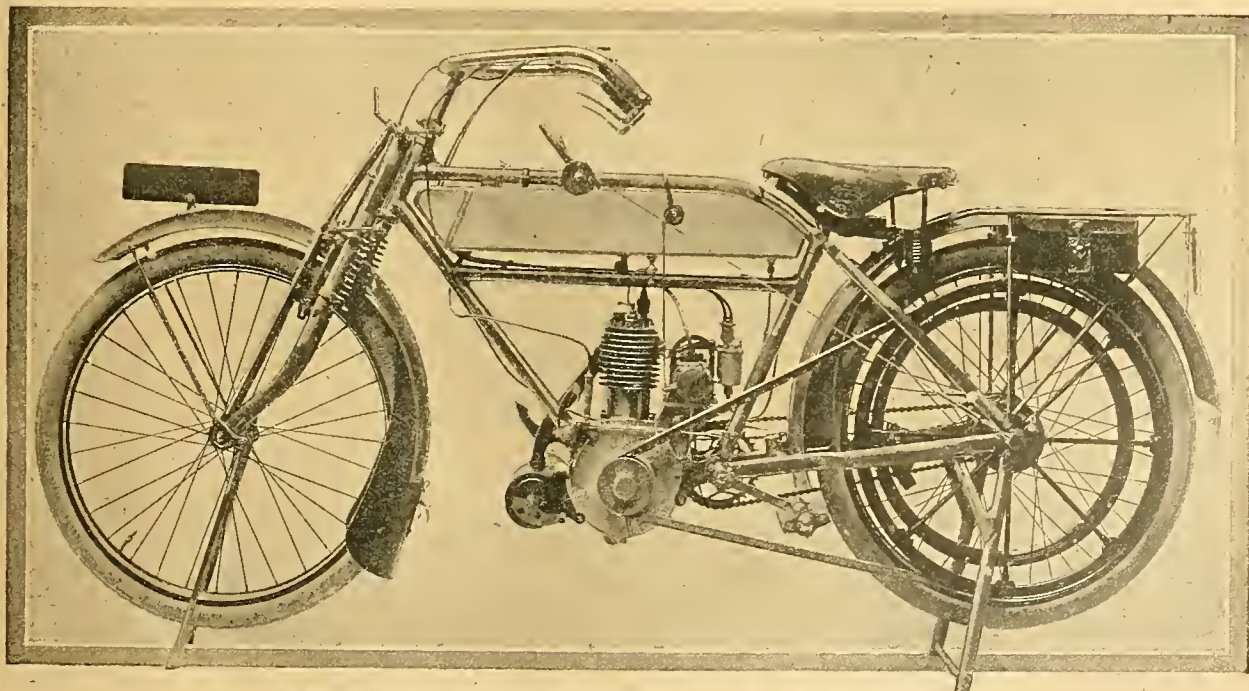
The P. & M. spring fork, also showing side extensions and extra flap to mudguard.



New Hudson adjustable tappet.



The belt rim brake on the 1912 model three-speed New Hudson, also showing method of adjustment.



Belt side of the latest 2½ h.p. three-speed New Hudson. Observe the front wheel stand.

The Olympia Show.—

GRANDEX, No. 57.

2½ h.p. MODEL: 70 × 76 mm.; side by side m.o.i.v.; belt; N.S.U. two-speed gear.

THE GRANDEX CYCLE CO., Gray's Inn Road, W.C.—An exceedingly neat-looking

the rear seat and is provided with two outside flywheels, which drive aluminium fans, these are friction driven and kept close up against the flywheel by means of springs on the brackets which carry them. An oil reservoir is integrally cast with the crank chamber, and the oil is allowed to flow into the engine by de-

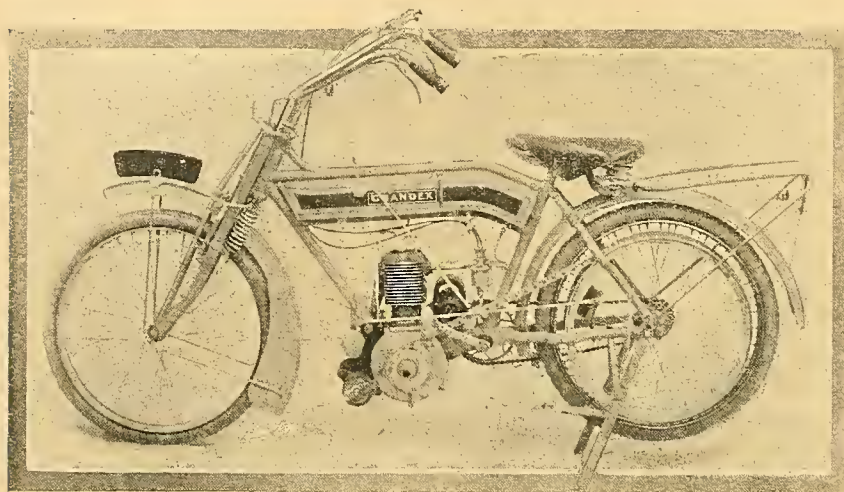
model with spring forks, a very low saddle position, and side flaps to front mudguards. An Eisemann magneto is placed in front of the engine, and is well protected from mud by a large shield. The engine is lubricated by a sight drip feed, the oil being sucked through by crank case vacuum. The foot brake is fitted above the chain stay and operated by a pedal carried on a special bolt.

The above remarks apply also in the case of the 3½ h.p. model, but the 2½ h.p. lightweight differs in several respects. The engine is slung in a loop frame, and the magneto is placed high up behind the engine. All three models are fitted with two important features. Firstly, the carrier and mudguard can be detached from the back stays by means of finger nuts, and, secondly, the pedalling gear can be removed from the bottom bracket by undoing one nut. This is a particularly praiseworthy device, as it allows a counter-shaft gear to be fitted with ease should a customer desire it.

DOT, No. 129.

3 h.p. MODEL: 85 × 85 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; two-speed gear in hub.

THE SERVICE Co., High Holborn, W.C., show, among others, the Dot motor cycle, made by H. Reed, of Deansgate, Manchester. It is especially suitable for sidecar work. Sight-feed lubrication is provided as well as the ordinary hand pump. The starting handle is geared to the back hub by a short chain. The two-speed is operated by a long lever on the left-hand side of the tank. The belt is particularly well guarded from dirt or water thrown up by the road wheels. Druid forks are fitted, and the finish is in red, with aluminium tank having red panels. Handle-bar control is provided for the magneto. Rotherham's filler caps are used. On the Service stand there are also to be seen Clyno, Matchless, Bradbury, Humber, Triumph, Douglas, Zenith, and Rudge-Whitworth motor cycles, as well as the W.D., a most interesting machine which is fully described in the present issue. Service sidecars are made with bodies of two patterns, that with the torpedo front being most attractive.



2½ h.p. Grandex-Precision. Both the tank and top tubes of this machine are dropped at the rear.

lightweight of thoroughly practical design. The motive power is a Precision engine. The steering head is strengthened by an additional tubular stay, and the tank is not clipped to the top tube, so that the top may be more readily cleaned. A new substantial type of carrier is supplied, and a spring-up stand. One example has 24in. wheels and a new type of Precision engine, the magneto of which is carried at the rear. In all cases a tapless oil pump is placed in the centre of the tank, so as to be within easy reach of the rider.

4½ h.p. MODEL: 90 × 96 mm.; side by side m.o.i.v.; belt; free engine in rear hub.

This is a sidecar machine with a disc clutch in the rear hub. The carrier is curved inwards at its forward end, allowing the saddle to be placed in a very low position—27in. from the ground.

KYNOCH, No. 74.

3½ h.p. MODEL (Precision engine): 85 × 88 mm.; side by side m.o.i.v.; Amac carburetter; B.S.A. clutch in rear hub, two-speed gear.

KYNOCH, LTD., Witton, Birmingham, show a motor bicycle for the first time, and their production follows standard lines. The frame is dropped at the rear, Druid forks are fitted, a front wheel stand, and side shields to the front mudguards are provided. The magneto is handle-bar controlled. Every effort is being made to follow the best accepted practices throughout, while the finish, as might be expected, is of the best.

WARRICK TRICAR, No. 86.

6 h.p. MODEL: Single-cylinder; B. and B. carburetter; chain; epicyclic gear in the rear hub.

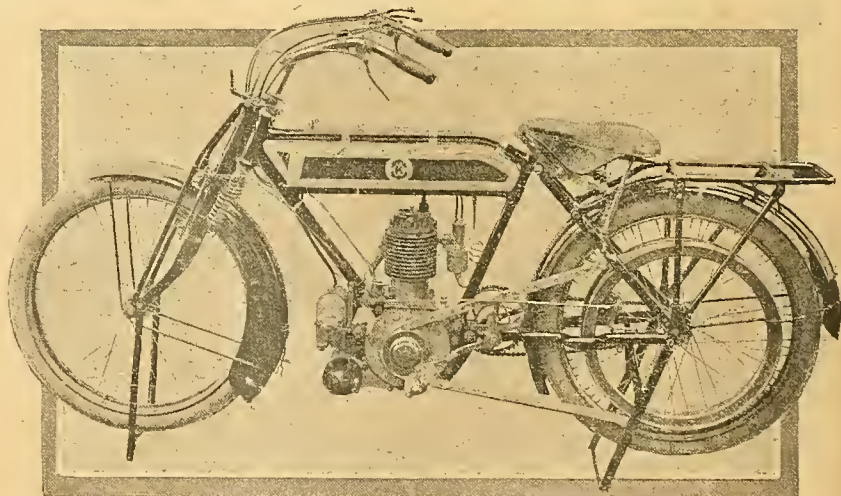
JOHN WARRICK AND Co., St. Mary's Butts, Reading, and 402-6, Edgware Road, W.—The engine is carried under

pressing a pedal conveniently situated near the rider's heel. The steering is by tiller, which carries the carburetter control, and adjacent to it is the change-speed lever. The rear wheel is suspended on laminated springs. The front wheels are carried by semi-elliptical springs.

O.K., No. 289.

4½ h.p. MODEL: 90 × 96 mm.; side by side m.o.i.v.; Amac belt; Bowden two-speed counter-shaft gear or Albion clutch hub.

HUMPHRIES AND DAWES, Lancaster Street, Birmingham.—This firm is manufacturing three quite new models, all fitted with Precision engines. They have large and well-equipped works capable of turning out 1,000 cycles a week, and are building motor cycles in no half-hearted way. They showed a 4½ h.p.



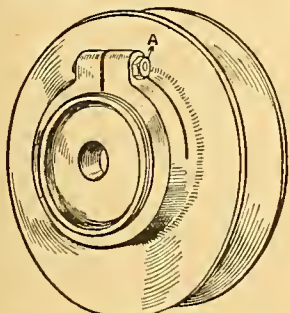
The 3½ h.p. Kynoch-Jap, which makes its first appearance at this week's Show.

The Olympia Show.—

MATCHLESS, No. 35.

3½ h.p. MODEL: 85½ × 85 mm.; side by side; Amac carburetter; belt; three-speed gear.

H. COLLIER AND SONS, LTD., Plumstead, S.W.—Messrs. Collier and Sons are exhibiting a very complete range of



The Matchless adjustable pulley. It will be seen that the movable flange is screwed on to the fixed flange casting, and being split crosswise is locked by the nut and bolt A.

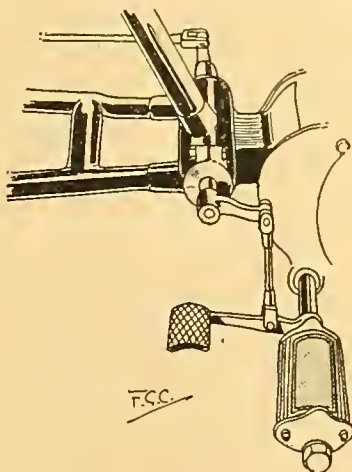
models. Two of the 3½ h.p. single-cylinder machines are shown with the new Matchless engine, one with a free engine clutch, and a similar machine with a three-speed gear. Their machines are on standard lines throughout, having a low saddle position and a very complete equipment of tools. All fittings, such as stand and carrier, are neatly fixed and carried out in a workmanlike manner. A feature which is bound to attract attention on this stand is C. R. Collier's 7 h.p. racer on which he has attained such marvellous speeds at Brooklands, incidentally capturing two world's records. This machine is the fastest motor bicycle in the world. A neat open-frame model is also shown with a 2½ h.p. engine placed vertically in the frame. This model is supplied with three-speed gear as a standard.

5 h.p. MODEL: 85 × 65 mm.; overhead; Amac; belt; six-speed gear.

This model is similar to that used by the Collier brothers in the Tourist Trophy Race. The six-speed gear is well worth close inspection, and was described in our Tourist Trophy issues. It is sufficient, therefore, to say here that it consists of

an expanding engine pulley, the belt slack being taken up by a simple movement of the back wheel. This movement is very substantially carried out, ensuring rigidity for the back wheel.

Another new model has a 3 h.p. J.A.P. twin-cylinder engine, 60 × 76 mm., with the valves disposed at the side. This is an extremely neat power unit, and should have a great future for those who require an efficient medium-weight twin. On all these models it should be noticed how carefully the mudguarding has been carried out, which is, of course, a very important feature from the rider's point of view. This is the first time the Matchless engine has been exhibited, and it is noticeable that the valve-lifting mechanism and timing gear are particularly neatly constructed. All except the 2½ h.p. ladies' model, illustrated last week, have toolbags on the top tube. Features common to all models are inverted handle-bar levers, a large magneto shield, carrier and stand acting as stays for the



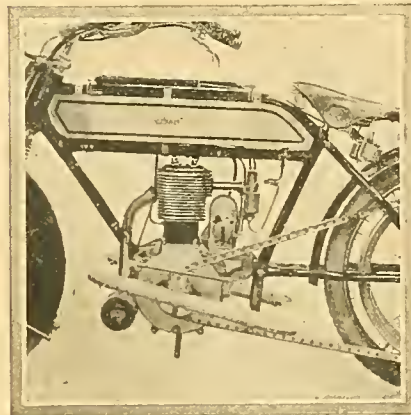
Pedal operating the belt rim brake on the T.T. Matchless.

mudguard, screw-down filler caps of large size, adjustable drip-feed lubricator, and petrol gauge projecting from side of tank. A generator bracket is formed on the left hand fork link.

EXCELSIOR, No. 71a.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; belt; multi-disc clutch in hub to order.

BAYLISS, THOMAS AND CO., Excelsior Works, Coventry.—Quite an interesting point about this machine is the lubrication system. A Best and Lloyd drip



Excelsior power unit, showing long footboards.

feed lubricator is supplied which allows the oil to enter a hole in the cylinder which registers with the hollow gudgeon pin at the bottom of the stroke, while a further lead conducts the oil to the crank case, whence it passes through a channel into a cup in the flywheel, which allows the oil to reach the crank pin and out again through two holes. The same lead also lubricates the main bearing on this side. The pulley side bearing is lubricated by splash, but the oil runs down to the bearing through a special lead from the cylinder. The general appearance of the machine is distinctly pleasing, and it is pleasant to note that this firm has so carefully studied the lubrication question. Reverting to the engine, it is worthy of note that the valve tappets are slightly off-set as regards the cams, with the result that side thrust is minimised to a great extent. The valve stems have a simple adjustment.

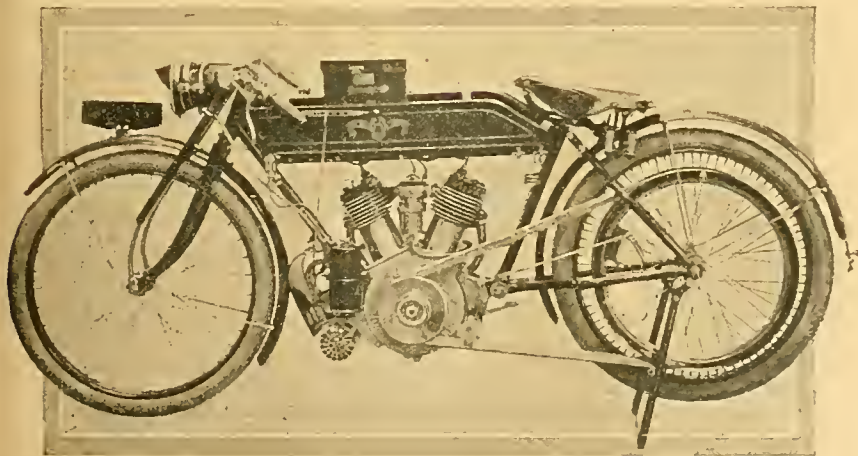
4½ h.p. MODEL: 86 × 112 mm.; side by side m.o.i.v.; B. and B. carburetter; belt.

This machine is one of the largest single-cylinder machines shown, and has a cubic capacity of 650 cubic centimetres. In all other respects it resembles the model we have just described, except that 2½ in. tyres are fitted and an extra heavy Druid fork. In the case of both models a separate belt rim is carried for the foot brake. The presence of these belt rims accounts for the fact that the rear mudguard is of ample dimensions.

CHARLES EDMUND, No. 100.

3½ h.p. MODEL: 85½ × 85 mm.; side by side m.o.i.v.; B. and B.; belt.

CHARLES EDMUND AND CO., Chester.—The chief feature about this machine is the spring frame. This consists of a separate top tube hinged at its forward end, while at its after end there is a shackle to which a tube is fixed running through the saddle tube, and at the lower



A neat looking 8 h.p. twin-cylinder Matchless-Jap racer.

The Olympia Show.—

end of this the footrests are fixed. The saddle is attached to an extension of this top tube, and at this point the latter forks and terminates in three-quarter elliptical springs which are rigidly fastened at the extremities of the chain stays of the machine. The shackles of these springs are adjustable, so that they may be made to suit riders from nine to sixteen stones. It is also interesting to note that the luggage carrier is hinged at its forward end, while the rear end is attached to the shackles of the springs, so that whatever is carried, either passenger or luggage, it is partially sprung. In this machine, it must be pointed out, not only the saddle but also the footrests are sprung.

LINCOLN ELK, No. 84.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; belt transmission.

JAMES KIRBY, Broadgate, Lincoln.—This machine follows standard lines throughout. The frame is dropped at the rear, where it is interesting to note that an additional stay runs from the gear bracket to the saddle tube. Druid forks are provided. The two-speed model is interesting, as it is partially chain-driven. The gear is carried on the counter-shaft, and the change is effected by means of external expanding clutches. On the high gear the drive is by chain to the counter-shaft, and thence by belt to the rear wheel. On the low gear the belt pulley on the counter-shaft runs free, and the drive to the rear wheel is by chain.

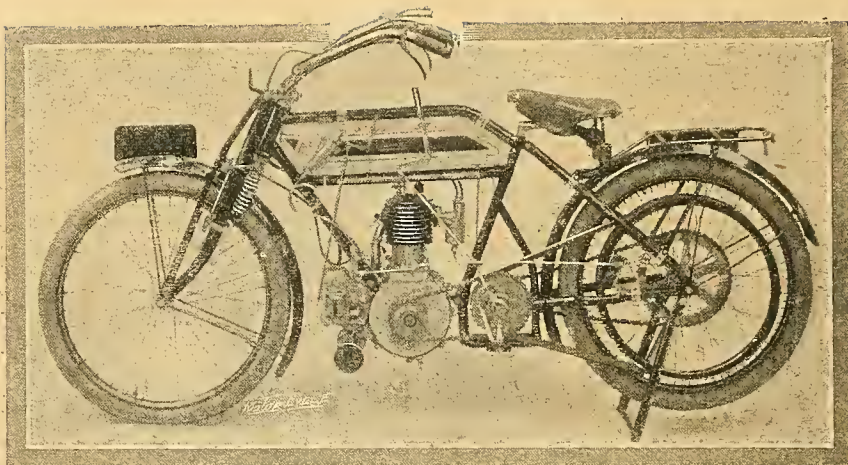
2½ h.p. MODEL: 76 × 85 mm.; side by side m.o.i.v.; B. and B. carburetter; belt transmission.

A lightweight model, B. and B. carburetter, belt drive, ordinary type frame, is a neat-looking standard machine which follows accepted lines throughout.

KERRY-ABINGDON, No. 76.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; belt, or Kerry two-speed belt and chain.

THE EAST LONDON RUBBER CO., Great Eastern Street, E.C.—This model is sub-divided into four types, with ordi-



A new Lincoln Elk with selective clutch gear on the counter-shaft.

nary standard frame, the "Cob," with the rear portion dropped, the two-speed model and the T.T. roadster fitted with specially tuned-up engine designed for high-speed work. In all cases the machines are turned out fully equipped for the road, with pannier toolbags, circular belt and tube case at the rear, reflex light, and an excellent kick-up stand engaging with a sensible spring clip on the mudguard. All K.A. engines are now provided with springs under the tappets to reduce noise. The priming device is worthy of notice, as when the needle valve is unscrewed no petrol can flow until a plunger is depressed at the top of the needle valve screw, which is likely to prevent the device from being tampered with. A plate clutch model is also supplied, the clutch mechanism being carried outside the hub, the rear forks being specially widened for this purpose. The two-speed gear, we may remind our readers, works with belt drive on the high gear and chain drive on the low. The gears are changed by means of a dog clutch mechanism in the rear hub. The multiple disc clutch is carried on the engine-shaft.

5-6 h.p. MODEL (Twin): 67 × 95 mm.; side by side m.o.i.v.; B. and B. carburetter; belt.

The twin-cylinder model is made in two types, with the ordinary type of frame and with the dropped frame, and also with a multiple disc clutch in the rear hub, similar to that fitted to the single; otherwise its features are the same. A number of sidecars are also on this stand. A large number of machines are exhibited, and altogether the East London Rubber Co.'s stand is an imposing one. We may add that in cases where a two-speed gear is fitted, handle starting is provided.

IVY-PRECISION, No. 99.

3½ h.p. MODEL: 85 × 88 mm.; side by side m.o.i.v.; B. and B. carburetter; belt.

S. A. NEWMAN, Lichfield Road, Birmingham.—This is quite an interesting machine. The handle-bars are wide, with crossbar to aid rigidity, and for the purpose of carrying accessories. The front forks are novel in that they provide a direct up and down movement, and also a buffer to allow a slight rocking motion. The forks are best described by saying that they combine the advantages of the Druid with those of the Triumph forks. A front wheel stand is fitted, serving as an additional stay for the front mudguard, which, by the way, has side wings.

5 h.p. TWIN: 75 × 85 mm.

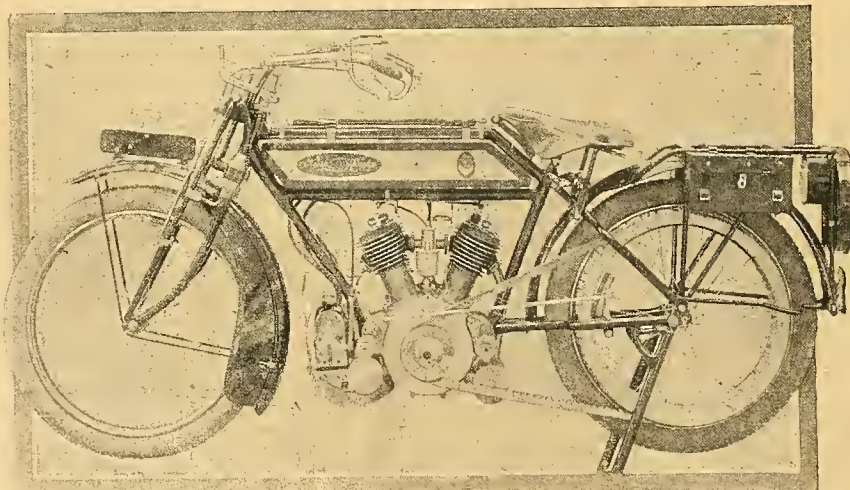
A twin Ivy-Precision is a new introduction. It is a very taking looking mount on standard lines.

2½ h.p. MODEL: 70 × 76 mm.

Other details as above, except that the spring fork is not provided with the buffer referred to in the description of the preceding machine. Also a 3½ h.p. model with ordinary type of handle-bars and spring forks.

4½ h.p. MODEL: 89 × 96 mm.; side by side m.o.i.v.; Amac carburetter; belt; Albion two-speed gear.

This machine is designed specially for sidecar work. The Albion two-speed gear with handle starting to the rear hub is controlled by a pedal. Wide rubber-covered footboards are provided.



New 5-6 h.p. twin-cylinder Kerry-Abingdon with dropped top tube.

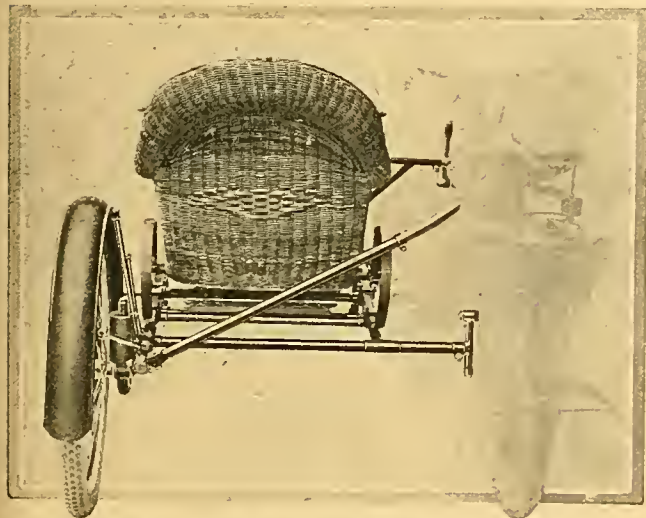
The Olympia Show.—

GLORIA, No. 37.

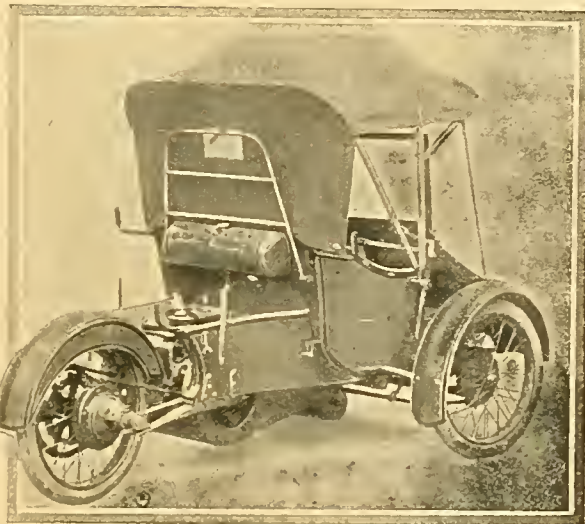
THE GLORIA CYCLE CO., LTD., Much Park Street, Coventry.—The Gloria Co. are exhibiting two Triumph motor cycles fitted with their sidecars, also two side-

cars, one with a coach-built body and the other with a basket body. There are several special fittings which are worthy of notice on these sidecars. The springing of the bodies is much on usual lines, but a particularly neat wheel springing system is employed. The wheel spindle is carried on a U tube which is pivoted to the frame at the front end, the rear end being supported by a very neat enclosed spring. The method of fixing this sidecar to the motor cycle is particularly ingenious, as instead of clipping it direct to a single tube the fixings are so arranged that they grip at least two tubes at once, thereby distributing the strain over a larger area; that is to say, the front fixing grips the top tube and the front down tube, and the back fixing grips the chain stays and back stays. In

the latter case a distance piece is fitted between the stays, so preventing the tubes being drawn together. The stay from the wheel side of the sidecar is carried across the back of the machine and bent round the cycle saddle pin. the size of the valves, flywheels, and radiating ribs, while the cooling fans have been done away with, fan vanes being cast with the flywheel instead. A convex cylinder head is used, enabling the carbon to be cleaned out without detaching



Rear view of Gloria spring-wheel sidecar, which has special three-point attachments.



Rear view of A.C. sociable showing engine cover removed, new design curved mudguards, luggage grid, and hood.

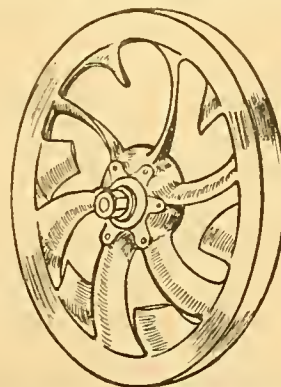
This allows of a particularly low position and at the same time gives ample clearance on rough roads. The fittings throughout are strongly designed, and the mudguards are carried on tubular stays.

MIGHTY ATOM, No. 34.

5.6 h.p. MODEL: 90 x 102 mm.; valves fore and aft, m.o.i.v.; A.C. carburetter; chain; two-speed epicyclic hub gear.

AUTO CARRIERS (1911), LTD., Thames Ditton, Surrey.—Auto Carriers, Ltd., are exhibiting their 1912 model three-wheelers with two and three-seater bodies with and without hoods and screens, and on the same stand there are three commercial vehicles on similar chassis. The chief features for 1912 are an increase in

the cylinder by placing a rag through the valve ports and pulling it backwards and forwards. The front axle is three inches



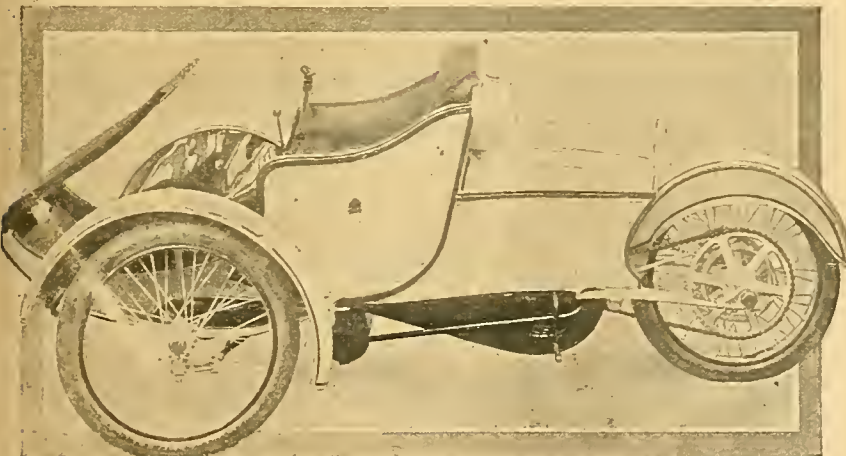
Vaned flywheel for the A.C. de Luxe model.

wider, giving a considerable increase to the steering lock, and curved mudguards are fitted throughout. A *Modèle de Luxe* is also shown fitted with a new type of two-speed gear, and Sankey pressed-steel detachable wheels. An interesting feature of the exhibit is the number of testimonials received from all parts of the world, which can easily be read, as they are placed in frames all round the stand. Further details of this extremely neat little three-wheeler were published in our issue of November 16th.

MIDGET BICAR, No. 87.

3½ h.p. MODEL: 85 x 88; side by side m.o.i.v.; Amac carburetter; belt; variable speed gear when specified.

J. T. BROWN AND SONS, Oxford Road, Reading.—The main feature of this machine consists in the sheet steel frame strengthened by ash, while the speciality



Latest model A.C. Mighty Atom with curved mudguards. It has a new design engine.

The Olympia Show.—

on the variable gear models is the expanding pulley gear described in *The Motor Cycle* of November 9th. Long footboards are fitted to all machines, and the width of the rear mudguard deserves special mention. The outward appearance of the machine is particularly neat owing to the peculiarity of the frame.

In addition to the above, there is a $3\frac{1}{2}$ h.p. ladies' machine, the frame of which was illustrated in *The Motor Cycle* at the same time as the new variable gear, with which, we may add, this particular model is fitted. The machine specially brought out for sidecar work is the $4\frac{1}{2}$ h.p. 89×95 fitted with the variable gear. Mention must also be made of the lightweight $2\frac{1}{2}$ h.p. 70×76 . Except where otherwise stated the main features are the same in every case.

LEVIS. No. 131.

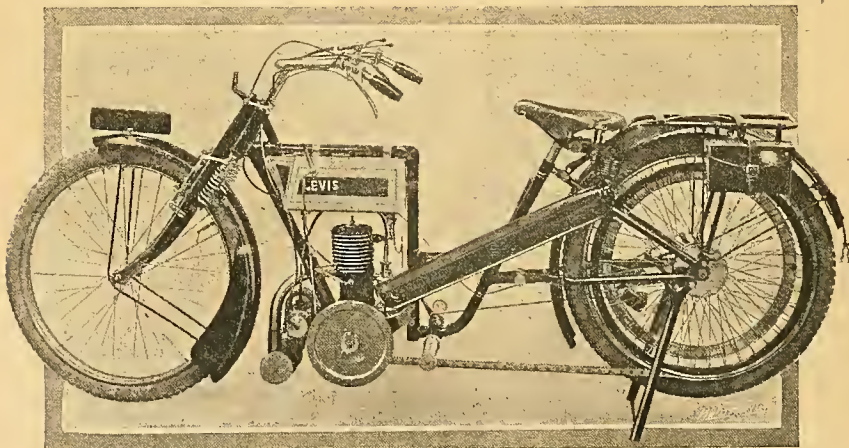
$2\frac{1}{2}$ h.p. MODEL (Two-stroke): 62×70 mm.; Amac carburetter; belt transmission.

MAHLER BROS., Station Street, Birmingham.—Several of the interesting Levis lightweights are shown on the stand of Mahler Bros. They were fully described in a recent issue. A needle valve replaces the usual petrol tap, and Best and Lloyd semi-automatic lubrication is fitted, but without any pump. $24\text{in.} \times 2\text{in.}$ tyres and wheels are fitted. The lady's model also has a two-stroke engine of $2\frac{1}{2}$ h.p., and a suitably dropped frame and 26in. wheels. The Levis machine is of extremely simple design, and as it is sold at a very low figure should on no account be missed.

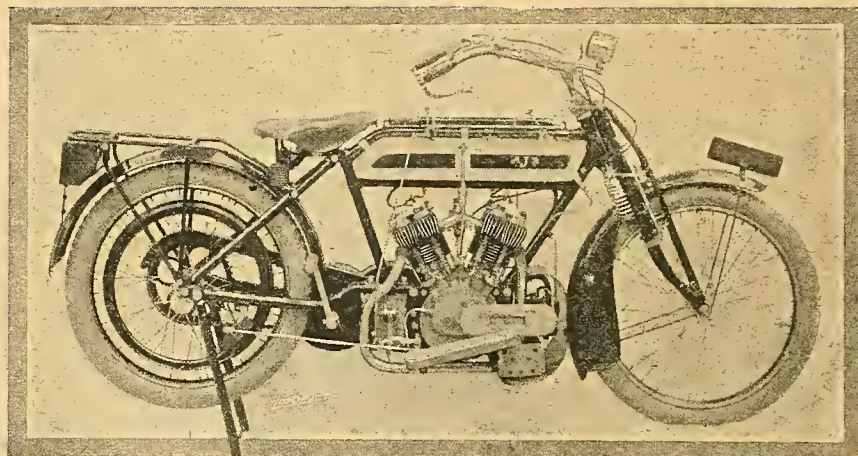
$2\frac{1}{2}$ h.p. MODEL (Two-stroke): 70×70 mm.; Amac carburetter; belt transmission.

This model is similar to the one described, but is heavier, more powerful, and has 26in. wheels. Druid forks are standard on all models.

An engine is shown in section to give some idea of the working of the two-stroke principle. This engine, with the exception of the piston, is the same that gave a speed of 45 m.p.h. on the Aston track. A $2\frac{1}{2}$ h.p. model has been timed to travel at the rate of 52 m.p.h. The crankshaft is machined in one piece, and has very wide bearings.



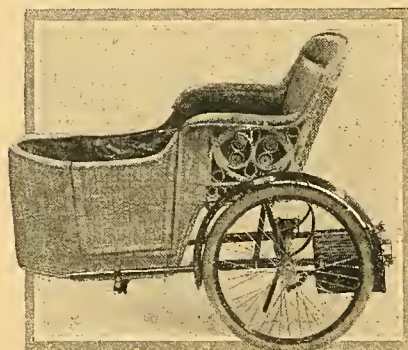
The ladies' model Levis with two-stroke engine.



The new A.J.S. twin-cylinder two-speeder, with foot starter.

MONTGOMERY, No. 60.

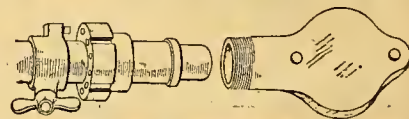
W. MONTGOMERY AND CO., Much Park Street, Coventry.—Numerous types of sidecars, the manufacture of which is a speciality of the firm. These are made in



Montgomery "Dreadnought" sidecar, with spare petrol tin carrier.

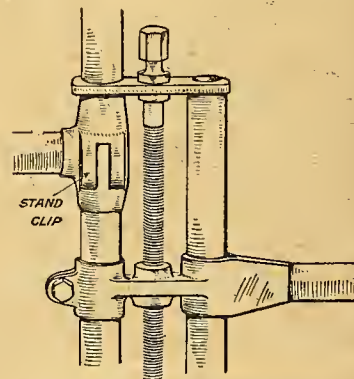
three types—castor wheel, spring wheel, and rigid. The castor wheel has been strengthened for high-powered machines. The cross-member, which carries the pivot of the castor wheel, is additionally stayed

by members running from the outer of the two main longitudinal stays. All types are fitted with a carrier behind for carrying a petrol tin and a luggage box. The



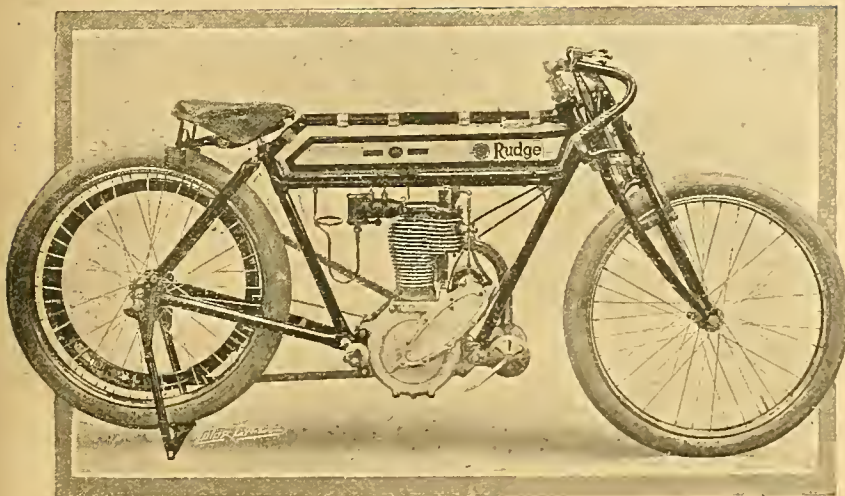
Montgomery sidecar coupling showing the locking device.

method of attaching the sidecar to the machine is interesting, the points of attachment being fastened by means of a screw ring, which when in position is prevented from turning by a clip, encircling the sidecar tube, and carrying a stud engaging with the ring. When this stud is placed in position, the thumbscrew is tightened and the ring is securely held in position. The rigid model possesses all the improvements mentioned above, while two grades are made of the spring wheel model, one being for machines up to $3\frac{1}{2}$ h.p., and the other for more powerful motor bicycles. The spring wheel is carried on a semi-elliptical spring, fastened rigidly at its forward end, and provided with a long shackle at the rear. Among the various types of bodies we may mention one to which straps are fastened for carrying a spare cover.

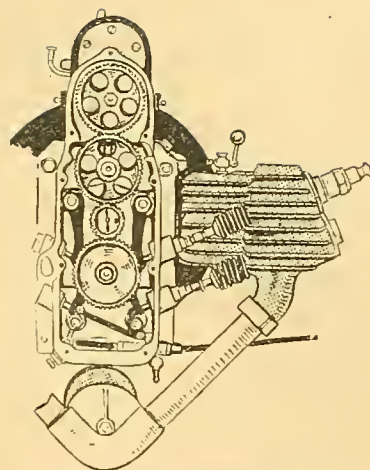


The screw adjustment for aligning Montgomery sidecar axle.

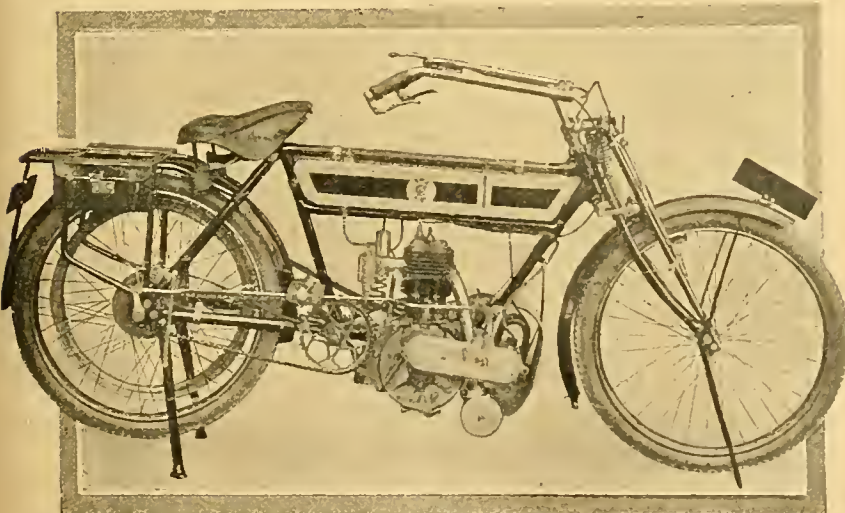
The Olympia Show.—



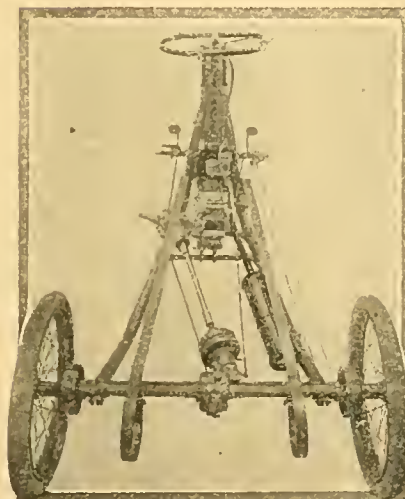
Racing Rudge, with Pugh "Senspray" carburetter.



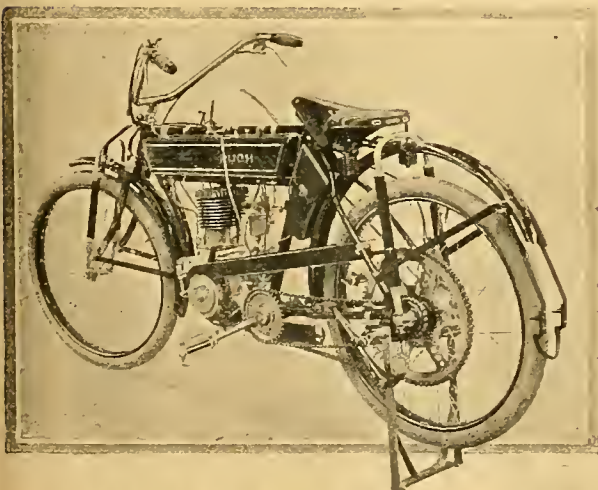
Douglas timing gear mechanism and magneto drive, the whole of which is enclosed.



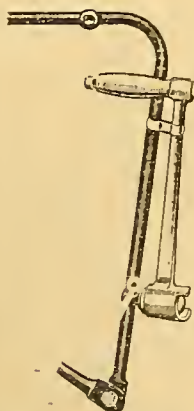
New model 3½ h.p. free engine tourist Corah-Jap.



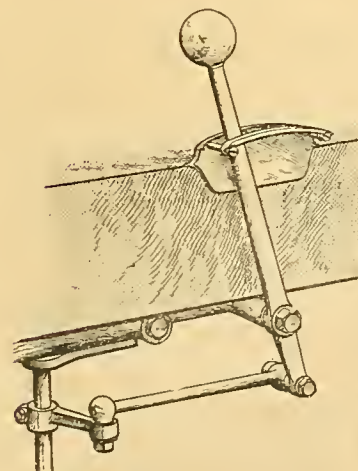
Chassis of the Wall tricycle for interchangeable bodies. Observe the inclined air-cooled engine and unusual position of the driving shaft.



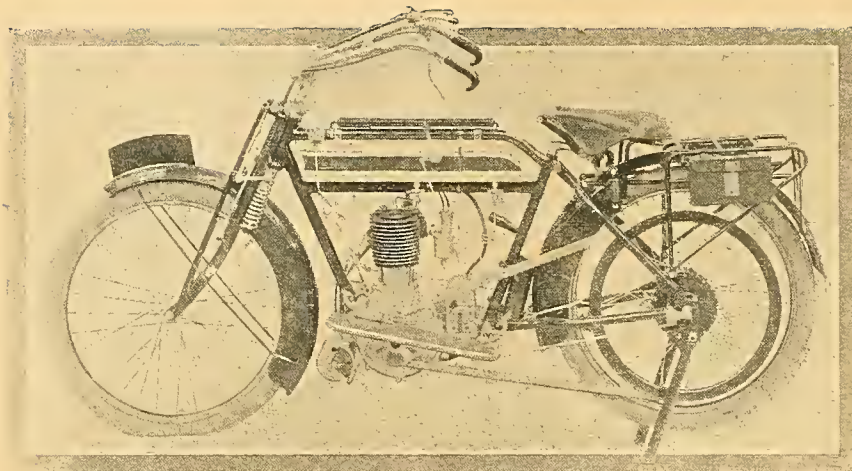
Showing spring frame, also rear view, of two-speed and free engine hub, on the Puch.



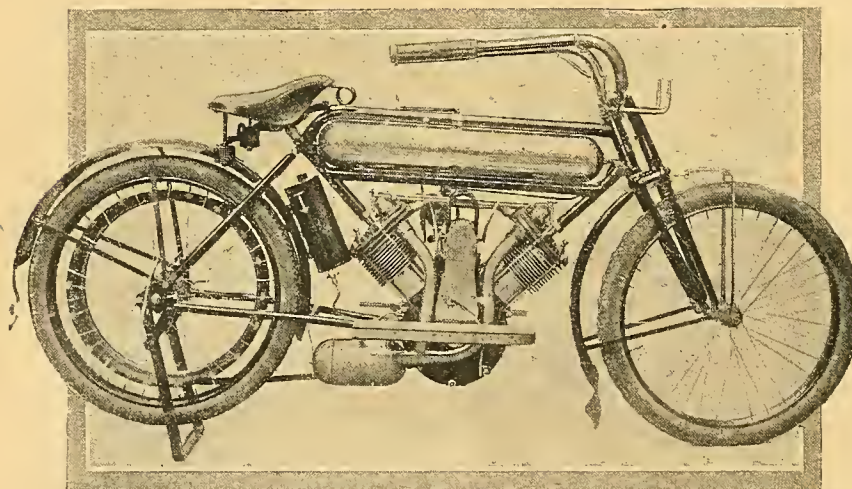
Rex method of carrying starting handle on one of the carrier stays.



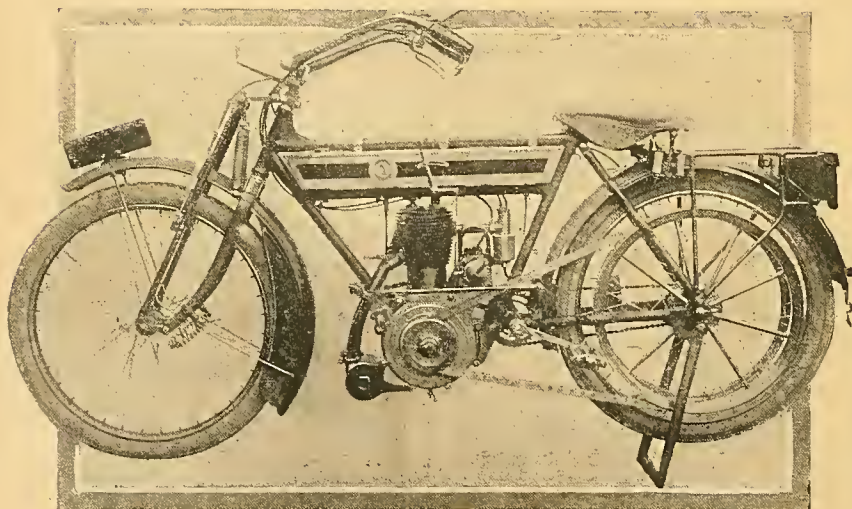
The Bai change-speed lever and connection.



3½ h.p. Macbeth two-speeler on the stand of the Colmore depot.



Olisue of the new 7-9 h.p. twin-cylinder M.M. motor cycle. A recent American importation.



Belt side of the 3½ h.p. single-cylinder Premier.

V.S., No. 166.

6 and 8 h.p. MODELS (Twin): 76 × 85 and 85 × 85 mm.; belt; V.S. two-speed hub gear.

MARTIN GEIGER AND Co., 44, Clipstone Street, Great Portland Street, W.—On the Hanover Rubber Co.'s stand, Mr. M. Geiger, well known to many as a consistent performer in A.C.U. trials a year or two ago, will be pleased to demonstrate the improvements made to the V.S. machines. The J.A.P. engines have been adopted as standard, an extra large tank is fitted, and among other improvements are large filler caps and 1½ in. belts. The V.S. hub gear is a well-tried pattern, and is one of the few hub gears which enables the engine to be started by a thrust down of the pedals while the wheel rests on the ground. The V.S. 6 or 8 h.p. twin is an excellent sidecar machine.

VICTORIA, No. 217.

Victoria: 70 × 76 mm.; mechanical valves, side by side; B. and B. carburetter; belt.

THE VICTORIA MOTOR CYCLE Co., Glasgow.—This is a well designed lightweight following standard lines, fitted with the increasingly popular Precision engine. The machine is sold properly equipped for the road. The 3½ h.p. mount has also Precision engine of 85 × 88 mm. and N.S.U. two-speed gear. Pannier toolbags are attached to each side of the substantial luggage carrier, and, like the smaller model, this machine follows standard lines throughout. The design remains unaltered, as its excellence has been thoroughly proved in the past.

TYSELEY TRICAR, No. 290.

THE BOWDEN BRAKE Co., LTD., Tyseley, Birmingham.—This machine is driven by an 8 h.p. engine, with V-type cylinders set at 60°. It has mechanically operated valves. The magneto is accessibly placed in front and driven by a short shaft off the timing gear. Gas is supplied by a Zenith carburetter. The engine and gear box are on the unit system. The gears work on the sliding principle, giving two speeds and reverse. The clutch is of the multiple disc type. Behind the gear box is a short cardan-shaft universally jointed at each end, and behind this is a bevel drive, whence power is transmitted to the wheel by means of a single chain. The control is arranged on car lines; an accelerator pedal is provided with two notches, the first allowing the throttle to be opened enough for starting and slow running. The body is coach-built and provided with high side door. The radiator is in front, following car lines. A runabout is also manufactured with four wheels and worm transmission.

LADIES' QUADRANT, Nos. 93 and 94.

On Monday morning a lady's model Quadrant (70 × 76 mm.) arrived. It has mechanically operated valves side by side. This is quite a practical open frame machine. The tank is carried at the top of the loop frame, and from its lower extremity to the saddle tube extends a flap which protects the skirt from the engine, and, since the latter is exposed to the air all round, the cooling draught is not interfered with in any way. An Armstrong three-speed gear is fitted, also handle-bar control to the magneto.

ACCESSORIES OF THE SHOW



AVON RUBBER CO., LTD., Melksham, Wilts (No. 150).—In addition to a large range of motor cycle tyres of various patterns, rubber-studded, grooved, and combination of large rubber studs and steel studs, the Avon Rubber Co. are showing a 650 x 65 mm. tyre suitable for powerful sidcar machines. This tyre has an unusually large amount of rubber on the tread, and should prove most serviceable. It is made with a plain tread and in various non-skid patterns. There is also an excellent selection of repair outfits.

BOWDEN CONTROL, No. 263.

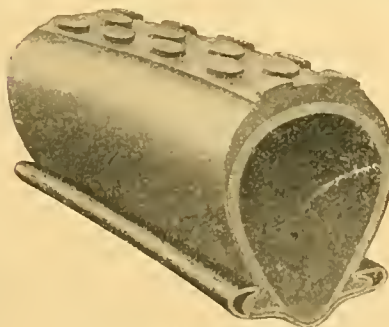
BOWDEN WIRE, LTD., Camden Town, N.W.—Besides the fine array of the numerous Bowden wire control mechanisms which have not required much modification since last year, and which are sufficiently well known, the Bowden two-speed gear, which is shown fitted to an Ixion-Precision engine made by the Whittall Engineering Co., Ltd., claims attention. To attach the gear to the frame a newly-designed bracket has been introduced. This is of inverted hollow rectangular section cut away at the top to give accessibility to the pin holding the gear casing to the bracket and to allow easy removal. The combined foot and hand control mechanism, by which the gear can be operated entirely by foot and merely locked by the ratchet on the hand lever, or by which it can be separately controlled by the hand, has already been described in these columns, as also the mechanism.

J. H. HELLER, Colverston Crescent, Golders Green, N.E. (No. 52), is showing a selection of lighting-up-time watches and stencils for registration number plates.

WOOD-MILNE, No. 46.

WOOD-MILNE, LTD., Ribbles Bank Mills, Preston.—The above firm are specialising in three differently treaded tyres. These are a rubber-studded, what

steel studs fitted in the grooves. It is claimed for the "Griprib" type that the formation of the ribs prevents the tyre sticking in a tram-line, prevents motion between tyre and ground, thus minimising skidding. All these tyres, also the Wood-Milne motor cycle belt, are manufactured of a combination of steel wool and rubber, and, though smooth when new, the steel



The new Wood-Milne rubber-studded tyre.

wool creates a rough surface which, in the case of the belt, grips the pulley in spite of wet and mud, and in the case of the treads forms an additional non-skid. On this stand was a neat foot-pump primarily designed for car users, but which would form a useful addition to a motor cycle garage. It is very powerful in action, being operated through a system of toggles, and folds up into a very small space.

MOEBIUS AND SON, Stoke Newington, N. (No. 272).—This firm show a selection of motor oils and greases suitable for all types of machines in all countries. They also specialise in their Challenge brand carbide, metal polish, and tyre paint.

TERRY SPECIALITIES, No. 230.

HERBERT TERRY AND SONS, Redditch.—This exhibit, of course, displays a noble array of springs for valves, cycle saddles, clutches, and all the thousand and one purposes of motoring. The double and single locknuts have been already described in *The Motor Cycle*. Among the many spanners, the Turbine spanner combines the advantages of the solid jaw with the adjustability of the ordinary wrench, and is a particularly handy tool. These may be described as solid jaw spanners fitted with packing strips, threaded on a bolt in such a position that any required number of packing strips may be swung in between the jaws when required. Tyre levers, clips for various purposes, and many other accessories, too numerous to mention, complete the display on this stand.

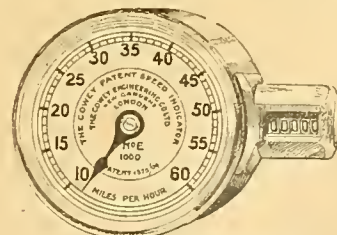
BRAMPTON BROS., LTD., Oliver Street, Birmingham (No. 237).—The Brampton roller chains in various sizes for motor cycle transmission demand attention, and the firm are also bringing out one for magneto drive. This latter is of 1/2 in. pitch. These well-known chains are of nickel steel with all wearing parts hardened. Besides chains this firm are also exhibiting a variety of hubs, pedals, and footrests specially designed for motor cycle work.

VACUUM OIL CO., LTD., Westminster, S.W. (No. 226).—Before the days of motors Vacuum oil was a well-known engineering product. Recently the firm have introduced a new brand of oil, viz., their T.T. Mobiloil for speed work, while for touring they recommend their well-tried Mobiloil B. The firm are fully alive to the possible requirements of two-speed gears, for which purpose they recommend Mobiloil C, which is the thickest grade of gear oil turned out by them.

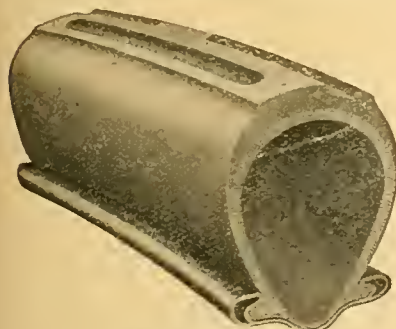
COVENTRY CHAINS, No. 208.

COVENTRY CHAIN CO., LTD., Spon End Coventry.—The exhibit is interesting in its reflection of car practice, for, first and foremost, we find a beautiful little inverted tooth chain for magneto drive. At present all the transmission chains for motor cycles are of the roller type. A special chain for motor cycle work is a 1/2 in. pitch roller by 1/2 in. wide, with nickel steel side plates and rollers of hardened high tension carbon steel. The firm have introduced a new 1/2 in. pitch roller chain, provided with extra strong side plates and the usual "nose," which is a feature of the Coventry chain and prevents the side plates from cracking where the stress is greatest.

COWEY ENG. CO., LTD., Kew Gardens, S.W. (No. 221).—Simplicity and substantial construction mark the Cowey speed recorders, which are shown in four varieties to register up to 40, 60, and 80 miles an hour, and also up to 100 kilometres. These instruments record mileage up to 10,000. Usually they are fitted



The latest Cowey speedometer and mileage recorder.



Wood-Milne non-skid cover.

is termed the "Griprib" pattern, which consists of two grooves, the outside ribs being joined to the centre one alternately, about four inches apart; and the combination tread of the "Griprib" type with

on the right hand front fork, but their design is such that should it be necessary to place the instrument on the left hand fork, all that has to be done is to remove the cover of the small casing enclosing the driving gear, turn the worm gear around, and replace the cover.

The Olympia Show.—

CAPON - HEATON AND Co., LTD., Stinchley, near Birmingham (No. 153).—All kinds of rubber goods are to be seen on this stand. The Capo motor cycle belt should be examined.

GORTON RUBBER Co., LTD., Openshaw, Manchester (No. 169).—The standard tyre for 1912 is one with elongated studs placed in various directions on the tread. This should prove a most effective non-skid. Another pattern is a tread of square shape with a series of hollows along the centre. Both these tyres are made in all the usual sizes. Samples of inner tubes are also exposed to view.

BROWN AND HINGSTON GEAR, No. 50.

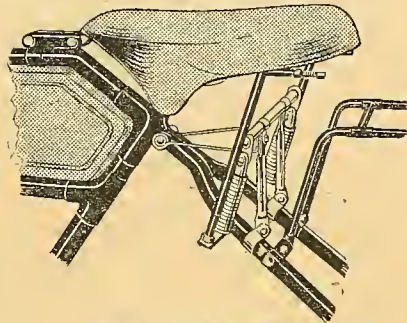
R. T. SHELLEY, LTD., Aston Brook Street, Birmingham (No. 50).—Shelley's stand is well worth a visit from any keen motor cyclist, as besides the Brown and Hingston hub two-speed gear, which has already been illustrated and described, they are showing almost every possible form of motor cycle, tools, and tool kits. They also have a selection of motor cycle lamps, among others a lamp fitted with a Mangin mirror reflector. The chief item on the stand is a standard $3\frac{1}{2}$ h.p. Rudge with the Shelley hub showing how it can be operated either by a single lever or by a pedal which operates the high gear and a ratchet lever placed on the top tube operating the low. The latter form of control is advocated by the manufacturers, as it enables the low gear to be used as a brake. R. T. Shelley, Ltd., claim to be the largest manufacturers of tyre levers in the world.

LEICESTER RUBBER Co., Granby Rubber Works, Leicester (No. 151).—The John Bull motor cycle tyre shown on this stand is made under enormous compression, and is constructed on the lines of a car tyre. This method of manufacture results in a tyre that has great durability.

LYCETT SADDLES, No. 228.

LYCETT SADDLE AND MOTOR ACCESSORIES, Co., LTD., Birmingham. — The pan seat on this stand with the edges curved upwards was illustrated in our last issue. Besides this departure, Messrs. Lycetts are exhibiting their Tourist Trophy motor cycle saddle which was

attached bag, which is arranged so that by means of four studs and a clip it can be rapidly attached to or detached from the carrier of a motor bicycle by hand. Besides these there is a great variety of



A new spring Lycett saddle, enabling a low position to be attained.

motor toolbags, motor cycle saddles, and the famous Lyso belt, which is too well-known to need description.

ROBERTS MOTOR TYRE Co., St. Mary's Road, Birmingham (No. 146).—The Vulco series of motor cycle sundries are shown here, also the Roberts motor cycle tyres, belt, and liners.

RICH AIR TUBES, No. 227.

THE RICH PATENT DETACHABLE AIR TUBE Co., Crawley, Sussex.—Among the covers on this stand are two which are not new, but have the remarkable record of having performed 3,500 and 4,500 miles respectively on the back and front wheels of a motor cycle that went all through the London and Edinburgh run besides a six-day record. Throughout, we are told, the front wheel never sustained a puncture, and both were in excellent condition; the fact that one or two punctures on the back wheel only occupied a few minutes was due to the Rich detachable tubes, which are so arranged that the one end fits into the other, while the pressure keeps the joint tight, thus permitting a free circulation of air. The Rich tube is most popular with competition riders.

CONTINENTAL, No. 163.

CONTINENTAL TYRE AND RUBBER Co., LTD., Thurlow Place, S.W.—These tyres are shown in four patterns—beaded, studded, basket work, and combination treads, the latter consisting of oblique rubber bars extending nearly halfway across the tread, alternating with steel studs. The Continental rubber belt is also shown in various sizes, and an assortment of route books with maps which are published by this company.

MAX STEINER, Scrutton Street, E.C. (No. 222).—This firm have an imposing array of belts, both round and V shape. Of the former three distinct varieties in different materials are shown. Some of these round belts are made in two halves of semi-circular section. Another very interesting type is made of strands resembling a miniature rope, in appearance like the ordinary twisted variety. Other items which deserve attention are a good range of horns, including an unusual type called the Serpentine, and the Maxim separate generator lamp and brass-plated lamp, sold at a moderate price, and riveted throughout.

CHAS. MACINTOSH AND Co., LTD., Cambridge Street, Manchester (No. 159).—The most interesting article on this stand is the Stuart lock-joint motor cycle tube. This tube has a rounded butt which fits into a similarly shaped socket. The ordinary endless tubes and a variety of tyres are also shown.

THE PYRO SUPPLY Co., Coventry (No. 213), show some interesting examples of brake blocks for belt and wheel rims. These are made of a mixture of vegetable fibre and graphite, and so ought to be free from any dithering tendency. It is claimed that they neither slip, shrink, nor glaze. The "Pivotal" side mud shields and Drainer mud flaps are also exhibited.

PATCHQUICK, No. 214.

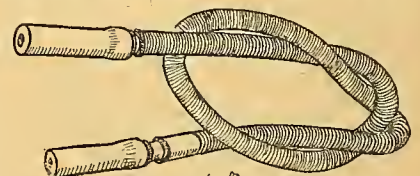
WOODGATES BROS., Tiverton, Devon.—The "Patchquicks," which have been produced to dispense with the necessity of vulcanising, are already fairly well known in the motor cycle world, and are made in various shapes, square, oval, and oblong. Moreover, this firm are now producing a continuous strip of "Patchquick" to go round the complete circumference of the inner tube to reinforce a weak or porous place. These devices appear to be of remarkably fine quality. We have seen one or two samples over five years old that appeared to have retained all the attributes of high quality rubber intact. The "Patchquick" Fix for use in conjunction with these makes a thorough joint.

THE ROMAN RIMS, LTD., Upper Priory, Birmingham (No. 238).—The Roman Rim, Stand No. 238 in the Gallery, exhibit, for the first time at Olympia, a Roman rim for motor cycles, manufactured in one homogeneous piece of metal without joint, seam, rivets, or welding.

THE MERKHAM TRADING Co., LTD., City Road, E.C. (No. 219).—The item on this stand that will most appeal to motor cyclists is the Davis nail catcher, which is admirable on account of its simplicity. It consists merely of a copper wire stirrup, curved to fit the tread of the tyre and flattened.

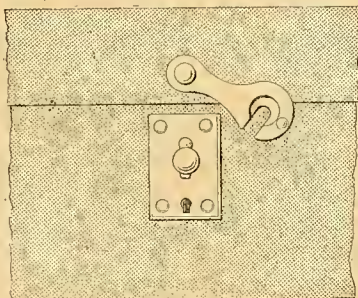
HOLDTITE, No. 140.

R. SURRIDGE AND Co., 58, George Street, Camberwell, S.E. (No. 140).—The Holdtite patches are reinforced with a fabric which stretches in one direction but not in the other. When properly applied to a split in the tyre they are capable of withstanding great strain.



Hunt's generator tubing with specially strengthened ends.

Some air tubes patched in this way are shown with heavy weights attached to demonstrate the non-stretching properties of the patches. Other lines are the Surridge bulb patch and a generator tube with thickened ends to prevent splitting. We have already referred to the non-inflammable solution in previous issues. This is supplied in neat metal cases with screw tops.



Lycett's new toolbag fastening.

first tested in the Isle of Man this year, but has been somewhat improved, in that it has a girder main frame, and the clip is consequently suitable for any ordinary "L" pillar. Another item worth noting on this stand is the new design of

The Olympia Show.

THE MONOVO Co., Stewart's Road, S.W. (No. 144).—This stand contains an assortment of oils, rubber goods, repair outfits, lamps, pumps, carbide, etc.

C. W. BLUEMEL AND BROS., Wolston, near Coventry (No. 205).—On the Bluemel stand are to be found some very useful and admirably arranged side-flaps for mudguards. These are made of well-enamelled sheet metal formed so as to lap around the beading of the guard itself to which the flap is held by light but strongly and neatly designed clips which grip the mudguard beading on both sides when tightened up by hand with small butterfly nuts. The same firm are exhibiting some new and substantial patterns of black handle grips, which, with their coloured bands, have a handsome appearance and afford a good grip. No modifications have been found advisable in the Bluemel motor cycle tyre pump.

PEDLEY, No. 23.

J. PEDLEY AND SON, LTD., Great Charles Street, Birmingham.—This firm specialise in a three-ribbed cover. We have examined the tread, which is very heavy in section and promises to give long life, while the three ribs should minimise side-slip. A large selection of brake blocks and accessories were also shown to us. Retreading covers with either grooved herringbone or studded treads is a speciality of this firm. A novel exhibit is the Pedley belt, which has a strip of pure Para rubber on the top, which, it is claimed, prevents the usual cracking.

THE XL'ALL Co., Moseley Street, Birmingham (No. 117).—On this stand are shown two Bradburys, two Matchless, two Clynos, one Triumph, one Norton,



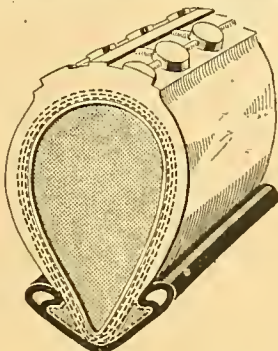
XL'All metal dust covers for fitting over the chain rivets.

and one Rudge, all fitted with XL'All specialities. These include the well-known XL'All pan seats, in which the seat is designed anatomically and gives a great deal of support to the body besides being extremely well sprung. A very neat device shown on this stand is the new XL'All chain cover, which consists of a number of small rectangular stampings which slip on to each link of a chain and travel round with it, at the same time providing a protection which prevents the ingress of mud and dust. The saddles are shown in ten different types, whilst the chain cover is also made to suit all standard sizes of chain.

CLIPPER WOOD RIM, No. 25.

CLIPPER TYRE Co., LTD., Steelhouse Lane, Birmingham.—Three types of Clipper covers are shown, one with three ribs, one with a combination rib and stud, and one with three ribs joined at intervals by cross bars. The latter is termed the Reflex Clipper Ideal, and is extremely stoutly constructed and suitable for heavy wear and tear. A very neat repair outfit is supplied, consisting of a leather roll containing a flask of the same material for rubber solution which has a really airtight cap to which is fixed a brush for applying the liquid, also

a wire brush for cleaning the tyre and patch, a shaped repair band, patching material for repairing the cover, and Clipper Perfect tube patches. The whole rolls up into a small space, protecting the tins and preventing rattle. A distinctly novel feature is the wood-rimmed motor



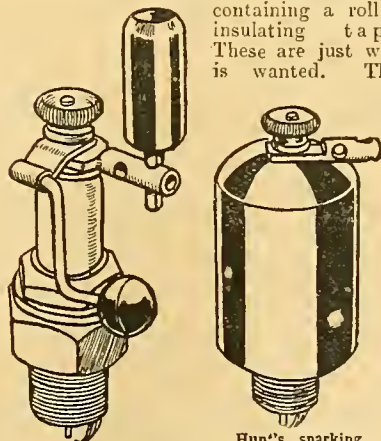
The new Clipper rubber-studded cover.

cycle wheel, in which the steel rim is mounted on a wooden felloe. It is claimed that this rim greatly reduces road shocks and prolongs the life of the tyre. We hear that several well-known riders are using them with great success.

THAMES, No. 48.

THE THAMES RUBBER AND LEATHER Co., Upper Thames Street, E.C.—This firm are selling a combination rubber and steel-studded tyre which from appearances should be an effective non-skid; also a rubber-studded and a steel-studded cover. Any of these three patterns can be fitted as retreats to existing tyres. They are also showing both butt and dome ended tubes, rubber and canvas belts, a large selection of brake blocks, and a specially long pump connection formed of flexible steel tubing.

ALBERT H. HUNT, Cannon Street, E.C. (No. 229).—Among the many novelties on this stand is a compact little combination switch and magneto cut-out for clipping to the handle-bars. It is worth while for motor cyclists to note that on this stand Hellsen dry cells are being presented to any purchasers of the H.A.H. coil. This coil is also the least expensive. Another very handy item that will appeal to many motorists are the little circular tins containing a roll of insulating tape. These are just what is wanted. They



New plug terminal sold by A. H. Hunt.

Hunt's sparking plug cover for all-weather use.

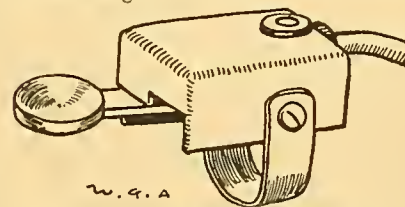
pack well, are cleaner, and the inner space inside the cardboard centre around which the tape is wound leaves room for any small screws, etc., that may have to be carried. A new induction coil for use on single-cylinder engines and with two high tension terminals for the sparking plug is on view. The coil winding is specially arranged so that the sparks take place simultaneously in both plugs.

FIRMAX, LTD., Yeovil (No. 142).—Firmax, packed in various sizes, is shown here put up in tins ready to be pumped into the tyres. Firmax is a dry powder, and therefore does not interfere with the mending of large cuts in the cover, and it is the only puncture sealer which has gained the R.A.C. certificate.

ROM, No. 157.

THE ROM TYRE AND RUBBER Co., LTD., 31, Brook Street, London (No. 157).—This exhibit consists of a display of the well-known Rom tyres, the most popular pattern being the combination rubber band and steel studded, which is noted for its non-skidding properties under all conditions. An all rubber non-skid is also made with a triple row of square rubber studs.

SELF-SEALING RUBBER Co., LTD., Ryland Street, Birmingham (No. 165).—The Hermetic motor cycle tyres and self-sealing tubes form the principal part of this exhibit. These include rubber and steel-studded covers and an extra heavy tricar tyre. Tyre gaiters, security bolts, Fixxvik patches, and other rubber goods are to be seen. This company specialises in retreading.



Two-way switch, one of many new accessories by A. H. Hunt.

ERNEST H. HILL, LTD., Broomhall Street, Sheffield (No. 215).—Some good examples of motor cycle foot inflators fitted with stirrups. These are made in polished brass, nickel-plated on brass, or celluloid. For motor cycles, too, this firm also make some very useful mirrors for fitting to the handle-bars. These are glazed and made in two qualities and in four or five inch sizes. A useful article is a combined petrol and oil squirt designed to be fitted in a socket easily attachable to the diagonal tube of the frame.

SHAMROCK-GLORIA, No. 166.

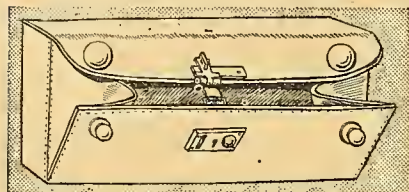
HANOVER RUBBER Co., Old Street, E.C.—There are here a great variety of motor cycle tyres, many patterns of treads being made, corrugated rubber-studded and ribbed all being standard. In addition, two combination covers are made, one with rubber bars and steel studs, of which the company have sold a great number for sidecar work, and another with a tread consisting of a leather band with steel studs. The Shamrock-Gloria rubber belts are also to be seen. In the centre of the stand is a Triumph fitted with Shamrock-Excelsior tyres and a Gloria belt.

The Olympia Show.—

THE NORTH BRITISH RUBBER CO., LTD., Castle Mills, Edinburgh (No. 27), are making a feature of their special Dreadnought non-skid tyre. The tread, which has been thickened since last year, is of the combined rib and stud pattern, and is mounted on four-ply canvas. The company are also showing various grades of studded and plain ribbed tyres. Details of the popular Clincher tyre were given in a recent issue.

BROOKS'S SADDLES, No. 279.

J. B. BROOKS AND CO., LTD., Great Charles Street, Birmingham.—As usual, Messrs. Brooks have a superb exhibit of



Brooks's new pannier bag, with extra spring button fasteners at each corner.

their motor cycle saddles and toolbags. Among the new patterns is the B104, which is a new design for 1912, affording a lower seat and more resilience. Two new patterns of anti-vibratory seats are also on view, and these are notable for giving more ample accommodation and greater comfort. An example of a motor cycle carrier gives some idea of the possibilities of transport, for it is fitted with every sort of leather case that can be imagined. Among these is a handy little case for repair outfits. Some of the motor cycle pannier toolbags have been strengthened, and one pattern, which is in two sizes, B719 and B5.259, is fitted with a neat spring lock in front, and is also provided with straps in the front to guard against loss of tools if the lock is carelessly or not properly shut.

LAKE AND ELLIOT, LTD., Braintree, Essex (No. 220).—Though this stand is devoted entirely to items supplied to the trade, the new Millennium "Fit All" gear demands attention, having been redesigned and reconstructed throughout. It is of the epicyclic type, the planet pinions rotating on pins secured to the main casting. This latter externally takes the form of a brake drum. On the low gear it is held stationary. The engine then drives the sun pinion, which in turn revolves the driven planet pinions, which are of comparatively large size, and so should keep the rotary speed of the planets within reasonable limits. On the same sleeve as the driven planet pinions are the drivers of similar size, and these mesh with a comparatively large spur gear secured to the engine pulley. Thus the number of revolutions is reduced and the power increased. For the high gear, the band brake is released and a flat plate clutch is brought into action. This connects the drum or body of the gear with the engine-shaft, and the whole revolves solid, giving a direct drive. An interesting two-speed hub is also shown working practically on the same principle and operated by a bell-crank mechanism. In this the

gear and hub form a complete whole, but the two are practically separate entities, which enable the two-speed principle to be applied to the hub of existing machines without serious constructional alterations.

MOSELEY, No. 45.

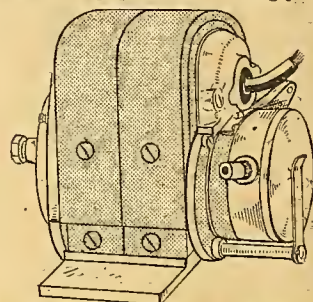
D. MOSELEY AND SONS, LTD., Ardwick, Manchester.—The above firm are specialising in a grooved motor cycle tyre. The chief claim of the makers is that the tread is always in compression, so that any cuts have a tendency to close automatically. A layer of rubber is interposed between each layer of canvas, which reduces friction and should prevent bursts. The tyre is of heavy section, and the deep grooves should tend to prevent sideslip. A large range of patches and tyre plasters are also to be seen, both moulded and flat, also a selection of fibre brake blocks and fibre and vulcanite tubes for enclosing high tension leads.

THE B. F. GOODRICH CO., LTD., Golden Lane, E.C. (No. 22).—A speciality of the new model Goodrich tyres is a cover round the tread of which a central rib runs, and on either side are widely spaced studs. There is a flap inside preventing the tube being nipped or jammed against the spoke heads. The close studded cover, 650 x 65 mm., designed to suit 26 x 2½ in. motor cycle rims, is a splendid piece of work. It is beautifully made and is a fine example of tyre construction. These tyres are strongly constructed, and this our readers will appreciate when we mention that the first-named cover has three plies of canvas and the last-named four plies. The Goodrich butted tube has been reduced in price. Our readers will remember that it is provided with a flap to button over the valve, thus securing the joint in a safe and efficient manner.

EISEMANN MAGNETO, No. 18.

THE EISEMANN MAGNETO CO., Berners Street, W.—Two new models of the Eisemann magneto, with mechanism entirely enclosed, and thus both oil and wet-proof. This type of magneto is made in two sizes, up to 2½ h.p. and up to 3½ h.p. The chief alteration in the design is the employment of peaked pole pieces, which lead the lines of force direct through the core of the armature, and in the case of this magneto the lines of force are not distorted. The effect of this, the makers claim, is a very hot spark at slow speeds, while it allows the magneto to be used on an engine the cylinders of which are set at 90°, and it must be remembered that for such an engine it has been a very difficult job to make a magneto. The 90° engine, as is well known, gives great advantages as regards balance, and it is possible that in the future more of this type will be seen. A minor improvement is the fitting of a spring over the central bolt which holds the contact-breaker on to the end plate, which prevents any possibility of the bolt jolting loose. On the standard type of machine—that is to say, with the mechanism not entirely enclosed—a waterproof high-tension terminal is fitted. It is in-

teresting to note that the magneto has been used with great success on the Rudge-Whitworth, and behaved in an exemplary fashion during W. Stanhope Spencer's recent record rides. All Eisemann magnetos are provided with a special mark on the exterior of the magnets, so that if they are removed there is no excuse for them being put back wrongly. The



The new model weatherproof Eisemann magneto.

firm also make a speciality of magnetos for V type engines for any angle of cylinders.

HUTCHINSON TYRE CO., Basinghall Street, E.C. (No. 26).—The Hutchinson Tyre Co. are exhibiting three patterns of motor cycle tyres—Rubber studded, ribbed, and one with a non-skid tread on the basket-work principle. Hutchinson tyres were dealt with in our issue of the 9th with the exception of a 650 x 65 mm. extra reinforced suitable for high-powered sidecar combinations or runabouts. The company are also exhibiting a useful motor cycle boot which consists of a leather sole on which is mounted a thick rubber boot. This is extended right up to the thigh, the extension being made of waterproof material. A projection is fitted near the heel of the boot, by means of which the boot can be taken off without the necessity of gripping the muddy portions.

MILLER LAMPS, No. 239.

H. MILLER AND CO., LTD., Miller Street, Birmingham.—The Miller lamp is exhibited in three patterns. In all, however, the details of the lamp are essentially the same. All are fitted with a mirror reflector, a lens glass, and a fish-tail burner capable of a sliding adjustment forwards or backwards to obtain perfect focus. A feature about these lamps is that they can be adjusted to any angle on the bracket. In Nos. 24 and 25 the lugs on the lamp body give this adjustability, but in No. 27 it is the bracket itself that performs this office. In either case the principle is the same—one fixed and one movable disc to each clamp, both being serrated so that the two can be clamped together practically at any angle. All the lamps are exceedingly well finished. Nos. 24 and 25 are designed to secure to the ordinary existing lamp bracket, while No. 27 is carried on a bracket which is secured to the steering pillar, and allows for angular adjustability. For No. 26 a double bracket carrying the lamp in front and generator at the back is provided; in other cases the generator can be secured to the forks or frame of the machine. It should also be added that, while No. 24 has an ordinary reflector mirror, all the other types are fitted with Mangin lens mirrors.



New design Eisemann plug.

STAND No. 50, OLYMPIA.

THE ONLY GEAR FOR SIDECAR WORK.

50% reduction on low speed, free engine on either speed, engine can be started by pedals with back wheel on ground. Micrometer adjustment to clutch accessible from outside. Only two toothed wheels, both gears and clutch large enough for car work, NO CLOCK WHEELS. Ball bearings everywhere all adjustable from one cone.

CAN BE FITTED TO ANY STANDARD MACHINE WITHOUT ALTERATION TO FRAME.

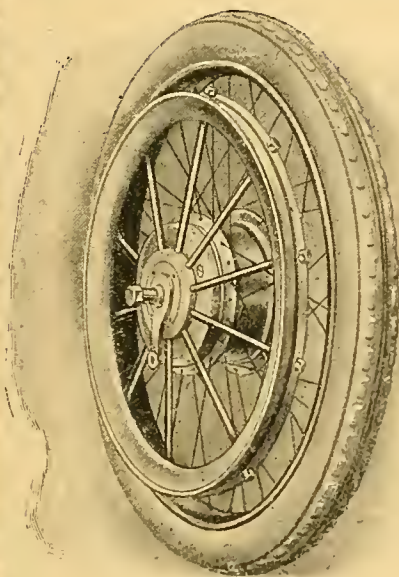
PRICE OF HUB WITH BELT RIM £10 10s.

COMPLETE WHEEL, READY TO FIT TO ANY STANDARD MACHINE (less tyre) £12 10s. including control gear.

**R. T. SHELLEY, LTD.,
ASTON BROOK ST.,
BIRMINGHAM.**

Telegrams: Push, Birmingham.
Telephone: 6836 Central (2 lines).

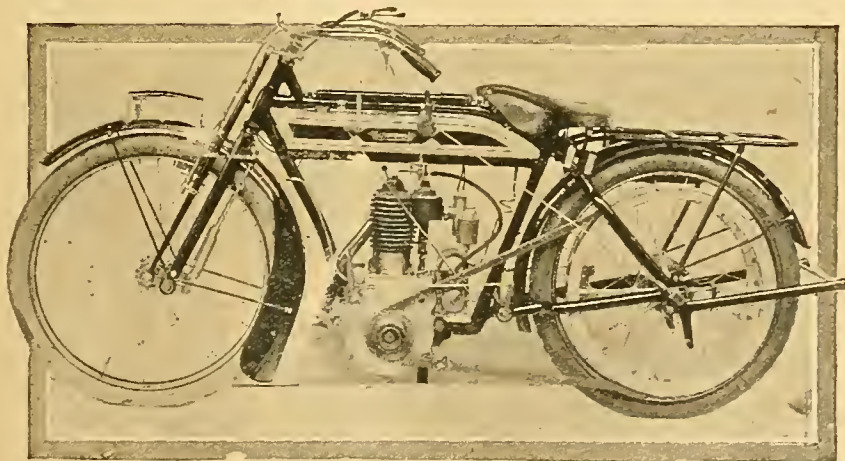
Complete description on application, together with new catalogue of tools, tool kits, and general motor cycle and automobile components & accessories.



The Improved
Hingston & Brown
2-Speed Hub.

THE QUADRANT ^{with} ARMSTRONG 3-SPEED GEAR OLYMPIA, STAND 93-94

MEANS A PERFECT MACHINE FOR ALL PURPOSES.



You cannot enjoy Motor Cycling unless you have a free engine and speed gear—The Quadrant has both—It is fool proof and made to stand your rough roads and tracks. The ubiquitous Quadrant invariably succeeds whether it is a test of speed, hill-climbing, reliability, flexibility, consistency, or any trial it is put to.

See the Quadrants at the Show, you will find a display of great attraction.

AGENTS PLEASE CALL, IT WILL PAY YOU.

QUADRANT, Lawley Street, BIRMINGHAM.



Hutchinson

MOTOR CYCLE TYRES.

YOU MUST SEE

the
HUTCHINSON EXTRA REINFORCED
BUTTED TUBE AT

STAND No. 26

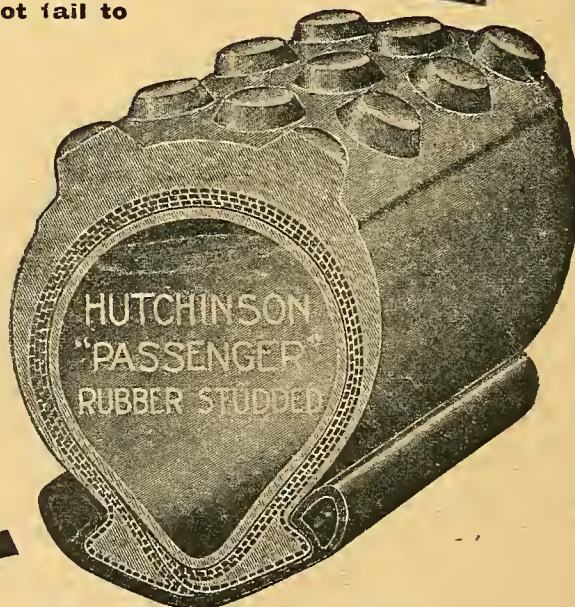
and the NEW HUTCHINSON
RUBBER STUDDED COVER

our 1912 SPECIAL, the most
efficient Non-Skid ever produced.

Afterwards you cannot fail to
**SPECIFY
HUTCHINSON'S
FOR YOUR
1912 MOUNT.**

Our famous "TOURIST TROPHY"
and "BROOKLANDS" types will also
be on show, and to every caller we will
present a free copy of our latest publi-
cation "WHY."

HUTCHINSON TYRE CO.,
70, Basinghall Street, E.C.



"Distinct from all Others."

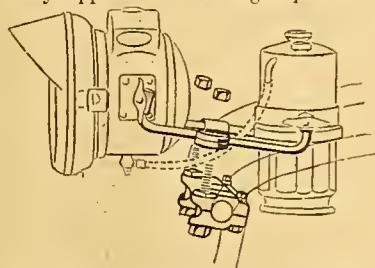
In answering this advertisement it is desirable to mention "The Motor Cycle."

The Olympia Show.—

W. AND A. BATES, LTD., St. Mary's Mills, Leicester (No. 28).—This old-established and reliable rubber manufacturing firm exhibit a large selection of motor cycle tyres. Their chief feature is a new ribbed tyre with a very broad central rib. They also show a neat tube gaiter, which can be laced round the tube in a short time. An exhibit on their stand which is bound to attract attention is H. B. Karslake's historic Dreadnought, which is fitted with Bates tyres, and will be well-known to most of the motor cycle world.

LUCAS LAMPS, No. 235.

JOSEPH LUCAS, LTD., Birmingham.—Motor cyclists should certainly see the new pattern acetylene head light with cage carbide holder. This cage generator is only applied to the larger pattern of



Lucas combined lamp and generator bracket fixing.

lamp No. 462. J. Lucas, Ltd., make motor cycle lamps in four different sizes, the smaller sizes making use of the ordinary generator. This is adapted to be secured either to the frame, handle-bar, or front forks as desired. Lucas lamps and generators can be fitted on all the different makes of motor cycles in use to-day. Among other items on Lucas's stand are a very nice observation mirror

(see sketch) and two standard pattern horns, one curled to encircle the handle-bar and bring the bulb into a convenient position. Both this and No. 32 are fitted with a clip arranged so that the curl can encircle the handle-bar if necessary. We can testify that the power of these horns is most effective. The combination brackets



Lucas adjustable handle-bar mirror.

for carrying the lamp, in front and the generator behind the bar can be supplied either to clip to the handle-bars or to the steering-pillar, and can be attached to practically any make of machine.

PRICE'S PATENT CANDLE CO., LTD., Battersea, S.W. (No. 210).—This firm not only specially studies the requirements of individual makes of engines, but of the different seasons, and their *huile de luxe* is made in various viscosities, the latest being a thick oil specially produced for summer use. The other particular products of this firm—including Rangraphine (a chain lubricant), Rangoon oils and jellies for rust prevention, and Manulav (their grease-removing soap)—are all too well known to require description.

ARMSTRONG GEAR, No. 33.

ARMSTRONG TRIPLEX THREE - SPEED GEAR CO., Icknield Street, Birmingham.—The well-known Armstrong Co. are exhibiting two models of their hub three-speed gear. One is for standard engines up to $3\frac{1}{2}$ h.p. for solo work. The other is fitted with double the clutch area, and is suitable for sidecar mounts up to $3\frac{1}{2}$ h.p. The quadrant has been enlarged, and the leverage increased, and it is probable that the firm will market a detachable clip for fixing the control to the top tube. The standard gear ratios are 5, 7, and 10 to 1. These, of course, are subject to the size of the pulleys, but serve to show the difference of ratio. This gives a very wide range and enables the machine to be started at walking pace with ease. A description of a visit to the Armstrong works was given in our issue of the 16th November.

THE PALMER TYRE, LTD., Shaftesbury Avenue, W.C. (No. 164).—This company, in addition to their usual patterns of cord and fabric tyres, are making for 1912 a new tyre of cheaper pattern called "The Privateer." This has a new design of non-skid tread consisting of a wide band in the centre and two ordinary bands on the edges. Palmer tyres are made as before with studded or ribbed treads, the cord tyre being made in precisely the same way as the car tyre. All their tyres are fitted with what they call a danger signal tread, which consists of a strip of red rubber between the canvas and the inner portion of the tread. When this red rubber is seen the tyre should be retreaded, and in the case of cord tyres it is claimed this can be done twice before the cover need be discarded.

DUNLOP, No. 158.

DUNLOP PNEUMATIC TYRE CO., LTD., Aston, Birmingham.—Dunlop and Warwick tyres are shown in considerable variety. As well as last year's pattern, with central groove and studs to side, the 1912 Dunlop motor cycle tyre is made with three rows of studs which are much elongated in shape. The Warwick tyre is made with round studs. A tyre for heavy powerful machine and sidecar work (650 x 65 mm.) follows the lines of the well-known Dunlop car tyre. The Dunlop belt, which is very successful, is to be seen, also a new belt case. Of course, the usual assortment of tyre repair outfits and other items connected with tyres are on view.

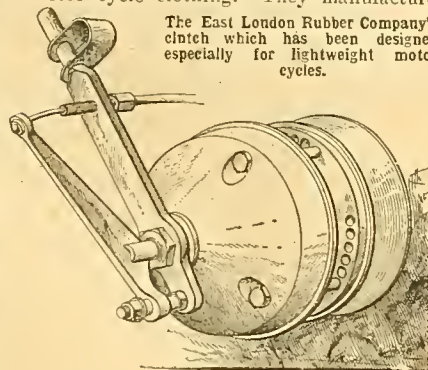
C. C. WAKEFIELD AND CO., Cannon Street, E.C. (No. 266).—The Wakefield display of samples of their oil calls to mind the numerous noteworthy performances and successes achieved with the aid of Castrol. It may be remarked that it was the oil which lubricated the winning engines in the Senior Tourist Trophy. The fact that this firm have won thirty-five medals out of a total of sixty-four is quite sufficient to demonstrate the remarkable excellent qualities of this lubricant.

KERRY, Nos. 21 and 273.

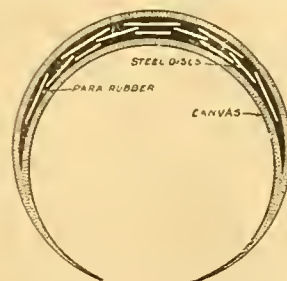
EAST LONDON RUBBER CO., Great Eastern Street, E.C.—This company specialise in tyre covers, which are manufactured in three different patterns: A grooved, rubber-studded, and one with a tread on which each letter of the name "Kerry" is formed of studs to act as an

anti-skid device. Their butt-ended tubes are particularly strong at the joint. This firm make a great speciality of their motor cycle clothing. They manufacture

The East London Rubber Company's clutch which has been designed especially for lightweight motor cycles.



several neat forms of coat, leggings, and waterproof rubber and leather gloves. On Stand 273 there is an interesting novelty in the shape of an automatic feeding oil pump. In the pump barrel, which is connected up with the oil tank, is a piston pushed upwards by a fairly strong spring. When this piston is depressed by hand, oil is drawn in from the tank above the piston. The spring then acts on the plunger, forcing it upwards, and the oil above the piston is forced out through a sight-feed regulated by a fine adjustment, and passes to the crank case as required. A very nicely made little tool is the Rose patent combined belt punch and cutter. An exhaust whistle so designed as to pass



Section of the Atlas non-puncturable inner casing, showing how the steel discs overlap. This band is being shown on the East London Rubber Co.'s stand.

all the exhaust through the whistle may appeal to some. The Atlas non-puncturable inner case has not been previously exhibited at a motor cycle show. It consists of a casing placed inside the tyre, in which steel discs are placed in three layers, so that one overlaps the other, thus rendering it impossible for any puncturing agent to reach the inner tube. The ends of the casing are allowed to overlap, and it is attached by solutioning about $\frac{1}{4}$ in. of its width to the cover. The Bobbett levers consist of a stop and two tyre levers, each of which has a small leg near the hook end. The hook is placed inside the rim and the lever pressed forward, when the leg catches in the rim and holds the lever in position. First of all it is necessary to fix the small stop, supplied with the set, which remains where it is until the whole cover is on. Once the stop is fixed, first one lever and then the other is used. The levers are most useful in the case of a refractory cover.

The Olympia Show.—

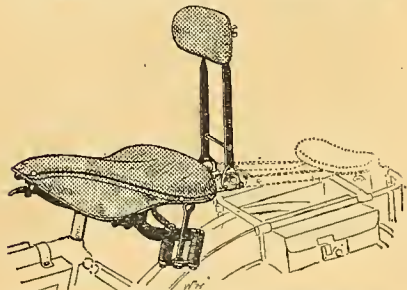
AUTO CYCLE UNION, Piccadilly, W. (No. 172).—Motor cyclists should call at this stand and obtain information on the many advantages of membership.

DALLISON GEARING CO., Princes Chambers, Corporation Street, Birmingham (No. 133).—This company are showing a motor cycle fitted with the Dallison five-speed gear, described and illustrated in our columns on November 9th. The Dallison silencer, which contains a series of hanging baffle plates set at different angles, was also described on the same date.

DUNKLEY, No. 138.

W. H. DUNKLEY, Arrowville, Alvechurch, near Birmingham.—Eight models of sidecars are shown on this stand. The Dunkley coach-built sidecar is very complete, having a torpedo front, screen, and Cape hood. The Chatsworth is a cane torpedo-fronted sidecar painted green with a space for tools in the rear.

MIDDLEMORE AND LAMPLUGH, LTD., Little Park Street, Coventry (No. 240).—This firm is showing a large selection of



The Middlemore back rest. The dotted line shows the position it assumes when folded out of action.

motor cycle saddles, and makes a special feature of the new back rest which can be instantaneously lowered by depressing a small trigger. A variety of mudguards is also on view.

BLUMFIELD, No. 55.

BLUMFIELD, LTD., Lower Essex Street, Birmingham.—A most interesting display of engines is to be seen on this stand. Sizes: $3\frac{1}{2}$ h.p. single, 80×95 mm.; 4.5 h.p. twin, 67×83 mm.; 5.6 h.p. twin, 67×95 mm.; 7.8 h.p. twin, 80×95 mm. All these are air-cooled. The following water-cooled engines are also made: 4.5 h.p. single, 81.5×95 mm.; 8 h.p. twin, 81.5×95 mm. The water-cooled engines are fitted with valves having adjustable stems. These are provisionally protected and will be illustrated next week. The valve lifter on the twin engines has been improved. Sections of the engines are shown, and that showing the oiling arrangement should not be missed. The oil is pumped into the timing gear instead of into the crank case, thence it passes through the crank bearings and through ducts to the big end and so into the crank case. The magneto chain cover can be taken off after turning aside two spring clips such as are used on the contact breaker cover of a magneto. The turret nuts which hold the inlet and exhaust pipes in position are grooved to prevent the spanner from slipping. The adjustable pulley remains unaltered, and is most simple and easy to manipulate.

CUTHBE AND CO., Great Eastern Street, E.C. (No. 287).—Besides the belt on this stand the Max Cycar tyre, for heavy work with powerful machines, will interest the motor cyclist, as also will the butt-ended detachable tubes shown by this firm. "Leakure," too, is a remedy that is worth attention for sealing punctures while riding, while for the Climax tyre stopping great rapidity of use and effectiveness are claimed.

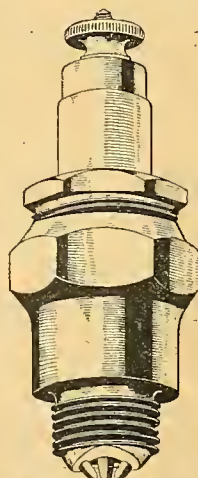
SEABROOK BROS., Great Eastern Street, E.C. (No. 241).—The chief specialties of Seabrook Bros. are the Solar motor cycle lamp and generator, which are both well designed and soundly constructed articles, and have been previously described in detail in these pages. The lamp this year will be somewhat reduced in price and will be fitted with a cowl in front and adjustable fasteners at the sides for a fork bracket, allowing the lamp to be tilted to any angle. Some motor cyclists still prefer a bell signal of alarm to a horn, and Seabrooks have introduced a loud sounding motor cycle bell, fitted with two rotating gongs. The Seabrook spanner is a well-known article among motor cycle riders, and three different types for motor cyclists are now sold, with a new non-rusting finish.

J. A. RYLEY, No. 231.

J. A. RYLEY, Martineau Street, Birmingham.—Among the great variety of motor cycle accessories on this stand, we particularly noticed a very nicely made tank, complete with gauges, oil pump, filter, etc. This firm has the agency for the K.E.W. magnetos. These have the mechanism well cased in, and are of a self-contained design, a particular point about them being the substantial construction of the contact breaker. The name J. A. Ryley has been long associated with the Vita sparking plugs, examples of which are on view. The J.A.R. siren, a very neat adjustable handle-bar mirror, solid leather toolbags, acetylene lamps, generators, oilcans, and collapsible funnels make up a comprehensive exhibit.

THE SPHINX MFG. CO., Bradford Street, Birmingham (No. 252).—The Sphinx Co. specialise in their well-known Sphinx plugs, which are made in a large variety of models and sizes, and are suitable for any engine. Their Gnat plug is probably the smallest practical plug manufactured.

THE HOFFMANN MFG. CO., LTD., Chelmsford, Essex (No. 276).—On this stand is exhibited a selection of the firm's well-known ball and roller bearings. A special feature is made of the latter type for motor cycle construction. Several ingenious working models are shown, proving the efficiency of these bearings.



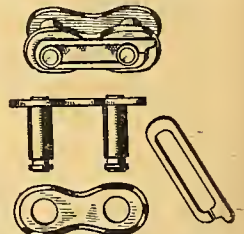
Sphinx three-point plug.

R. BROADHURST, Smithford Street, Coventry (No. 216).—The above firm shows a large selection of motor cycle accessories. Among others the Polkey dynamo for lighting purposes, which is a most ingenious fitment. They show, of course, their lamps and generators, and specialise on a new model fitted with Mangin mirror lens and supported on a forked bracket. Special generator brackets for the top tube, and various kinds of horns are also staged.

LIFFE AND SONS, 20, Tudor Street, London, E.C. (No. 152).—our publishers—show at this stand standard works on subjects of interest to the motor cyclist, such as "Motor Cycles and How to Manage Them," "The Motor Cycle Route Book," "Hints and Tips for Motor Cyclists," maps, photographs, etc.

RENOLD CHAINS, No. 236.

HANS RENOLD, LTD., Brook Street, Manchester.—The new chain link connecting bar made by Messrs. Hans Renold has the one edge of the split catch turned up so that a screwdriver, when inserted between the two edges, will expand the joint and force it over the head of the rivet. While on this subject of chains, it will be as well to point out to those who are contemplating chain transmission for 1912, and have never used it previously, that under no circumstances should the number of teeth on the engine sprocket divide equally into the number of links on the chain. For example, if the engine sprocket have 16 teeth and the chain 48 links, every sixth revolution of the engine causes the stress of the explosion to come on the same roller with the result that it is very soon broken. It may not occur to every manufacturer that this is a little item to be avoided. The representative of Messrs. Hans Renold informed us that the firm's experts were recently puzzled over a case of broken chain rollers until they finally traced it to this cause. Needless to say, a very fine exhibition of chains is on view on this stand, including some extra strong roller chains for motor cycle work, while the models of motor cycle chain transmission are also most interesting.



New Renold split catch. A screwdriver is inserted at the turned up edge when the catch can be sprung over the rivet head.

UNION RUBBER AND CHEMICAL CO., Shaw Street, Ashton New Road, Manchester (No. 283).—Notable among the tyres and sundries displayed by this firm—repair bands, gaters, and inside plasters must be mentioned—are the retreads supplied for vulcanising to the foundations of worn covers. The repair outfits, too, are worth attention, and in this connection the experience of the firm has led them to substitute a screw-capped tin for the usual collapsible tube. Among the other very various necessities on this stand, the tins of Carbide deserve attention, also the "Lightning" patches; the former are made in suitable sizes for the rocket.

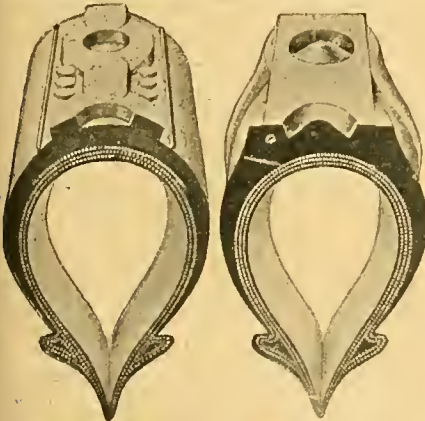
The Olympia Show.—

THE AUTOMOBILE ASSOCIATION AND MOTOR UNION, Whitcomb Street, Coventry Street, London (No. 162).—The A.A. and M.U., best known for their patrols, whose duty it is to give information, first-aid, and assistance to members, are showing specimens of their signs, etc.

H. VORLEY AND CO., LTD., St. Andrew's Works, Bethnal Green, E. (No. 148), have on view an assortment of oils, greases, etc.; also rubber solution and repair outfits. Among other novelties may be mentioned Vocol, a rubber solution which vulcanises itself, and Voco carbide and tyre paint.

KEMPSHALL, No. 161.

THE KEMPSHALL TYRE CO., LTD., I, Trafalgar Buildings, W.C.—A full assortment of Kempshall tyres are shown of the well-known anti-skid pattern. The tread of one type has been slightly modified for 1912, and a section of it was illustrated in a recent issue. It should be



Kempshall anti-skid tyre. Kempshall non-skid tyre.

remembered that the Kempshall Co. are the only firm that hold the R.A.C. certificate for the non-slipping properties of their tyres. The motor cycle tyres are made in the same way as the car tyres—that is to say, they are moulded to the proper shape from the commencement and the rubber is subjected to the enormous hydraulic pressure of four hundred tons.

THE MIDLAND RUBBER CO., LTD., Ryland Street, Birmingham (No. 30).—The Midland Rubber Co. specialise in rubber-studded and ribbed motor cycle tyres. These are strongly constructed and mounted on two or three layers of canvas. The company are prepared to guarantee these tyres for 3,000 miles. All the covers are manufactured with beaded edges, but a ribbed wired-on tyre is manufactured for lightweights. The firm also make a feature of the Midland belt. This is of the rubber and canvas type, and every belt is thoroughly tested before leaving the works.

STURMEY-ARCHER GEARS, LTD., Lenton, Nottingham.—As our last issue contained a full description of the Sturmey-Archer three-speed hub for motor cycles—the first illustrated description of its construction and method of working—it suffices now to say that the hub was shown whole and in detail, also built into a wheel and erected on a stand to show the method of operating the gear and clutch.

MICHELIN, No. 24.

THE MICHELIN TYRE CO., LTD., Chelsea, S.W.—A very large selection of motor cycle tyres is shown on the above stand, but no great alterations have been made as the existing types have given great satisfaction all round. The Michelin Co. manufacture a variety of treads, but specialise in the square tread and well-known steel-studded non-skid, which is famous for its excellent wearing properties. These tyres are manufactured both with beaded and wired edges.

RUSHMORE LAMPS, No. 191.

RUSHMORE LAMPS, LTD., Brewer Street, W. (No. 191), have an assortment of their lamps and generators, which were very fully dealt with in the issue of October 20th. The generator has a shaking grid, and as the firm is the originator of this type of lamp, motor cyclists may be sure they are getting a good article.

THE TORMO MFG. CO., Banhill Row, E.C. (No. 211).—The Tormo Mfg. Co. are showing the following types of Sarolea engines, all of which are provided with mechanically operated inlet valves and magneto ignition: 2 h.p., 66 x 72 mm.; 2½ h.p., 66 x 86 mm.; 3½ h.p., 85 x 88 mm. Also the F.S. ball bearings for motor cycle engines and gears, Tormo steel balls, and Eagle brand spokes and nipples.

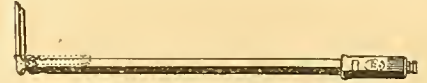
PETER-UNION, No. 29.

THE PETER UNION TYRE CO., LTD., Great Portland Street, W.—The above company are showing three types of motor cycle tyres which have not been altered in any essentials. They consist of a steel-studded non-skid, a twin ribbed non-skid, and a plain tread. The company wish to draw particular attention to their puncture-proof band, which is formed by placing a separate rubber band between the tube and the cover. This should certainly tend to prevent many punctures. It will strengthen the tube against bursts and at the same time will not detract perceptibly from the resiliency of the tyre.

THE VILLIERS CO., Blakenhall, Wolverhampton (No. 275).—The Villiers Co. exhibit a very neat motor cycle hub clutch which is fitted to several well-known makes of motor cycles, among others the Singer, Matchless, and Alldays.

WEILL BROS., LTD., Hatton Garden, E.C. (No. 278).—One of the most striking novelties on this stand is a petrol funnel that is practically self-sealing—that is to say, as soon as the petrol level reaches the top of the tank, the liquid raises a valve that automatically prevents the entry of more, and so prevents unpleasant and dangerous overflow. It should have a big future. The firm are also showing a back rest for attachment to motor cycle saddles, and this by an ingenious arrangement can be lowered after giving it a slight pull upwards. In the horizontal position, moreover, this rest makes a useful luggage carrier.

C. BINKS, LTD., Phoenix Works, Eccles, Manchester (No. 139).—The new Binks carburettors were fully described in a recent issue. They are fitted for the pilot jet which gives strong slow pulling and easy starting. The control is by single lever which first opens the pilot jet, then the main jet, and when throttle is fully open a further movement of the lever uncovers the extra air ports.

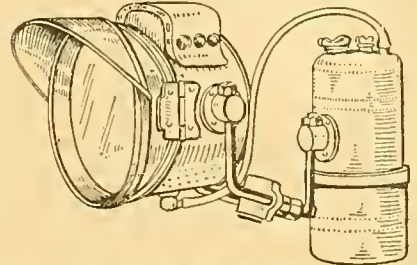


The new Dover exonite pump, with foot-piece.

DOVER, LTD., Northampton (No. 264).—Tyre inflators of ample capacity for the larger sizes of motor cycle tyres and nice looking and substantial exonite handle grips. The firm are producing a bulb-ended grip which certainly looks as if it ought to be very comfortable in use.

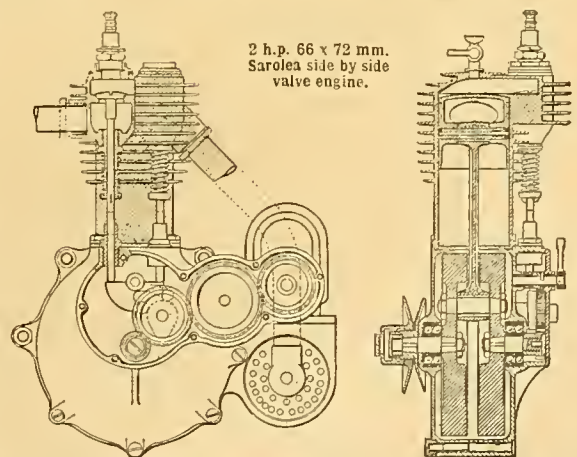
P. AND H. LAMPS, No. 233.

PCWELL AND HANMER, LTD., Chester Street, Birmingham.—A very comprehensive exhibit of these well-known lamps is on view. Most of the examples are



P. & H. lamp, showing combination generator and lamp bracket and its fixings.

modelled on the lines of the car lamp, with separate generator, which can be carried, together with the lamp, on a bracket of neat design for securing to the steering head, the generator being secured to a single arm at the back of the bracket. Among these are examples of a larger pattern. These have Mangin mirror reflectors, projector lenses, a

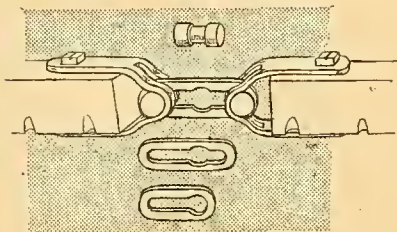


2 h.p. 66 x 72 mm. Sarolea side valve engine.

burner adjustable for focus, and the angle of the lamp can also be varied. Besides lamps on these lines, the firm also show a head light, self-contained with generator, which follows somewhat the design of the cycle type of lamp.

The Olympia Show —

THE FORWARD CYCLE CO., Edmund Street, Birmingham (No. 95).—Adjustable and detachable Forward belt fasteners for ordinary types of belts as well as for Watawata belts. The well-designed For-



Forward detachable fastener, which has links of different lengths.

ward non-sooting plug is also shown. We may add that these accessories have met with much success during the past season.

CHAS. H. PUGH, LTD., Birmingham (No. 259).—On this stand the Senspray carburetter makes its first appearance at an exhibition. The great point about this device lies in the careful provision made for thoroughly atomising the petrol. The air, which is regulated by a shutter of the ventilator type, is hand-operated, and is led into the spraying chamber through a constricted tube, and in the centre of the passage way of this tube the jet emerges. As the air passage is constricted, the air has to flow through the tube at great velocity, and, meeting the petrol from the jet, it sprays it very thoroughly into the mixing chamber, whence the mixture is led past a balanced disc type of throttle to the engine. It has been recently illustrated in detail in these pages. The petrol level is more or less immaterial owing to the injector action of the air in the sprayer tube rushing over the jet. The method of attaching the carburetter to the induction pipe is certainly light and simple.

B. AND B. CARBURETTER, No. 277.

BROWN AND BARLOW, LTD., Witton, Birmingham. — This stand is full of interest, for many new developments are in evidence besides the single-jet carburetters which we know so well. A variable jet and choke type, known as the Universal model, is being introduced, and, in addition, a racing model with an extension pipe expanded at its end for the air supply. For lightweights both the single jet and variable jet with choke tube are supplied, one of the latter models being fitted with a detachable gauze screen at the auxiliary air inlet. Most of the carburetters are operated by Bowden wire mechanism, and are provided with cable and neatly designed levers complete for attaching to the handle-bars. Various types are also made for direct lever and connecting rod control. Some useful bends and pipe unions are also shown, besides the detachable dust screen, and complete sets of carburetter jets in cases. Motor cyclists, especially those interested in the tuning of their engines to topmost pitch, ought to peruse the firm's booklet, which contains some very useful hints on tuning up and valve timing.

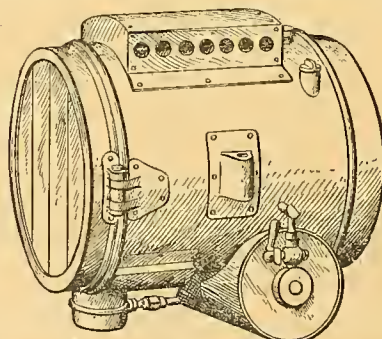
F.R.S. LAMPS, No. 136.

S. HALL AND SON, LTD., Wrothesley Street, Birmingham.—The F.R.S. lamp, designed according to the specifications sent by motor cyclists and used with great success in the London-Exeter and back run last winter, is shown here in many patterns. These lamps have Mangin lenses and adjustable burners. A most important point, they open both front and back, and can be set up on their carriers in any position. Back rests and exhaust whistles are other features.

ASTON MOTOR ACCESSORIES CO., LTD., Aston, Birmingham (No. 254).—The well-known Amac carburetter hardly needs description, the principal features being multiple jets, a variable adapter worked by lever from the handle-bar; this cannot be entirely shut off, but reduces the passage to the minimum at starting and varies up to the maximum for running at full speed. The float chamber lid is secured by a spring catch which enables very rapid removal and attachment. The Amac firm is also exhibiting a useful little handle-bar cut-out switch, and a belt perforator which is practically a screw-operated pointed drift, which forces a hole through the belt without removing any material. This will particularly appeal to the users of rubber and canvas belts, for the resulting hole should certainly weaken the belt less than if punched out in the ordinary way. Also a very substantial belt fastener, machine made out of solid Ubas steel, is worth notice.

DUNHILL, No. 232.

ALFRED DUNHILL, LTD., Euston Road, N.W.—Amongst the "Dunwear" motor clothing, lined with camel fleece so as to be waterproof but ventilating, the overalls will particularly appeal to motor cyclists, while amongst the minor articles of clothing a very cheap woollen cravat, arranged without any troublesome fastening, deserves attention. So, too, especially do the caps, gloves, and leggings, all of which are of the firm's own manufacture. The accessories display is very interesting, including as it does, amongst other

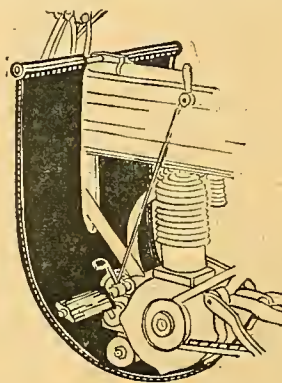


Dunhill's "Dreadnought" Headlight with self-contained generator.

things, the "Wee Dreadnought" lamp for motor cycle work. This is a self-contained acetylene lamp on entirely novel lines, and is a very handsome little production. Another useful article is an effective canvas cycle cover, made in two qualities. This ought to be very useful at this time of the year to protect against dust and damp the machines of those motor cyclists who prefer to lay them up for the winter, for

it may save much work in the long run.

ELEPHANT CHEMICAL CO., Neate Street, Camberwell, S.E. (No. 274).—A full range of this firm's specialities—carbides, rubber solution, repair outfits, tyre patches, and metal polishes.



The College mud shield for winter riding exhibited by Beard-Brown on stand No. 261.

BIRMINGHAM SMALL ARMS CO., LTD., Small Heath, Birmingham (No. 234).—Besides the B.S.A. motor bicycle, examples of which are also shown in the body of the hall, and are described elsewhere, there is a display of motor cycle parts which is confined to the far end of the stand. Interesting sectional examples of the B.S.A. motor cycle free engine and two-speed gears are shown, and these, together with free wheel mechanisms and the B.S.A. engine complete and in its component parts, afford superb examples of the firm's workmanship. Besides these details, frame parts and spring front forks in their component parts are also on view.

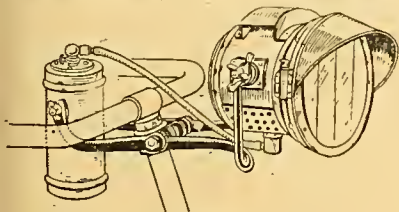
PRECISION, No. 253.

F. E. BAKER, LTD., Newtown Row, Birmingham.—This exhibit is not confined to one stand, for a large number of machines in the Show are fitted with Precision engines. Generally speaking, the firm makes a point of supplying a complete power unit, fitted with magneto, carburetter, and all appurtenances. The $3\frac{1}{2}$ h.p. single-cylinder model, which, with a bore of 85 mm. and a stroke of 88 mm., comes within the 500 c.c. class, is but little altered. Various minor improvements are incorporated, as, for example, silent tappets have now been introduced. The same applies to the $4\frac{1}{2}$ h.p. single-cylinder engine, which has been designed to come within the 600 c.c. class, which has a bore and stroke of 89×96 mm. respectively. The little $2\frac{1}{2}$ h.p., which is a very pretty model, has a bore and stroke of 70×76 mm., 293 c.c., and weighs, without silencer, 36 lbs. The oil retaining qualities and other details in this model have been improved, while the large diameter valves and the exhaust pipe area should be noted. The new 5-6 h.p. twin, which has already been dealt with in *The Motor Cycle*, is attracting much attention. The firm is also supplying, complete with change-speed gear, a fine example of a $4\frac{1}{2}$ h.p. engine, fitted with a Bowden two-speed gear in a self-contained form, complete with bracket, for building into the frame, marking a very desirable combined power transmission unit.

The Olympia Show.—

MARKT AND CO., City Road, E.C. (No. 223).—Several examples of the Jones speedometer. The Jones was one of the earliest speedometers to be put on the market, and its makers have, in consequence, an extended experience in the construction of these instruments for motor cycle work. The chief features of the Jones are its accuracy, the steadiness of the hand, and its reliability and good wearing qualities. All models are fitted with trip recorder and instantaneous reset.

S. SMITH AND SON, LTD., Strand, London (No. 265).—The well-known Smith



S. Smith & Son's lamp and generator set, carried on a single bracket.

speedometers, which register, as a general thing, up to sixty miles an hour, and combine, with the measurements of speed, a distance recorder. Some of the models shown are fitted with a trip recorder for registering the day's mileage. One is fitted on the Singer motor bicycle,



S. Smith & Son's handle-bar mirror with universal joint.

Perfect sparking plugs, which are a special product of this firm.

BOSCH IGNITION, No. 284.

BOSCH MAGNETO CO., LTD., Newman Street, Oxford Street, W.—The new enclosed Bosch magneto appeals particularly to motor cyclists whose engines are necessarily exposed to the vicissitudes of the weather. It is a most interesting little machine, with all the working parts completely encased, but having protected lubricating holes accessibly placed. The high tension cables are fitted with watertight connections, which are accessible without recourse to tools; distributor and contact breaker can also be easily examined. The principle of the bayonet joint assisted by a spring is used for the casing of the latter. In the very latest design the poles have been extended somewhat round the

circumference of the armature, with the result that starting is easier with a retarded spark. A new type for use with two plugs in one cylinder is also shown. This is the Z.E.I. type. In this the high tension current is conducted to two distributors, each one leading to its separate sparking plug. As the combustion from two sparks is naturally more rapid, we understand that the timing in this two-spark type can be 15° later than in the ordinary single plug pattern, whilst it is also claimed that the more complete combustion gives an increase of 10% more power. The Bosch Company are showing a new sparking plug terminal with watertight cover.

BROWN BROS., LTD., Great Eastern Street, E.C. (No. 207).—This firm has always been noted for its accessories, and a glittering array of lamps and generators of various designs, mirrors, horns, and oilcans attract attention. The Auto-clipse lamp is a speciality of this firm, whilst a new pattern Powell and Hammer self-contained lamp and generator should be inspected. Tyres will receive special attention by Brown Bros. in 1912. Various designs of toolbags for the rear of the carrier or to carry pannier fashion are among the exhibits. A new two-speed counter-shaft gear Brown motor cycle with sidcar completes the exhibit. We deal with this among the motor bicycles at the Show. Brown Bros., Ltd., make a speciality of motor cycle tyres. Of these the most interesting is the model X type, the tread of which is provided with two ribs, and between these are lozenge shaped projections which alternate with studs.

THE SERVICE CO., LTD., 111 High Holborn, W.C. (No. 292).—Many accessories, which were described in detail on page 1180 in our issue of November 9th, such as the Service "Warbler," the ingenious "Fitzall" spanner, the "Voltalite" electric lighting set, the Binks, C.A.P., Lukin, and other well-known carburettors, the A.L. generator, Service belt, and other numerous and useful accessories. The firm's clothing exhibit is also worth a special visit. The approaching cold weather will cause the motor cycle rider to take interest in the several warm reefer jackets sold by this firm, while the prevalence of wet in the winter months will evince a similar interest in the oil skin overall suit of which the Service Co.



Ingenious design of rubber-studded belt sold by the Service Co.

make a speciality. Similar to the oil skin is a suit made of Pegamoid, which is of pleasing appearance and is well spoken of by all who have used it. Gloves, caps, comforters, and other items which add to the warmth, welfare, and comfort of the rider are also to be seen here.

THE MICROMETER FREE WHEEL CO., Spon Street, Coventry (No. 295).—A varied selection of micrometer free wheels for motor cycles of all types.

F.R.S. LAMPS AND GENERATORS, No. 136.

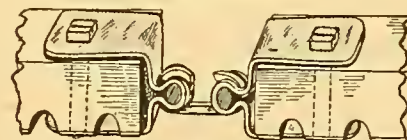
S. HALL AND SONS, Wrotesley Street, Birmingham.—It is interesting to remind our readers that these lamps are built upon suggestions received from readers of *The Motor Cycle* some years ago. The excellence of their light-giving properties is too well known to be dwelt on further. The F.R.S. grid generator is worthy of close inspection.



The Vevo foot and hand operated pump.

FRANKLIN, 72, Regent Street (No. 51).—This exhibit is of interest to short-sighted motor cyclists, as Messrs. Franklin make a speciality of goggles fitted with lenses to suit the sight.

A.B.C. MFG. CO., Cannon Street, Birmingham (No. 19).—Motor cycle lamps fitted with genuine Mangin lens mirrors. One of these is shown with black finish, and the black is guaranteed not to chip or come off. The A.B.C. generator works on the drip principle, and is provided with an automatic valve to blow off when the pressure gets too high. A special clip is provided to the generator for attaching to the top tube, made in two halves and bolted together. Also the Anti-rust semi rim is shown. This consists of two curved rings with serrated edges, made of aluminium alloy, which fit over the edge of the edges of the tyre rim. The serrated edge stops creeping of the tyre, and at the same time rust is kept out and the bead of the tyre is prevented from cracking.



New pattern Stanley hook with square ends.

THE COVENTRY RUBBER CO., Spon Street, Coventry (No. 296).—Three Spires non-skid motor cycle tyre. This cover remains unaltered for 1912, as the manufacturers have found its wearing and non-skid qualities all that can be desired.

G. ATKINSON, Summer Hill Row, Birmingham (No. 47).—Two types of motor cycle covers, the rubber-studded heavy non-skid specially constructed for high-powered machines, and built of three-ply Egyptian canvas, and known as the Wimbourne. Also a lightweight motor cycle cover with corrugated tread, the Wimbourne red Para butted tube, and the Brooklands rubber belt. Also gas tubing, fibre brake blocks, patches, and repair outfits.

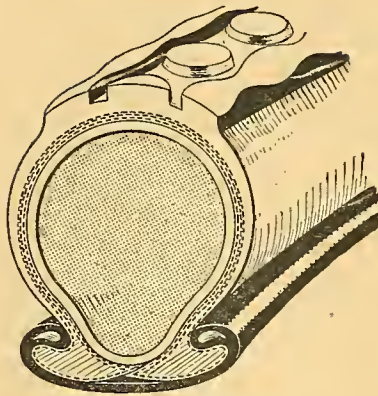
THE COUNTY CHEMICAL CO., LTD., Bradford Street, Birmingham (No. 293).—Chief novelties are chemical puncture stopping, a liquid inserted in the tube which seals the puncture, and is claimed to have no effect upon patches. Chemico Reliance repair outfits are now provided

The Olympia Show.—

with a stiff-backed patch, a patch stuck to cardboard so that it can be easily manipulated and put on. When the patch is properly stuck the cardboard can be pulled off. Also the noiseless repair outfit; the outer covering is corduroy, and envelops a spring. There is a separate compartment for each article, and when rolled up the spring holds the whole in position. The Chemico backrest appeals to those who cover long distances. Besides the above, an ingenious ratchet valve grinder is shown supplied with ratchet screwdriver and lever. The lever is hooked at one end, this hook being placed under the tube of the frame, allowing the requisite pressure to be put on the valve. Oil for air-cooled engines, car-bide, enamel, metal polishes, etc.

THE MECCA OF MOTORISTS.

Though not showing at the Olympia Show, Messrs. Gamage will have several novelties on view at their Holborn



Kerry "Ideal" tyre.

depot, which may be described as "The Mecca of Motorists." Among the motor cycle specialities may be mentioned Dr. Stormont's mudshield, which is made of

leather and extends from the head at right angles to the frame right down to the ground. It is of ample width, so as to ensure perfect protection to the rider, while a hole is suitably placed for allowing the air to reach the engine. Gamage are now marketing a motor cycle.

We were also shown during a recent visit to this emporium a very complete and useful tool roll for motor cyclists, put up in a water-proof canvas case. Mascots are popular among a number of motor cycle riders, and Messrs. Gamage sell one of these in the shape of the well-known Lincoln Imp, designed to be clipped on to the handle-bars.

In the clothing line also novelties are to be found, among which may be mentioned a suit of overshoes and leggings, which afford protection from the feet almost to the waist. Every accessory and article of clothing that a motor cyclist wants, or is likely to want, can be seen in the well equipped showrooms of this well-known firm.

THE MOTOR CYCLE IN THE UNITED STATES.

HAVING recently made a short visit to the North-eastern corner of the United States of America, I have been asked by the Editor to give some of my impressions concerning the state of motor cycling in America. Having been a reader of some of the American periodicals for some years, I must confess that my first impression was one of considerable disappointment. I landed in New York, and had been there several days before I saw a motor bicycle at all, and my wanderings took me not only up and down the busy streets of the town, but into several of the outlying suburbs.

In England one would not expect to see many motor cycles actually in the City, but it would scarcely be possible to spend an hour anywhere in a circle five miles from St. Paul's without encountering many machines of different kinds.

Riding Conditions in New York.

Also, New York is in many ways far better suited to motor cycling than is London. The streets are wider, the traffic is much less dense, and the distances between important points of the town are fairly great. On the other hand, with one or two noticeable exceptions, the condition of the streets is such that riding in any kind of vehicle is extremely uncomfortable, and riding on any sort of bicycle might become positively dangerous. Although a number of pedal cycles are in use, there is nothing like the same proportion as anywhere in England. The utility of every kind of cycle in America has been so greatly reduced by the truly abominable roads that cycling and motor cycling have never become part of the national life in the way they have here.

In some of the smaller towns such as Buffalo, Cleveland, Dayton, Ohio, and, of course, Detroit, a good many motor bicycles are to be found, but although I covered a good many hundreds of miles of the roads lying round these cities, I do not think that I actually met fifty motor bicycles in the whole time, although cars were encountered every few miles. Here, too, of course, the roads make motor cycling a quite violent physical exercise.

Driving a car on roads which in most parts of Europe we should disdain to call cattle tracks is sufficiently hard work for most people, and motor cycling must be infinitely more strenuous.

The Alleged Roads of the U.S.

Imagine a track some thirty feet wide consisting of loose earth, either sand or clay, according to the nature of the soil, and rutted by the passage of cars and farm waggons often to a depth of a foot in dry weather, and much more in wet. Rarely is any attempt made to level these roads, the usual method of repairing being to scrape up from the sides towards the centre, perhaps adding a little gravel until

there is a ridge along the middle of the road three or four feet high. This is left to be trampled and scattered about by passing traffic, and one is liable to come upon twenty mile stretches of this sort of thing.

The only occasion I had for observing the pastime in the country at really close quarters was on a short run near Dayton, Ohio, over a medium quality road. On this occasion a fairly large party were going out to see some flying at the Wright Bros.' ground, about eight miles from the city, and as I was travelling in a car I was able to appreciate the sensations of half a dozen Indian riders who "hung on" for most of the way.

At speeds above twenty miles an hour they appeared never to touch their saddles at all, and in order to avoid ruts, the steering consisted of a series of plunges from side to side of the road. Several times they dismounted to negotiate a particularly deep patch of loose sand, and often in rising over a hump in the road the whole machine would leave the ground for a foot or two coming down with a "whack" which made one wonder how the frames could stand the continual strain.

A Big Future for American Makers.

Undoubtedly the roads of America are improving rapidly, because it seems that nearly everyone who can possibly afford any sort of motor is buying one, and as soon as the roads are good the convenience of a motor cycle in covering the long distances from town to town cannot fail to bring it to its own.

Machines are used to a considerable extent by the urban governments for the speedy transport of police and fire brigade officials, and frequently it seems the use of a motor bicycle has enabled the capture of a criminal or assisted in the extinction of a conflagration when no other means would have served.

If the rider is not considering his comfort the two-wheeled machine can, of course, be taken into places where no car could go, and usually at a speed which no horse could attain. It seems to me that the employment of motor cycles by the local government bodies in America is likely to be a most powerful influence in the betterment of American roads—certainly no official who rides a machine can be under any illusions concerning them.

A.L.C.

Yeovil and District M.C.C.

The annual general meeting was held on the 8th inst. at the Half Moon Hotel. The following officers were elected: President, Dr. R. H. Walters; hon. treasurer, Mr. W. R. Waterman; hon. sec., Mr. J. Baker. The club team were congratulated on their winning the silver cup in the A.C.U. Six Days' Trials in Yorkshire.

NEW LONG DISTANCE RECORDS.

ON the 14th inst., J. R. Haswell, the well-known private owner of a $3\frac{1}{2}$ h.p. T.T. Triumph motor cycle, put up a splendid performance at Brooklands. The day was windy, and by no means favourable for record-breaking. Haswell's machine ran consistently, and there was little difference between the fastest and slowest lap. The fastest lap was 2m. 34s., making a speed of 63.53 miles per hour, while the slowest lap was 2m. 41s., giving a speed of 60.77 m.p.h. While he was running he never covered a lap at less than 60 m.p.h., but unfortunately he had very bad luck, having stops of 23m., 10m., 5m., 6m., and 5m. respectively, due to valve trouble and to the attachment of the special silencer, fitted to comply with the Brooklands regulations, coming loose. As a silencer, the device was distinctly a success, though of somewhat bulky dimensions. Despite this, however, he captured the

four, five, and six hour records and 250 and 300 miles, the complete figures being:

4 hours: 209 miles 420 yards.

5 hours: 266 miles 584 yards.

6 hours: 321 miles 1,060 yards.

250 miles: 4h. 42m. 43 $\frac{2}{5}$ s.

300 miles: 5h. 38m. 56 $\frac{3}{5}$ s.

These are world's records in Classes C (500 c.c.), D (750 c.c.), and E (1,000 c.c.).

The rear wheel was changed as a precaution, though the tyre was in quite good order. If it had not been for the troubles he experienced, Haswell might well have averaged sixty miles throughout the whole ride—certainly a marvellous performance. As it was, Haswell was exceedingly disappointed with the ill-luck which dogged him, and decided to stay on the track with a view to improving his short-distance times and distances.

Manufacturers' Union Second Annual Banquet.

THIS function was held at the Waldorf Hotel on Friday last. Mr. Arthur Brampton, J.P., president of the Union, presided. After an excellent dinner, the Chairman proposed the toast of the Sovereign in the old-fashioned way, raising his glass to the "King across the water." In proposing the toast of "The Manufacturers' Union," he apologised for its lengthy title, which had been imposed on them by a Government department, but what was in a name? The Union, which was but three years old, had been of great service to the trade. Mr. Alfred Bednell, the secretary, had proved himself to be invaluable. He was as wise as a serpent, and yet not quite as harmless as a dove. The great work of the Union had been the Show; in fact, the Union and the Show were inseparable.

Mr. S. Bettmann, J.P., in reply, spoke at some length on the work the Union had done.

Mr. H. G. Burford, also in reply, made a capital speech, and was the only speaker who gave the motor cycle side of the Union's work more than a passing reference. The Show, he said, was essentially a motor cycle show, and was the finest exhibition of its kind in the world. He was pleased to see that the

British motor cycle still more than held its own. He spoke in glowing terms of the excellent work done by Mr. Bednell, the secretary, and Mr. C. D. Clayton, the press agent.

Mr. Chas. Marston, ex-president of the Union, then proposed the toast of "The Guests," making special mention of the press.

Mr. Massac Buist (the *Morning Post*) replied, and referred to his fellow guests, Messrs. Robert Todd (chairman A.C.U.), F. Straight (secretary A.C.U.), Stenson Cooke (secretary A.A. and M.U.), A. Blackie (manager of the Olympia Show), and T. Woodfine (secretary the S.M.M.T.)

Mr. J. Percy, J.P., replied on behalf of the technical press.

Mr. Harry Smith, a vice-president of the Union, proposed the toast of "The Chairman."

An excellent musical entertainment followed.

A disappointing note in the speeches was the manner in which the motor cycle industry was slurred over. It is true that every speaker made once during his speech a casual reference to the movement, but with the exception of Mr. Burford everyone practically ignored the subject.

ADDENDA TO BUYERS' GUIDE.

A number of specifications of 1912 models have reached us since "The Buyers' Guide" went to press. Brough (Ladies').— $3\frac{1}{2}$ h.p., 85 × 88, Brough variable gear, belt, height 29in., wheelbase 49in., Continental tyres 2 $\frac{1}{2}$ in. £52 10s.

2 $\frac{3}{4}$ h.p., 77 × 88, Brough variable gear. £50.

C.C.R. (Twin).—4 $\frac{1}{2}$ h.p., m.o. valves, 70 × 80, belt, wheelbase 52in., Dunlop 2 $\frac{1}{2}$ in., weight 180 lbs. £50. F.E. hub £6 6s., and Armstrong three-speed £10 10s. extra.

C.C.R. (Sidecar).—8 h.p. J.A.P., 85 × 85, three-speed and clutch, Dunlop 2 $\frac{1}{2}$ in., wheelbase 62in., weight 280 lbs. £78 15s.

Dor.— $3\frac{1}{2}$ h.p. Precision, 85 × 88, Amac, V.S. hub, belt 2 $\frac{1}{2}$ in., height 29in., clearance 4 $\frac{1}{2}$ in., Hutchinson 2 $\frac{1}{2}$ in., weight 190 lbs. £57 15s.

Dor (Twin).—8 h.p. J.A.P., 85 × 85, Amac, V.S. hub, same dimensions, weight 210 lbs., 2 $\frac{1}{2}$ in. tyres. £68 5s.

6 h.p. J.A.P., 76 × 85, Amac, V.S. hub, weight 200 lbs. £67 4s. Without V.S. hub £10 10s. less.

Edo.— $3\frac{1}{2}$ h.p. Precision, 85 × 88, B. and B., belt, height 30in., clearance 5in., Dunlop 2 $\frac{1}{2}$ in., wheelbase 53 $\frac{1}{2}$ in., weight 160 lbs. £42.

4 $\frac{1}{2}$ h.p. Precision, 89 × 96, Amac, P. and M. two-speed, chains, height 31in., clearance 3in., Moseley 2 $\frac{1}{2}$ in., wheelbase 55 $\frac{1}{2}$ in., weight 180 lbs. £56.

LINCOLN ELK.— $3\frac{1}{2}$ h.p., 85 × 88, B. and B., belt, height 32in., clearance 4 $\frac{1}{2}$ in., Palmer 2 $\frac{1}{2}$ in., wheelbase 53in., weight 180 lbs. £34.

3 h.p., 79 × 82, weight 150 lbs. £30 10s.

2 $\frac{1}{2}$ h.p., 70 × 72, height 30 $\frac{1}{2}$ in., wheelbase 49 $\frac{1}{2}$ in., weight 120 lbs. £28 10s.

MOTOSACOCHE.—The lady's machine has a 2 h.p. 62 × 70, not a 2 $\frac{1}{2}$ h.p. engine, a spring frame, and weighs 95 lbs.

SERVICE (Twin).—8 h.p. J.A.P., 85 × 85, B. and B., Roc two-speed, Service belt, tyres 2 $\frac{1}{2}$ in.

SERVICE (Single).— $3\frac{1}{2}$ h.p. J.A.P., 85.5 × 85, B. and B., Service belt.

CURRENT

CHAT

TIME TO LIGHT LAMPS.

Nov. 23rd	...	...	4.59 p.m.
" 25th	...	...	4.57 p.m.
" 27th	...	...	4.55 p.m.
" 29th	...	...	4.53 p.m.

65,000 Copies of "The Motor Cycle."

The circulation of the issue of *The Motor Cycle* dated November 9th was 63,250 copies, and of the second show number, dated November 16th, 65,000 copies.

Late Club Items.

The annual reliability trial of the Sutton Coldfield A.C. will take place on December 14th and 17th.

There will be a meeting at 8.30 p.m. on the 29th inst. at the Royal Talbot Hotel, Victoria Street, Bristol, to discuss the desirability of forming a purely motor club for Bristol and the neighbourhood.

The Show Catalogue.

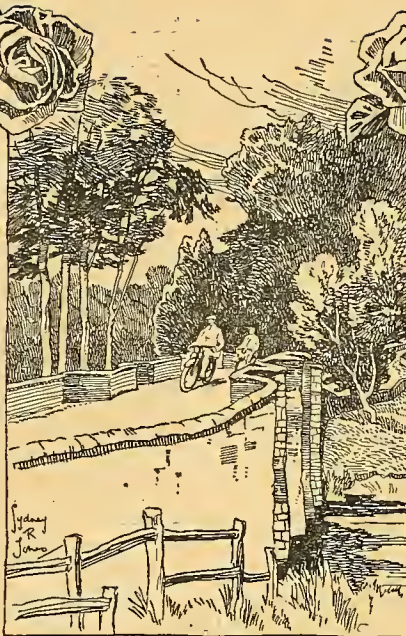
A word of praise is due to those who are responsible for the compilation of the Show catalogue. In it are alphabetical lists of all proprietary names in the allied industries, as well as a complete list of exhibitors with their postal and telegraphic addresses, cable codes used, and telephone numbers. The whole is arranged in a convenient style and sold at 6d.

Cut-outs to be Prohibited.

The Local Government Board has written to the Royal Automobile Club stating that the Board has under consideration the question of the use of "cut-outs" on motor vehicles, and proposes to take steps to prohibit the use of these fittings on the public highways. This ban will seriously affect both motor cyclists and manufacturers of motor cycles, the former because they nearly all possess machines that are fitted with cut-outs, and the latter because they will be compelled, in many cases, to redesign their silencers. In the long run the Local Government Board's decision will benefit the pastime, and it is surprising it has not come about before.

The Olympia Press View.

It was somewhat of a farce to apply the term "press view" to Olympia last Saturday. The majority of the exhibitors were far from ready, whilst some stands were deserted. The management are hardly to blame in a way, as some delay was caused through the close proximity of the Car Show. We understand the car exhibits were not all out on the Wednesday of last week, so the motor cycles could hardly shake down by Saturday. There were also complaints of delay on the railways. If we are to have a press view it ought to be complete. Two of the most novel machines were not brought into the Show until Saturday afternoon. The James and Matchless stands were even deserted until Sunday midday, whilst on Sunday evening the Show was by no means complete.



Advance Reports.

One or two writers of motor cycle notes in the daily papers last week referred to the "display" of four-wheeled runabouts at Olympia, and called this type one of the attractions of the Show. This comes of publishing advance reports.

The Show on the Opening Day.

The Show opened at 10 a.m. on Monday. All night work resulted in every stand of importance being filled on Monday at opening time. Most stands in the Main Hall were lighted, and a general view from the Gallery was distinctly pleasing. People were not exactly fighting to enter at 10 a.m., but later on the building was receiving an ever-increasing stream of visitors. The morning was dull and cold, and later rain began to fall.

SPECIAL FEATURES.

OLYMPIA SHOW REPORT.
PROFUSELY ILLUSTRATED.

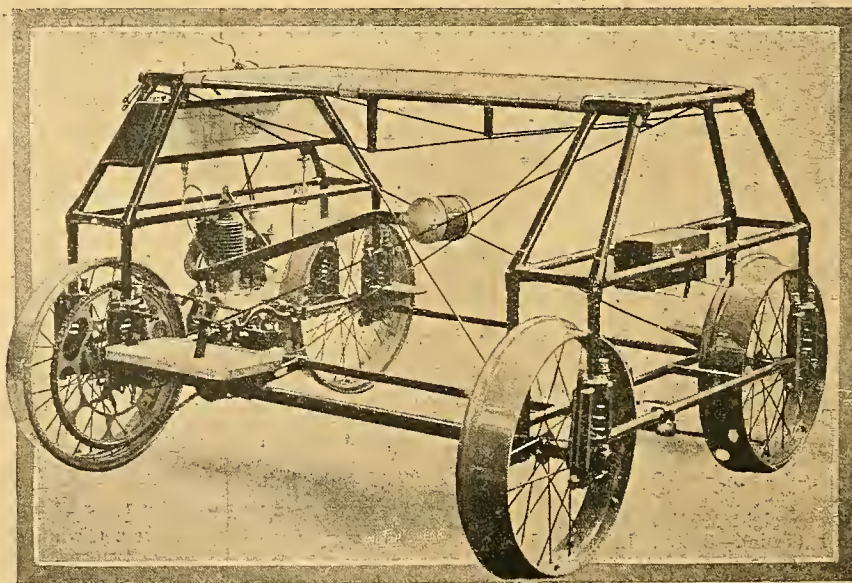
SIX YEARS OF MOTOR CYCLING.

BY MRS. M. C. COOKE.

M.C.C. SECOND WINNER RUN.

Brooklands.

Records at Brooklands are most sought after at show time, consequently it was not surprising to find a small host of well-known riders on record bent at Brooklands last Saturday. The morning opened fine, but a drizzle soon gave place to pouring rain, and records through seas of water were, of course, impossible. Among those who are waiting attempts on record are J. R. Haswell, who is not satisfied with his last week's performance, and thinks with better luck he will improve his times; Rhys on a Rudge; Lieut. Smith, R.N., $3\frac{1}{2}$ h.p. Singer; G. E. Stanley, $2\frac{1}{2}$ h.p. Singer; and W. H. Bashall on a Bat sidecar. Another rider in attendance is the hour record-holder, Stanhope Spencer, who is merely waiting at Brooklands with his racer watching the fun. He tells us that in case his distance for the hour is beaten he will immediately attempt to improve upon the new times. He considers he could add two miles to his distance in the hour. Most if not all of the above-named riders will attempt record this week at Brooklands, as also Harry Martin. F. A. MacNab is having a water-cooled cylinder made for his $3\frac{1}{2}$ h.p. Trump-Jap, and is confident that improved speed will result.



A photographic denial of the numerous statements that there are no four-wheeled vehicles at Olympia! It is a Humber railway trolley, propelled by a 2 h.p. lightweight engine set.

A.C.U. Sub-committee.

The above committee is now busily engaged in looking after the wants of motor cyclists on the road, especially as regards the appointment of suitable hotels and repairers. A capital sign, bearing the A.C.U. initials, has been ordered, and certificates have been got out for the repairers.

The Show.

Special trips to Olympia from all parts of the country have been arranged. On Saturday there will be a big influx of visitors from the provinces. The Wolverhampton M.C.C. has arranged for a saloon to be attached to the L. and N.W. 5.50 a.m. train, and other organised outings will start from Birmingham and Coventry.

Activity in the Midlands.

Next year the Coventry and Warwickshire Motor Club will organise an open reliability trial in the spring, in addition to the autumn open hill-climb. Another novel event on the draft programme is a winter run on the last Saturday of the current year.

Meeting of Club Secretaries.

On Saturday evening next, in the Press Room at the Cycle and Motor Show at Olympia, secretaries of motor cycle clubs will meet for the purpose of arranging dates for the 1912 fixtures in order to avoid clashing of dates. At the conclusion of the meeting it is proposed to discuss the question of the relationship between the Auto Cycle Union and the provincial clubs.

Slow Moving Traffic.

Representations have been made by the R.A.C. to the Commissioner of Police for the Metropolis urging him to take steps to regulate the traffic in Tottenham and Wool Green with the object of keeping the slow moving vehicles near the left kerb. As a result the secretary has been informed that Sir Edward Henry will direct such special action as may be necessary.

Motor Cycle Famine in Ceylon.

The boom in motor cycles which set in in England two years ago has now reached Ceylon. All the motor cycles imported are bought up at once, and many more could be sold if they could be delivered. One Colombo firm (Messrs. Brown and Co.) has sold seventy-three motor cycles this year. The majority of the buyers find the machines very handy for getting about. A Ceylon M.C.C. has now been formed, and the members already number sixty.

A Colossal Output.

Mr. Howard E. Coffin, past president of the American Society of Automobile Engineers, read a paper at the Institute of Mechanical Engineers, Storey's Gate, S.W., on Wednesday, November 8th. In replying to the discussion, Mr. Howard Coffin stated that the total out-put of one American factory would amount to no less than 75,000 motors cars in twelve months. The Chairman of the meeting then drew a comparison with the total out-put of the motor car firms in this country and said that the above figures gave a ratio of two to one in favour of the single American firm.

FUTURE EVENTS

Nov. 20-25.—MOTOR CYCLE AND CYCLE EXHIBITION AT OLYMPIA.

Dec. 9.—M.C.C. Annual Dinner at the Café Monaco.

" 26-27—M.C.C. Winter Reliability Run to Exeter and back.

" 27—Dublin and District M.C.C. Open Reliability Trial to Waterford and back.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.

Another Winter Trial.

The Bradford Motor Cycle Club proposes to organise an open twenty-four hour reliability trial to Barnet and back on New Year's Day.

R.I.A. Activities.

A meeting of the Midland Centre was held on the 8th inst. Local road improvements were dealt with, and the proposal to construct a new road from Birmingham to Wolverhampton was again considered. Also the question of lighting unrolled metal at night was dealt with.

Direction Signs in Kingston.

A short time ago the R.A.C. secured the erection of a lamp on a dangerous unlighted barrier on the blind end of Lingfield Avenue, Kingston-on-Thames. Permission has now been obtained for the erection of a conspicuous direction sign, which, it is hoped, will be fixed in a few days.

A Delicate Situation.

The members of the committee of a club on Merseyside are going to have a rare chance of showing their British good sportsmanship. They have been competitors for a cup presented for the "best performance of the year," and there is diversity of opinion about the donor's intentions. Farcy committee members who have been competitors trying to decide to whom the cup shall go! It is an awkward situation, and we hope for a happy settlement.

Affiliation.

The Ipswich and District Motor Cycle Club (thirty-two members) has become affiliated to the governing body.

A.C.U. Metropolitan Centre.

Mr. P. D. Stirling, hon. secretary of the Metropolitan Centre of the A.C.U., talks of organising a smoking concert for members of clubs affiliated to the centre in January next.

Winter Hill-climb in France.

The Auto Cycle Club of France is organising a hill-climbing competition for motor bicycles, tricars, and voiturettes to be held December 17th. All machines except in two open classes must be of the commercial type, i.e., "rigorously in accordance with makers' catalogue specification." Manufacturers' entries are confined to three machines in each class.

Motor Bicycles.—Class 1, 225 c.c.; 2, 300 c.c.; 3, 400 c.c.; 4, 500 c.c.; 5, no restrictions.

Tricars.—Class 1, maximum bore of engine 90 mm.; 2, no restrictions.

Entrance fees for motor bicycles, 15 francs; tricars, 20 francs.

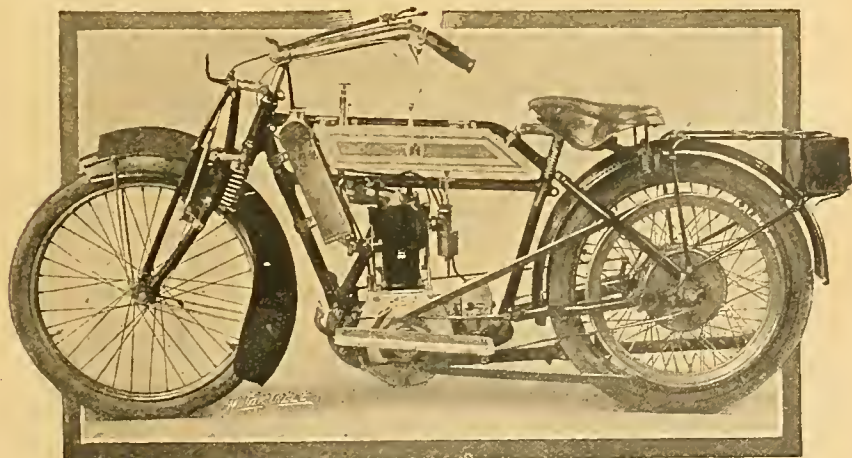
The address of the secretary of the French Auto Cycle Club is 35, Rue de Crussol, Paris.

Military Motor Cycling.

It will be remembered that some time ago the Auto Cycle Union submitted to the Army Council a scheme for the provision of a number of motor cyclists for service in cases of emergency. Nothing much has since been heard of the matter, but an Advisory Committee, consisting of representatives of the War Office, the Auto Cycle Union, and the Automobile Association, has held many meetings to draft a scheme likely to be acceptable. This scheme has now been completed, and as soon as finally approved by the Army Council it will be published.

A.C.U. Quarterly Trials.

The Bradford M.C.C. has made the following proposition: "That, as an encouragement to Quarterly Trial entrants every rider in any trial making a non stop run be awarded a medal, silver suggested." This was referred to the A.C.U. Competitions Sub-committee for its consideration.



AT OLYMPIA. Water-cooled 4 h.p. Rex with two-speed gear in back hub.

AUTO CYCLE UNION NOTES.

OWING to the Union having decided to grant permits to provincial clubs to hold open competitions, provided the rules given hereunder be observed, and with the intention of starting the new year with as few suspensions on its books as possible, the following suspensions have been removed:

Removal of Suspensions.

Riders who took part in the Northern League competitions in 1910 and 1911 and the Liverpool A.C.C. trial held this year, to date from January 1st, 1912. It has also been decided to remove the ban placed upon the Harrogate and Scarborough clubs.

Messrs. Ivan B. Hart-Davies and Hugh Gibson, both riders who were suspended for taking part in road records in which the legal speed was exceeded, will also be reinstated.

Open Reliability Trial.

It has been decided that permits should be granted to clubs to hold open reliability trials upon the following conditions:

MINIMUM DISTANCE.—That the minimum distance be 100 miles.

SPEED.—That the schedule time shall not be set above the legal limit.

CUT-OUTS.—That cut-outs be not used, and if fitted they must be sealed. The judges shall have power to disqualify noisy machines.

SUNDAY COMPETITIONS.—That no competition or part of a competition shall extend over a Sunday.

ROUTE.—That a permit be not granted in the case of a course traversing a populous district more than twice, and that the course be arranged so as to cause the least possible inconvenience to the public.

SILENCERS.

THE article on silencers in the last issue must have been read with great interest by peace-loving motor cyclists. I should like to make a few further remarks upon a subject which is of great importance, and likely to come much to the front in the future, probably in the near future. It is generally recognised that a silencer has two functions to perform: (1) To silence the exhaust; (2) to admit

if the silencer be properly designed and the exhaust pipe of a suitable length, the gas in the pipe will be already in motion, and will have caused a partial vacuum in the pipe itself which will assist the gases to escape from the engine and at the same time issue from the silencer into the air with a much lower velocity, and consequently with less disturbance of the atmosphere and less noise.

Continuous Escape of Gas desirable.

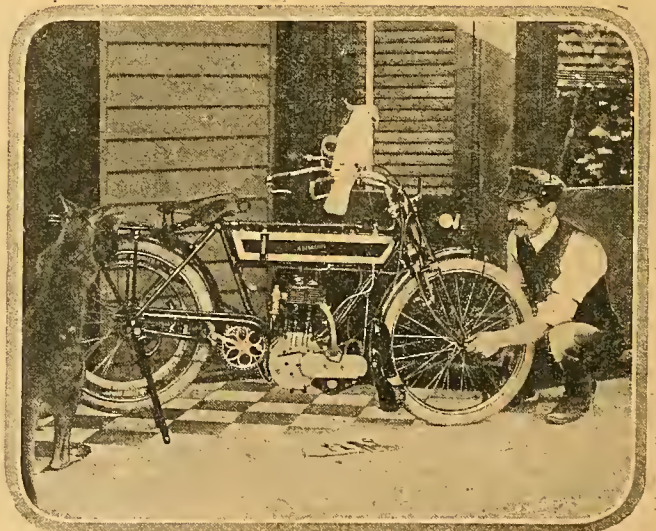
Another point is that a silencer should cause the gases to issue from it more or less continuously, and not so much in jerks or separate explosions. The gas should have some opportunity of expanding before it gets into the air; hence a small exhaust tube will not prevent noise, though a large one will to a considerable extent, even without a silencer on the end of it. The accompanying design shows a silencer which should be fairly efficient.

AURIGA.



of the escape of the gases without causing back pressure. An improperly designed silencer, which gives silence at the cost of back pressure, not only results in a considerable loss of power, but adds to the cost of motor cycling in the unnecessary waste in the consumption of petrol and lubricating oil, not to mention the harm done to the valves caused by engine overheating. So far so good, but to my mind this is not all, and I contend that a perfectly efficient silencer will not only cause no back pressure, but will actually have an opposite effect, and by means of utilising the inertia of the gases in the exhaust pipe (which I regard as part of the silencer) will actively assist in the removal of the used gas from the cylinder, provided that the valve timing is also correct, which means that a certain amount of overlap must be allowed. To get rid of the burnt gases quickly not only means an immediate reduction of pressure on the piston during the exhaust stroke, but that a bigger volume of gas enters on the succeeding stroke, the charge assuming a pressure nearing atmospheric.

If an engine exhausts straight into the open air, the exhaust gases have to displace a certain amount of air, which is more or less in a state of rest; this in itself is sufficient to cause some back pressure. The same is true when a silencer is used, but in this case,



THE MOTOR CYCLE IN THE ANTIPODES.

A kangaroo and a cockatoo keep their master company whilst he effects adjustments to his Kerry-Abingdon.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C. and should be accompanied by the writer's full name and address.

Large Twins v. T.T. Singles.

[6063].—I have read with great interest Mr. Bashall's letter on the above subject, and note what he says about the big Matchless. He has been seen driving the big machine through Ripley lately, and I should say that it was very far from being as quiet as a lamb.

I have heard rumours of a certain motor cyclist in the same neighbourhood being held up four times in a week for driving to the danger of the public. Is the big 8 h.p. steady in grease, as some of the T.T. singles are absolutely unrideable in the wet weather and grease that we have been suffering from here (Birmingham district) lately.

GEO. WILLOUGHBY.

Magneto Position for the Colonies and Other Items.

[6064].—Some two or three months ago I sent you my idea for a suitable motor cycle for this locality which you were good enough to publish, and I can add nothing more to that except that since then we have found that the magneto fitted close up to the rear of the cylinder is not at all suitable for our hot climate. What with the heat of the cylinder and our 110° in shade, and being sheltered from the cooling breeze instances have occurred of the melting of the insulation in the magnetos. A 5in. engine clearance, a trifle longer wheelbase, much heavier rims, 2½in. tyres, and handle-bars of 16 G. tube should be universal.

Adelaide.

AUSTRAL MOTORIST.

Hills in the Macclesfield District.

[6065].—With reference to Mr. Burgess's letter [6024], I can fully endorse his remarks as to the severity of the hills in the Macclesfield district. It would be interesting to see some of the hills between Macclesfield and Clulow Cross or Swythamley included in one of the two one-day trials to be held next year, and also to hear the riders' comments on them.

O.M.G.

[6066].—I see from Mr. Burgess's letter that he wants to hear of other people's experiences in the hilly part of Cheshire. I may say that I know the district on the Wincle and Wildboardclough side of Macclesfield, and have climbed all the steepest hills on my 3½ h.p. Zenith-Gradua. Does Mr. Burgess know the hill at Swythamley Park, on the old road between Leek and Danebridge? There is a very sharp left hand hairpin bend close to the bottom of the hill which I imagine would cause most 3½ h.p. single-gear machines to yield up the ghost on the 1 in 4 gradient just round the bend, even though the surface is fairly good.

I have twice climbed it on my Zenith, both times with a hot engine, the Gradua gear enabling me to pick up easily again round the hairpin. This is only one of the many steep hills with which the district abounds, but I don't think that any of them are beyond the powers of a good 3½ h.p. variably-gear machine. I wonder if Mr. Hugh Gibson knows the district? It would make quite a happy hunting ground for his Bradbury and sidcar.

I don't know the hills round Kettleshulme and Rainow, but hope to try them at the first opportunity.

In his letter Mr. Burgess omits to say whether his Bradbury has two speeds. Also I should like to know if he managed to get up all the hills in the district. From the tone of his letter I infer that he did not.

J. C. RAILTON.

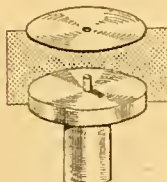
Lubrication of Twin-cylinder Engines.

[6067].—There is a question which I would like to see definitely settled about twin-cylinder engines, and that is the lubrication. From what I can make out from the majority of twin riders they say one cylinder gets too much oil, whilst the other is starved for want of oil, and if this is true it must greatly detract from the efficiency of a twin. Having only ridden a single, I have had no experience of the question I have put, and as I am thinking of riding a twin next year, I, naturally, would like to know the truth of this matter. No doubt others who are thinking of going in for a twin may have heard the same, and will hesitate until they know for a fact whether the lubrication is effective in both cylinders. If not, one cylinder must wear quicker than the other, which means £ s. d.

C. B. ROBINSON.

Adjustable Tappets.

[6068].—I recently saw on a friend's machine a rather good idea which will no doubt be of interest to some readers. As most motor cyclists know, after a few hundred miles the clearance between the end of the valve stem and the head of the tappet gets wider through the continual hammering, and causes a loss of power due to the valves not lifting to the proper extent.



Adjustable tappet illustrating letter from G.R.T.

As the correct clearance is equal to the thickness of a visiting card when the engine is hot, it is sometimes a rather difficult matter to find a means of lengthening the valve stem on the tappet in order to make up for wear that has taken place. Many try brazing a piece of steel on to the end of the valve stem, and others fit a steel cap over the tappet, but I think the following idea is quite

as good, easy to make, and very satisfactory.

Taking, for example, the Triumph tappet, the procedure is as follows: The next time the cylinder is taken off for the purpose of cleaning off the carbon deposit the tappets are removed and taken to the nearest motor or cycle mechanics' shop, where about ⅛in. is filed off the lower end of the tappet rods. A small hole about ⅛in. in circumference is then drilled in the centre of the head of each tappet about ¼in. deep and a round pin of steel is driven into this hole. The pin is then filed down till it projects about ¼in. or ⅜in. above the head of the tappet. The next move is to get two pieces of hard steel about ⅛in. deep made into discs the same size as the head of the tappet. A hole is then drilled through the pieces of steel to allow them to slip over the pin and lie on the head of the tappet.

After making a few thin tin washers the same size as the discs, the tappets may be put in their places and before screwing up the cylinder nuts tight see that the tappets are not too long; if so, file a little off the lower end until the valve stem has the correct clearance. If, however, as will most likely be the case, there is more clearance than the thickness of a visiting card between the tappet and valve stem, insert one or two of the thin tin washers between the steel discs and the head of the tappet.

By this method the clearance can be very delicately adjusted, and after running a few hundred miles it is an easy matter to slip in another thin washer to take up the wear. Should the steel discs get worn in one spot they are easily replaced.

G.R.T.

3,000 Miles in Three Weeks.

[6069].—Regarding your paragraph on Mr. F. E. Pither's attempt to cover 3,000 miles in three weeks, it may be of interest that I have already accomplished this on my $3\frac{1}{2}$ h.p. B.S.A. with sidecar and passenger. I received the machine from the B.S.A. works at 4 p.m. on the 19th of September last, and completed 3,060 miles by 6 p.m. on the 10th of October. Of this I have proof, and wish to add that the only attention given to the machine during that time was taking the cylinder down and scraping the piston and grinding in the valves on one occasion. The engine ran right through without an involuntary stop.

C. A. PATERSON.

Petrol Economy in Motor Cycles and Cars.

[6070].—There are at the present time many different motor cycle carburettors on the market. The significant fact that, in spite of very different design, all are almost equally satisfactory, shows that the "perfect" design is certainly not among them.

A well-known six-cylinder car has made a long run under R.A.C. observation on top gear, averaging 57 ton-miles per gallon. Allowing a motor cycle and rider 370 lbs. weight, this would mean 345 miles to the gallon! What motor cycle carburettor manufacturer can give us this economy with his special design? Motor cycle carburettors of to-day are no more economical than they were five years ago, in spite of the modern high compression, short life engine.

WILL M. BRANSTON.

Silence.

[6071].—In your issue of October 5th, under the above heading, there appeared a letter from a Mr. Knight anent the abuse of motor cyclists, complaints of which occasionally appear in your columns. To my mind, there are not half enough, always provided that they are confined to papers like *The Motor Cycle* and do not get into the daily papers. The special brand of cad who wants treading on is the man who, seeing a lady's horse become unmanageable at his approach (I am referring to a case which occurred a short time ago), roars past on full throttle, and then never even looks round to see if anything has happened.

Motor cycling must be the finest sport on earth for any man who is fond of an engine, and I hope to be getting a machine myself before very long. Mr. Knight will agree with me that, in the interests of motor cyclists themselves, the boulder should be suppressed if possible. As for riders who have to be continually using their cut-outs because their engines demand it, they require help, not abuse.

ANGLO-SCOTT.

The A.C.U. and Provincial Clubs.

[6072].—I have read with great interest the discussions raised by several of your readers with regard to the weak points of the A.C.U.

In this district, Durham and Northumberland, you hear no raging against the A.C.U. Why? We are satisfied. All the clubs affiliate to the North-Eastern A.A., and, as is known, we form the Northern Centre of the A.C.U. We have open competitions and hill-climbs yearly, which are a great success, and we have no shouting for permits, etc. Each club sends its own delegates to the N.E.A.A. meetings to obtain what they want, and if they do not attend it is their own fault.

The A.C.U. has done much to promote motor cycling since its commencement. Every motor cyclist of the present day owes a debt of gratitude to the A.C.U., yet grumbles at the paltry affiliation fee. He owes far more than his 2s. or 2s. 6d. a year if he only thinks; he would be riding a 1908 model in 1912 were it not for the A.C.U. There is only one club in this district that is thinking of leaving the Northern Centre, and I think it will find its mistake afterwards if it does.

Lastly, if we are going to organise, remember, "United we stand, divided we fall," and let us hope that in the near future the other centres will awaken and work their own affairs and get what they want if they know what it is.

R. W. HOLMES,

Hon. Sec. Durham and District M.C.C.

Wear of Big End Bearings.

[6073].—As your readers have been discussing the problem of wear of connecting rod big end bushes, perhaps the following will be of interest.

I have a $2\frac{3}{4}$ h.p. Minerva engine, now six years old, fitted to a rather heavy single-gear machine without pedals. In order to secure average hill-climbing properties under these conditions, the gear is necessarily low, and the engine revolutions at ordinary touring speeds consequently high. Up to the present the machine has run about 25,000 miles with the original big end bush, which is not perceptibly worn, and which is good, as far as I can see, for another 25,000 miles.

The bush and crank pin are both made of hardened steel. I ascribe the practical immunity from wear, not to large bearing surface (the crank pin is of quite ordinary size), but to the material of the bush. Why should not all bushes be made of hardened steel?

The popular idea that steel bushes and pins readily seize is quite a fallacy. Hardened steel differs entirely in this respect from soft steel. If at the end of every 4,000 to 5,000 miles, I had to remove the engine from the frame, pull it all to bits, and get the connecting rod rebushed, I should modify considerably my views on the "joys" of motor cycling.

J. H. SINCLAIR.

Twin Engines and Sooted Plugs.

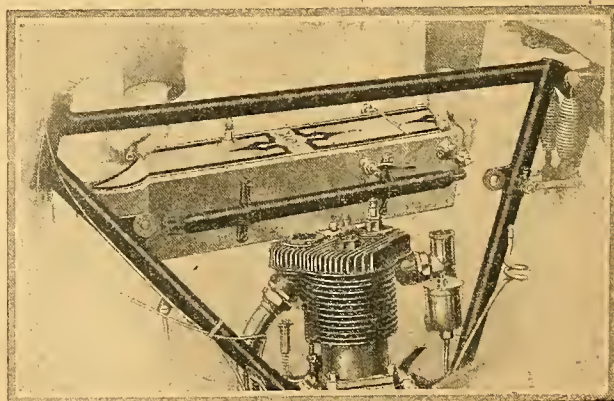
[6074].—I am very surprised at "Would-be Twin's" letter in one of the October issues, and think his method is at fault. Let him try drip-feed lubrication.

I have had a good deal of experience the last four years with the twin Peugeot, Rex, and J.A.P., and have never had any trouble with the lubrication, except an occasional oiled-up plug, which has been in the front cylinder as often as in the back. On taking the engine down, I have always found both pistons and cylinders well oiled and about the same deposit in each; also the wear of each cylinder about the same, which, I think, goes to prove that both cylinders are receiving the same treatment.

Although I have tried one or two of the leading 1911 single-cylinder machines, I much prefer the twins—they are more comfortable, every bit as reliable, and more durable, and they do not require the attention that the single-cylinder does. I have found that the $3\frac{1}{2}$ h.p. single needs taking down about every 1,500 miles, whereas a twin will not require this attention for 2,000 to 2,500 miles, because with the reserve power you do not notice a little loss; but when the $3\frac{1}{2}$ h.p. engine loses power there is not much reserve. I also think a twin is far easier on exhaust valves than some of the singles. I attribute this to the engine keeping cooler through being able to take a higher gear, therefore fewer engine revolutions; also the twin takes less gas per cylinder for m.p.h., which means a cooler mixture.

In my opinion it is silly to try to compare singles and twins for sidecar work. A well-tuned single in the hands of an expert may be fairly satisfactory, but a well-tuned twin in the same hands would be far more satisfactory, and the engine would last nearly double the time and maintain its power much longer.

B. G. DURKIN.



Showing the quickly detachable tank on the new Ariel machines. As will be seen, the middle tube is detachable with the tank affixed.

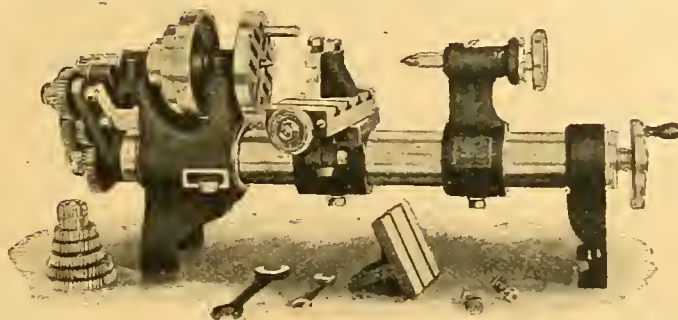
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12,000 MILES AND STILL GOING STRONG.

110, CANNON STREET, E.C.

Sept. 7th, 1911.

I am sending herewith one of your cord tyres which may possibly interest you. I purchased it some time in 1908, and used it on the back wheel of a 4 h.p. Berkley motor cycle for nearly a year. I suppose I covered at least 3,000 miles. It was then transferred to the front (and occasionally the back) wheel of my 1909 Triumph, and my speed indicator now records 9,683 miles. Thus you will see that it has done over 12,000 miles, and looks good for another 1,000. I merely return it to show my appreciation of what I consider to be the best tyre on the market. I have two tyres in my possession, made by one of the oldest tyre firms, which are useless after 800 miles.

W. PAINE.



THE **PALMER RANGE** FOR 1912.

The renowned **CORD TYRE.** The **NEW HEAVY FABRIC TYRE.**
The ordinary **FABRIC TYRE.** The **"PRIVATEER."**

All with Ribbed and Studded Treads.

EVERY RIDER CATERED FOR.

Write for descriptive booklet.

THE PALMER TYRE, LTD.,

119, 121, 123, Shaftesbury Avenue, London, W.C.

Motor Cycle Tyre Depot: 103, St. John St., Clerkenwell.

A Cure for Leaky Petrol Taps.

[6075].—Leaky petrol taps are often a considerable annoyance, and may often account for decreased miles per gallon.

I find the following plan effect a radical cure, and withal prevent the tap from jamming: Take the plug out, clean with petrol, and smear with brown soap; replace, and hey-presto! the trick is done. LB 44.

Up Edge Hill on a Single-geared Sidecar.

[6077].—My innocent little letter seems to have made some people quite angry. It is such a pity that, without any reference to the point of my letter, there have been two replies written in haste and on quite different points from mine.

My letter, which you published in your issue of the 26th ult., was simply calling attention to the fact that, whereas a great "shout" had been made in your paper about a single-geared machine having made a particularly fine performance, the article further disclosed the fact that on the arrival of the machine at the foot of the hill, the gear was lowered before attempting the climb.

I am convinced that I am an exceedingly bad letter writer, but I did think that I made it quite clear that I was simply remarking on the circumstance of lowering the gear, which, in fact, was an admission that the suitable gear for hill-climbing was not the suitable gear for ordinary towing on fairly level roads, and that to claim a feat for a single gear, which was really carried out after the gear had been changed, was hardly a fair bolster up of the single-speed theory.

I wish here to mention that, so far from trying to depreciate the performance in question, I consider it a particularly fine one, and never had any intention of doing anything more than protest against a performance being described as being done by a single-geared machine when it was done by a machine which employed a lower gear than was used for journeying to the hill.

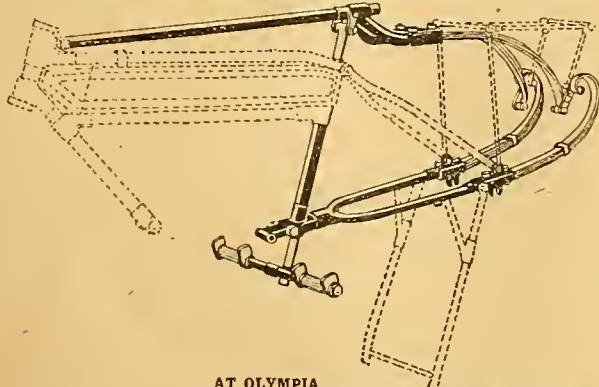
As regards the different performances made by the machines mentioned in your correspondents' letters, I think the reputation of Zeniths for hill-climbing work is sufficiently established to make replies quite unnecessary on this point.

W. G. BOWER.

Saddle Position and Side-slip.

[6078].—"Ixion's" remarks *re* sideslip call to mind experiments which I conducted some years ago to definitely decide the best position for saddles to minimise sideslip.

I made a special seat pin with a front extension reaching well over the tank and an extension rearwards reaching nearly to the extremity of the machine and supported from the end by down tubes to the axle. I fitted two saddles, one on the front and one on the rear, and tested these over a certain section of road. My experiments extended over seven or eight days. "Ixion's" remarks are in keeping with my experiments. With the saddle fitted as nearly as possible midway between the two wheels, it was possible to twist about on slippery granite setts with comparative immunity from slip. If such did take place, it was slow and could be corrected. With the saddle as far back as possible and the peak practically over the rear hub, it was possible to ride the machine with care over a greasy surface, but when the sideslip occurred it was so lightning-like as to give absolutely no warning, and therefore no avoidance of a spill. Of course, from the point of view of comfortable riding the midway position was almost



AT OLYMPIA.
Showing the method of springing the saddle on the Charles-Edmund-Jap.

impossible, and in order to get well ahead of the rear wheel and yet retain a position of comfort, I lengthened the back stays of the machine with excellent effect, giving a longer and easier belt drive, in itself an assistance to stability, and at the same time having a similar effect to moving the saddle further forward.

Rake of the forks and also fork curvature were experimented with, together with wheelbase, and, while it was found that a substantial rake of steering head was no disadvantage, an excessive curvature of fork tended to make sideslip more prevalent. My final deductions were:

A long wheelbase, within reasonable limits, proved steadier than a short one, provided, of course, that lateral rigidity was not sacrificed.

A small rather than excessive castor effect on the steering and the weight as nearly as possible midway between the two wheels.

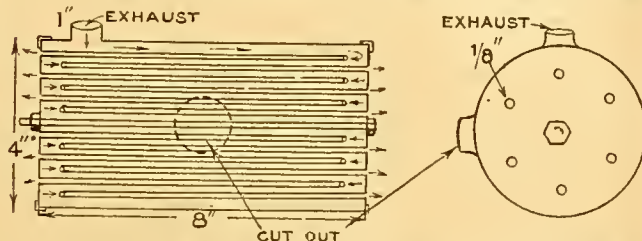
Regarding the handle-bar. The upturned bar close to the rider's body was detrimental to good control in grease, but a short wide bar, permitting the rider to lean forward at a slight angle, had the same effect, though not quite so pronounced as moving the saddle forward.

JAS. L. NORTON.

Silence and Silencers.

[6079].—*Re* your correspondent's letter on silence and silencers. I have been using a silencer very much the same as "PS 7" describes, except that mine had tubes at both ends.

It was a very efficient silencer indeed, making my old crack one of the most silent in the district. There were only



12 x 1/4 tubes, six at either end. The ends, like the one described by "PS 7," were held by one long bolt. I only used the cut-out to give warning, as there was no back pressure from the silencer. If my 1912 mount is fitted with a silencer as good as this I shall be satisfied.

E. HARDMAN.

Will the Ultra-lightweight Return?

[6080].—In reply to letters Nos. 6059 and 6060 in last week's issue, I think Mr. Griffin's last sentence answers itself—"his 1 1/4 h.p. mount if kept in tune will average legal limit in flat country." I use my 2 1/2 h.p. New Hudson three-speeder for running to and from business in all weathers, and find it quite an easy matter to lift it up and down a flight of steps daily. The same machine often has to carry my weight (13 stones) plus luggage over 170 miles at week-ends at well over legal limit average over decidedly hilly roads, which would mean pushing up several hills or "h.p.a." (heavy pedal assistance) to a greater extent than I relish or an "ultra-lightweight."

May I remind Mr. O. de Lissa that "the proof of the pudding is in the eating thereof, etc." The Motosacoche firm have fallen into line by making a 2 1/2 h.p. machine, weighing well over 75 lbs., and their latest addition is a variable gear, which will doubtless be a boon. Their discarded models are quite beside the point. It is perfectly true that Mr. H. Reilly, the designer of the Armstrong gear, fitted the first experimental three speeds and clutch motor cycle hub on an "ultra-lightweight" over three years ago, but this tiny engine soon gave way to a 2 1/2 h.p. (70 = 76 mm.) J.A.P. for testing purposes, in order to climb hills like Birdlip, etc., without "h.p.a.," and as the smaller power was not a severe enough test. I have ridden most machines which have been on the market during the last ten years, and the best really small engine in the old days was the little outside flywheel Clément-Garrard. No one ever said it was "impossible" to make a very small and cheap motor bicycle—the question is, "Is it worth riding when made?" Personally, I think not, except for short distances in towns, which seems to be the continental idea of motor cycling.

ROY W. WALKER.

Size of Covers After Retreading.

[6081].—I have a genuine grumble against tyre repairers which I have not noticed before. It is about the worthless state in which covers are returned after retreading. Nine times out of ten they simply drop over the rim, having been stretched several sizes during the repair process.

A man in the trade told me it was a sort of "lucky packet" if you had a cover retreaded whether it would fit or not afterwards. Covers are stretched bad enough during, say, two thousand miles running, and in my opinion the repairers should aim at making them smaller, not larger.

B.G.

A Rope Belt.

[6082].—It was my misfortune some few weeks ago to be on a journey when my belt gave out, through being very rotten, and I had no spare one with me, relying on being able to obtain one on passing through towns. To my dismay I was unable to do this, and my belt had given quite out. It then occurred to me to use a hemp rope as a belt, and, acting upon the thought, I went to a harness maker and got a $\frac{1}{2}$ in. rope spliced upon the machine on low gear, and as the rope stretched I tightened it by the adjustable pulley. This rope belt did over fifty miles, and would have done more. This may be useful to some of your readers should they ever be in the same predicament.

A. G. LANE.

Road Dangers at Night.

[6083].—Leaving Plymouth last week in darkness, with machine and sidecar, I was unfortunate enough to collide violently with one of half-dozen cattle proceeding in the usual manner, all over the road, with nothing to warn one of their presence. Neither a light, nor even a warning shout from the drover.

It is, I know, an oft ventilated evil, but when the victim of such evil, one does painfully realise the wrongness of laws that permit irresponsible beasts to be allowed to wonder all over a main road at night unlighted and unwarned. If I, with machine under absolute control, were to run a mile unlighted, the odds are I should get £1 or more and costs to pay. The result of the collision is a practically wrecked sidecar, it not being equal to the strain of a bullock sitting on it, and last and not least my wife had y shaken and considerably bruised. When shall we get what we over-taxed motorists pay for, viz., reasonable protection from unlighted road obstructions?

H.P.B.

Sidecars and Change-speed Gears.

[6084].—I have read with interest the various letters which have recently appeared in *The Motor Cycle* regarding the experience of users of passenger machines. I really cannot help thinking that if some of the writers would gain a little experience in the use of their machines and gears before blaming them it would be to their advantage.

I have tried several different combinations, and have had troubles with the gears, but in all cases they were due entirely to my own ignorance, either in lubrication, adjustment, or in driving. I consider it is most necessary for anyone to understand thoroughly the internal working of the gear he is using. I am now using a 5 h.p. Bat, with P. and M. gear, and sidecar. I have used this in all kinds of weather and on all kinds of roads, and it has not failed me yet. At first the gear slipped when the throttle was opened, but I found it was due to my putting thin lubricating oil in where I ought to have put gear box grease. The slipping is soon stopped by running petrol in between expanding collars. This gear has now run over 3,000 miles, and it is still as good as new; the wedge bars and rollers have not wanted renewing yet.

I rode 400 miles last summer with a lady passenger to North Devon and back. Starting from London at 3 a.m. we arrived back at 11.30 the same evening. Allowing two and a half hours for meals it averages—well, up to the legal limit. I think it speaks well for a modern sidecar combination to say that the only involuntary stop was caused through a small bolt coming out of the front mudguard stay. The spring frame is ideal for long rides. I had not the slightest backache. The sidecar is also well sprung. My passenger was quite fresh at the finish.

The Bat is a rigid sidecar having five fastenings. It takes somewhat longer to detach, but it is well worth the extra

trouble. I have found that some sidecars with the three couplings have a tendency to "whip," especially at corners, which is unpleasant both for the rider and the tyres. I have fixed a spring board on the back carrier, and find the machine strong enough to take three up most hills, including Titsey Hill, and up Anerley Hill all the way on top gear at 30 m.p.h. I have also driven the machine and passenger up Succombe Hill, near Wallingham. I think this might be called hard using, yet the machine runs as well or better than when new.

I hope that this note of my experiences will help a little to convince any uncertain prospective sidecarist that a modern two-speed combination is not all trouble. At the same time, I do not think most gears are yet perfect. The P. and M. gear, for instance, would be much better if made heavier for the higher powered machines. A gear box on car lines, somewhat similar to the Chater-Lea, is probably the ideal. It must be necessarily heavy, but this would not matter greatly if more efficiency were acquired.

I fancy a lot of the unsatisfactory results with sidecars is due to using a too low-powered machine. A $3\frac{1}{2}$ h.p. engine is not enough for very stiff hills. It is a most unpleasant business, as I know by experience, to have to shed one's passenger half-way up a hill.

W. O. OLDMAN.

The A.C.U. and the Liverpool A.C.C.

[6085].—The members of the Liverpool Auto Cycle Club feel that a clear statement of their dispute with the A.C.U. over the granting of a permit for their Two Days' Trial is a necessary correction of some of the mistakes which have been made in the recent correspondence regarding this event.

At a general meeting of members held on September 4th it was decided that a two days' open reliability trial should be held.

Previous to this the hon. secretary had written to the A.C.U. for a permit to hold an open trial of this description.

He received a telegram stating that "a permit will be granted if rules are in order." With this seeming consent the Liverpool Club decided to hold the trial, and at once went ahead with the arrangements.

Within a few days a copy of the rules was sent to the A.C.U. for their approval. The A.C.U. then objected to the trial being held on a Sunday, and suggested that we made it a one-day (Saturday) event.

We agreed to this course and altered all our previous arrangements, found a new and shorter course, etc. All this taking up valuable time, giving us a lot of work, and imperilling the success of the event.

On submitting the altered regulations to the A.C.U., confidently expecting a favourable reply, we were astonished to find that they refused us a permit for an open trial at all. They instead offered us a permit for an inter-club, limited to five clubs in the district.

This was of no use to us for several reasons, one of which was that we had been offered a fifty guinea trophy on condition that it was offered for open competition. The permit for an open trial being refused, we decided to make all competitors members of the club.

After considerable delay the A.C.U. replied to this by "banning" the event. Now had the A.C.U. refused a permit at the beginning we should not have made any complaint, but after all our efforts to meet them by altering the rules, etc., under their implied promise that a permit would be given, we felt that we had not received either fair or business-like treatment.

The only reason given for the refusal was that the trade did not wish for this trial. As we were well supported by the trade we considered that we were better able to judge than the A.C.U., and the keen interest shown in the trial proved that we were right.

The club, I may mention, is composed almost entirely of amateurs, and the trial was organised solely as a sporting event.

LEWIS MOGRIDGE, Chairman L.A.C.C.

SUMMARY OF CORRESPONDENCE.

Mr. M. K. Lee writes in strong praise of the $2\frac{1}{2}$ h.p. Premier lightweight, which he says will climb Westerham with the greatest ease without assistance, and attain 50 m.p.h. on the level.

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Royal Enfield

Stand 39

Olympia Cycle and Motor Cycle Show

NO motor cycles housed to-day in Olympia possess so many proven refinements as the 1912 Royal Enfields.

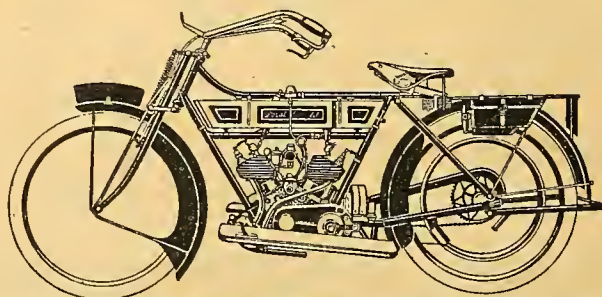
Ease of starting and safety in traffic are ensured by the Royal Enfield Patent Two-speed and Free Engine Gear.

Sweetness of running and freedom from transmission trouble are secured by the chain drive, Royal Enfield Slipping Clutch and Patent Cush Drive.

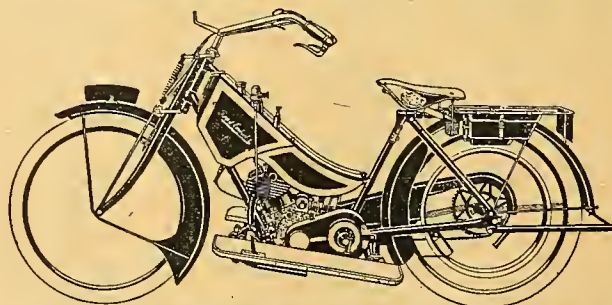
Luxurious riding is attained through the splendid design, registered spring fork, comfortable footboards, etc.

Success in contests of all descriptions during 1911 give ample proof of the reliability and efficiency.

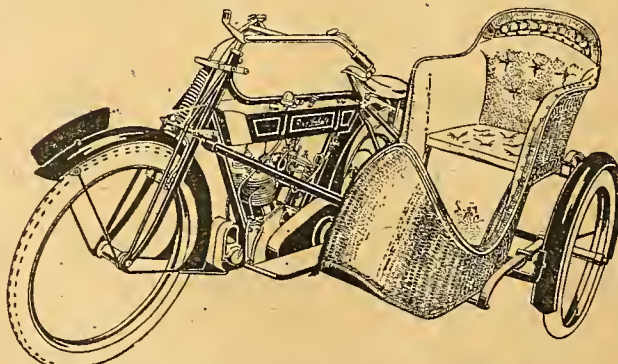
THEREFORE do not decide until you have inspected these splendid machines on Stand 39, or written for full particulars to Department F., ENFIELD CYCLE CO., LTD., Redditch, and 48, Holborn Viaduct, E.C.



The 2 $\frac{1}{4}$ h.p. Two-speed and Free Engine Model. Price 50 guineas.



The 2 $\frac{1}{2}$ h.p. Open Frame Two-speed and Free Engine Model. Price 50 guineas.



The 6 h.p. Two-speed and Free Engine Sidecar Model. Price, complete with Sidecar, 80 guineas.

THE W.D. MOTOR BICYCLE.

A New Model with Forced Lubrication to all Bearings.

THE W.D. motor bicycle is the joint production of two engineers named Wartnaby and Draper, who are enthusiastic motor cyclists. For some considerable time they have collaborated to design an engine for motor cycles dispensing with splash lubrication.

So far as motor cycle engines are concerned, the pressure feed to all bearings is a new method of lubrication, but outwardly the engine does not differ very much from ordinary types with the exception that the crank case is enlarged at the base to provide a sump for the oil and a place for the oil pump to work in. As the patentees pointed out, many will doubtless ask, "Why introduce the complication of forced lubrication?" In their opinion, and we confirm it, there is no objection whatever to complication, *per se*, provided it gives no trouble.

Is Forced Lubrication Wanted?

When we saw the machine last week and discussed the question with Messrs. Wartnaby and Draper they mentioned, what is, we think, quite correct, viz., that forced lubrication is more necessary on motor cycle engines than on car engines owing to the limited space available for bearings on the former type, and also the fact that in nearly all cases the crank end does not dip in oil, neither can it be made to do so where inside flywheels are fitted without a central trough for lubricating oil, for which there is hardly space in the majority of motor cycle crank cases.

The chief claims for forced lubrication are long life, maintenance of power and efficiency for long periods, sweetness and silence of running due to cushion of oil specially forced into the working surfaces, and no necessity to remember when to lubricate, as the sump holds sufficient oil for over 200 miles. The machine, which is on view at the Service Co.'s stand at Olympia this week, is illustrated herewith.

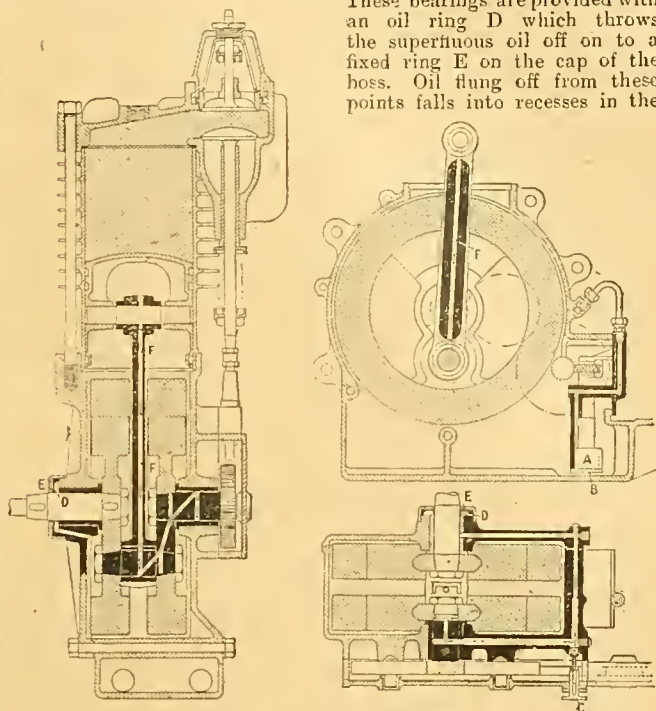
Details of the Engine.

Reference to the line drawings will show the following departures in the construction of the engine. The crank case is cast in one piece, and is provided with a cover plate at one side; this prevents oil leakage at the joints, and also facilitates the construction where the oil pump has to work. This latter is driven by a skew gear, and the pump spindle rotates vertically, the two small gear wheels of the Albany type pump being, of course, at the base of the sump and running constantly in oil.

The oil passes through a filter A at the base of the pump B, and so on to the pressure regulator C, which is a valve on the side of the crank case adjustable from the outside, and by means of which the pressure can be regulated to give

exactly the right amount of lubricant without leakage through excess. From the pressure valve the oil passes into the leads, which are cast in the crank case and lid, and branches off on each side through other leads as marked by indicating arrows to both the crankshaft main bearings.

These bearings are provided with an oil ring D which throws the superfluous oil off on to a fixed ring E on the cap of the boss. Oil flung off from these points falls into recesses in the



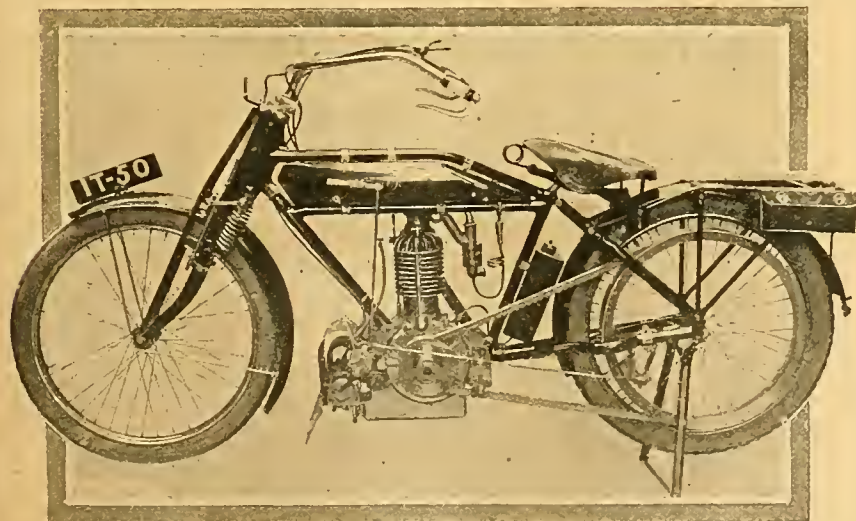
Sectional drawings showing the oil leads, position of mechanical pump and oil well.

caps and then through holes bored in the aluminium bosses of the crank case back to the sump.

Forced Feed up the Connecting Rod.

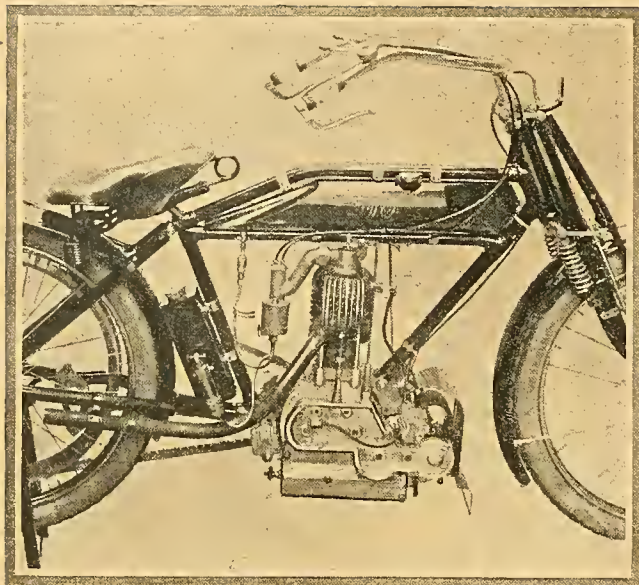
The lead to the crank pin bearing will be clearly seen in the line sketches. The oil passes from the right hand main bearing to the big end through the hollow crankshaft, and then up a pipe F securely attached to the connecting rod; the ends of the pipe fit in recesses at top and bottom of the connecting rod, and in addition the pipe is further held by the small metal straps shown. The pipe being recessed in the rod cannot come away through vibration. When the oil has passed up this pipe to the gudgeon pin bearing the surplus falls out on the flywheels and is thrown up the cylinder to lubricate the piston. It will be noticed that the flywheels do not revolve in oil, therefore the friction usually occasioned by the film of oil between the crank case and the rims of the flywheels is avoided. A vacuum valve (not shown) is provided on the side of the crank case. This is of the swinging disc valve type, but as the crank case is a very large size it is claimed to be practically free from vacuum.

In addition to the supply of oil carried in the sump, which is sufficient for 200 miles or more, a tank (see photograph of complete machine) is placed behind the seat tube fitted with



Belt side of the newly designed W.D. motor cycl, which possesses many novel features.

The W.D. Motor Cycle—



Valve side of the W.D. power plant, showing the oil sump at bottom of crank case

an ordinary pattern hand pump. The patentees recommend when starting out that the amount of oil should be verified by opening the trial tap in the side of the sump. If oil issues from this tap there is a sufficient quantity in the sump, and no more need be pumped in from the reservoir, but if this tap should be dry oil must be injected by the hand pump until it runs out at the trial tap. In ordinary daily use all that is necessary is to verify the level of the oil when starting out for a run; afterwards the lubrication looks after itself.

Other Features of the Engine.

Turning to the other features of the engine, it will be noted that the combustion head is separate from the cylinder, and that both are held down to the crank case by three bolts bedded in the aluminium crank case. The valves are of particularly large diameter (40 mm.), the inlet being situated over the exhaust and mechanically operated. We had an opportunity of examining one of these machines just before the Show opened, as it was being assembled for exhibition, and were interested to note that everything had been so carefully thought out on paper that the engine parts fitted together without the slightest hitch.

The crank case, instead of being made in two halves as usual, is cast almost in one piece with the sump, one side only being detachable.

This machine, the frame and other details of which are excellently constructed, is being made in temporary works at Coventry, and for the present communications regarding it may be sent to W. and D. Motors, 21, Coendon Road, Coventry.

CLUB NEWS.**Bishop Auckland, Darlington, and District M.C.**

New Year fixtures include—Annual ball, Friday, January 19th, at Darlington; hot-pot supper and smoking concert, Wednesday, February 14th, at Bishop Auckland. Arrangements are being made for two billiard tournaments at Bishop Auckland and Darlington respectively, and a winter reliability trial. Particulars of the above will be announced later.

The Motor Cycling Club.

As we have previously announced, the second winter club run, London to Exeter and back, will be held on December 26th and 27th.

Arrangements can be made for friends to start together, provided their entry forms are so marked. Passengers need not be taken by entrants of sidecars, but any entrant of a sidecar starting with a passenger must be accompanied by the passenger throughout the entire journey, and under no circumstances may sidecars be detached over any part of the route. Cut-outs when fitted must not be used.

REGULATIONS.

Meeting Place.—At the Bulstrode Hotel, adjoining Heston-Hounslow Station, Tuesday evening, December 26th.

Start.—All machines to be at the starting place by 5.30 p.m., when the sealing of the machines will take place.

Route.—The route to be followed, starting from Hounslow, is *via* Basingstoke, Salisbury, Shaftesbury, Yeovil, Chard, Honiton to Exeter, and back in the reverse direction.

A stop of one hour will be arranged at Salisbury, both ways. About two hours will be allowed at Exeter.

The schedule time at sixteen miles per hour for the first competitor at the chief places *en route* will be approximately as under:

Outward.—Hounslow, depart 7 p.m.; Basingstoke, 9.14 p.m.; Salisbury, arrive 11.29 p.m.; Yeovil, 3.12 a.m.; Exeter, arrive 6.5 a.m.

Return.—Exeter, depart 8.5 a.m.; Yeovil, 10.35 a.m.; Salisbury, arrive 12.50 p.m.; Basingstoke, 3.47 p.m.; Hounslow, 6 o'clock p.m.

Awards.—Gold medals will be awarded to all entrants finishing within twenty-four hours. Silver medals to any finishing within thirty hours.

Entrance fee, 10s. 6d. For further information apply to the trials hon. secretary, Mr. E. B. Dickson, the Croft, Pinner Road, Northwood, on or before December 10th.

B52

South Birmingham M.C.C.

A motor cycling club has been formed in the Sparkbrook and South Birmingham district, and a general meeting will be held at headquarters, the Mermaid Hotel, Stratford Road, Sparkhill, to-day, Thursday, the 23rd inst., at 9 p.m., for the purpose of confirming the rules of the club and the appointment of officers and committee, and also for the purpose of electing members. About twenty entrance forms have been received, and forms and information can be obtained from the hon. sec., Mr. Lewin Poole, 70, Poplar Road, Edgbaston, Birmingham, or at the meeting.

Cambridge University M.C.C.

A hill-climb was held on Haslingfield Hill, near Cambridge, on the 11th inst. Results:

CLASS I.—Lightweights.

1. N. B. Stewart (2½ New Hudson).

CLASS II.—Standard Touring.

	Formula.
1. N. B. Stewart (2½ New Hudson) ...	46.5
2. H. Constantine (3½ Zenith) ...	62.32
3. R. Cooke (3½ Rudge) ...	62.37

CLASS III.—T.T. Roadsters.

1. R. Pilling (3½ Triumph) ...	61.46
2. R. Cooke (3½ Rudge) ...	63.83
3. E. Lees (3½ Triumph) ...	64.37

CLASS IV.—Open on Time.

	Time.
1. J. Nash (7 Indian)* ...	36s.
2. {J. W. Cox (3½ Triumph) ...	39s.
{H. Goodwin (8 Matchless) ...	
3. B. Sandeman (7 Indian) ...	40s.

* Fastest time of day for bicycles.

CLASS V.—Multi-cylinders 750 c.c.

	Formula.
1. G. Cuffe (5 Indian) ...	69.5
2. A. Wills (5 Indian) ...	93.7

CLASS VI.—T.T. Singles on Time.

	Time.
1. R. Cooke (3½ Rudge) ...	39½s.
2. J. Cox (3½ Triumph) ...	40½s.
3. E. Lees (3½ T.T. Roadster Triumph) ...	44½s.

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2½ „ „ Free Engine	„ - - -	£45 0 0
2½ „ „ 2-speed Bracket	Gear Model -	£48 15 0
2½ „ „ Three Speed	Model - - -	£49 0 0
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M.C.C. Second Annual Winter Run.

A COMPETITOR'S HINTS REGARDING EQUIPMENT.

WITH this and other events of a similar nature looming in the near future, a few hints on the subject of winter riding may not be out of place. It is well known that competitions during the winter months did not enjoy any measure of popularity until the M.C.C. decided to run its event last Christmas, and this lack of enthusiasm can be traced to several causes, viz., difficulty in obtaining a real anti-skid tyre, a weatherproof machine, suitable weatherproof clothing, and the lack of knowledge necessary for engaging in such a trial with a reasonable amount of comfort. The popular desire for a real winter trial is shown by the magnificent entry of eighty-one obtained last year, a number which, it is confidently anticipated, will be increased to a hundred in this year's contest.

Hints regarding the Machine.

Unless the carburetter is placed very close up behind the cylinder, a metal shield should be provided to keep mud and water away, and allow warm air to be drawn from the cylinder to the air intakes. Any springs should be cleaned and well oiled, and the control levers treated in the same way. The magneto is generally well protected on the modern machine. If it is not, a shield should be provided across the front and top, but not the sides. Any chains in an exposed position should be soaked in paraffin to clean them, and, after draining, treated with warm tallow and graphite, or one of the preparations sold for the purpose. The wheel hubs should be packed tight with a stiff mixture of vaseline and gear grease. See that the steering head is properly adjusted and the bearings filled with vaseline.

Tyres.

The condition of the tyres is of paramount importance. Generally speaking, rubber studded are the best anti-skids, but the studs must be large and of good depth. They should be pumped *hard* to be serviceable as anti-skids. Fit stout wire nail-catchers to both wheels, and a metal guard across the front of the footrests. The guard should be the full width of the footrests, extending level with the top of the cylinder to well under the crank case. It is surprising the difference this shield makes. Handle-bar muffs, which can be obtained from 5s. and upwards at any of the well-known motor accessory merchants, should be fitted.

Lamps.

One acetylene lamp is enough, if an additional electric head lamp is carried. Two large generators should be provided, one being placed in a protected position in case of frost. This combination is the best, as it allows for any contingency. If no electric head lamp is used, take two acetylene lamps, with at least one fixed inside the handle-bars. Remember that

in the event of a skid the lamp nearly always comes off second best. It is as well not to experiment with any new untried ideas in a long distance trial of this kind entailing so much night riding.

Spares.

See that the spares are all right, a spare exhaust valve and a spare belt cut to fit, repair outfit in first-class condition, with a large piece of stout canvas and a good gaiter. Use fairly thin oil. It is not necessary to carry any spare petrol, as the stages between supplies are all under seventy miles.

Personal Equipment.

The personal equipment is a matter for each man to settle for himself, but a good one is a tweed cycling suit, thick cycling stockings, flannel shirt, silk neckerchief (no collar), sweater pinned close at the neck and under the waistcoat, and large comfortable boots. The overalls should be of real waterproof, and the leggings provided with a seat. Stout leather gauntlet gloves are best. If the weather is wet, a storm cap, costing only 2s. 11d., is excellent. If dry, a leather racing cap is very comfortable for the night riding. A leather waist-strap with an electric lamp completes the equipment. It will be found a very good way to prepare a rough list of things to do, and to be obtained, and to strike out each item as it is settled, otherwise an important part may be forgotten.

For Tyros.

For those who do not know the road it is well to study the map carefully, and note that turnings not to be missed are the left-hand fork just beyond Andover, the sharp left turn at cross roads three miles beyond Wilton, the left fork just beyond Shaftesbury, and the right fork at the top of Chard Hill. The rest of the turnings are fairly easy to follow. Remember that, although the hills are not formidable in dry weather, they certainly are so when wet, therefore gear low, especially as the schedule speed is only 16 m.p.h., and an excess of 20 m.p.h. between checks entails disqualification. Read the regulations carefully, and if there are any of them you do not understand, get them explained to you before the start; the committee does not recognise any misreading of the regulations by competitors. Get down to the start early, and do everything the officials tell you at once. At the stopping places see to the machine first, and you will then know how much time is available for seeing to your own comforts. Carry as much carbide as you are likely to want, and of a brand which you have tried. Fit a cheap watch on the handle-bar for rough timing, and so avoid having to open your coat too often. An electric pocket flash lamp is an extremely useful accessory for illuminating the watch and also the speedometer and mileage recorder.

HAROLD KARSLAKE.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Care of Accumulator.

Q. As a constant reader of *The Motor Cycle*, and knowing you give some very good advice, I should be very much obliged if you will let me know the best way to dry and store a four-volt C.A.V. accumulator. It is at present being charged.—E.C.

When the accumulator is charged, empty out the acid, wash the plates with clean water by repeated filling and emptying, then fill up with water. When wanted replace water by acid.

Mudshields and Tyres.

Q. As an old subscriber to your valuable paper, may I ask you to be kind enough to reply to the following: (1.) Can you recommend the insurance companies—Dolamoye Evans, 199, Piccadilly, W., and Percy Butler, of Manchester. (2.) The most suitable make of large mudshields for Triumph 1911, to afford complete protection and not to interfere with front stand or pedalling? (3.) Are there any means of springing front forks better than the makers do it? Also seat pillar—do you recommend for practical use the N.A.B. spring seat pillar? Is there anything better? (4.) Are puncture-proof bands really any satisfactory way out of tyre upkeep expenses? Also retreading? (5.) Have you any experience re letter No. 5956 which was in issue of October 12th? Such a course does not answer on push cycles I know.—H.M.

(1.) We understand that the two insurance companies referred to in your letter are satisfactory. (2.) We should recommend you to try either a "Miller" or a "Dr. Stormont" mud shield. The former can be obtained from the Service Company, Limited, 292-293, High Holborn, W.C., and the latter from Messrs. A. W. Gamage, Limited, Holborn, E.C. Another excellent mud shield is the College, made by Messrs. Beard-Brown and Co., College Street, Northampton. (3.) No, there are no better means of springing the front forks of this machine. Yes, either use the spring seat pillar referred to or one of the well-sprung special saddles now on the market. Puncture-proof bands are of use in preventing punctures, but do not prevent wear of the tyre, rather the reverse. (5.) We have seen this done in the case of a car cover, but we have not tried it on a motor bicycle.

Return of Deposit.

Q. Having had the offer of purchasing a $3\frac{1}{2}$ h.p. Hummer motor cycle for £17 on the instalment system, I paid a deposit of £1, and gave a householder of twenty-two years as guarantor. I received a notice after a few days, stating that guarantor was not good enough, and as I could not find another I asked for the return of the deposit, which was refused. At the time the deposit was paid I was not given to understand that, should I not be accepted as purchaser, the money would not be returned. Would you kindly let me know if I can recover deposit?—W.C.T.

If you have signed no form at all, and merely sent the £1 deposit, we do not think anyone can legally detain your cash if he will not accept your guarantor. Under the circumstances, our advice is to write and insist upon the deposit being returned. Failing any reply, or refusal, place the matter in the hands of a solicitor, who will recover the deposit and the costs of proceedings. Of course, all depends on what you have signed. If you have signed any form agreeing to the deposit being withheld we are afraid you cannot recover.

Switch combined with Brake.

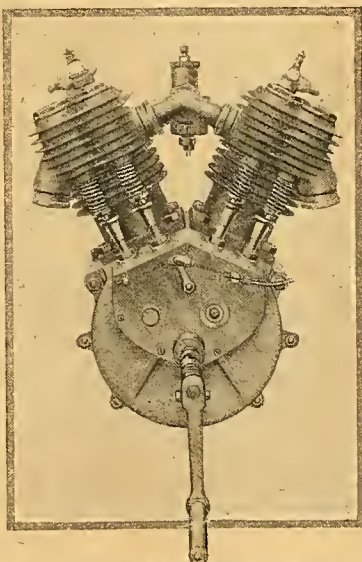
Q. Would you kindly tell me if a 7-9 h.p. twin with single-speed and sidecar would climb Westersham Hill with hot engine? My passenger and I would weigh twenty-four stones. I could use clutch if necessary to maintain engine speed. (2.) Would there be any harm in fixing ignition of present bicycle, so that when the brake was applied, the electrical circuit was broken, causing the machine to stop on compression?—G.W.

(1.) Yes, if suitably geared and skilfully driven. Do not slip the clutch more than absolutely necessary. (2.) There would be no objection.

Lubrication of Twins.

Q. I should be much obliged if you would answer me the following questions: (1.) I am thinking of going in for a powerful twin for sidecar work, and I cannot see how it is that the back cylinder gets more oil than the front one. Surely at the speed the flywheels revolve gravity has no effect on the oil, and therefore it ought to be thrown off equally at all points of the circle like sparks from a Catherine wheel. If you put water into the trough of a grindstone and turn the handle quickly, the water is thrown off from all points of the stone. (2.) I cannot understand why adjustable valve tappets are not standard on all machines. They are so convenient when fitting a new valve or when the stem wears or lengthens under heat. Is there any inherent disadvantage against them? (3.) Which form of sidecar puts least strain on the cycle frame, and which is the safest to steer (castor or rigid, not flexible)? (4.) Would it influence the working of a twin engine to any appreciable extent to fit air scoops to the rear cylinder?—T.G.H.

(1.) It is certainly a fact that the back cylinder of the twin machine gets more oil than the front one, unless some means be taken to equalise the amount. (2.) We do not think there is any objection to an adjustable valve tappet; in fact, we consider it to be a great advantage. (3.) Probably the castor wheel puts less strain on the cycle frame, but the rigid is the safer. (4.) No, it would not benefit the engine to an appreciable extent.



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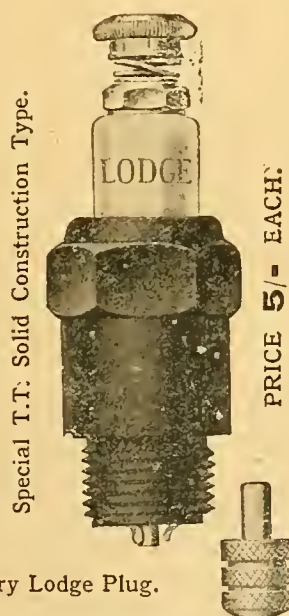
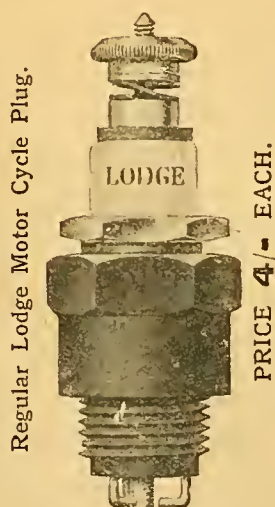
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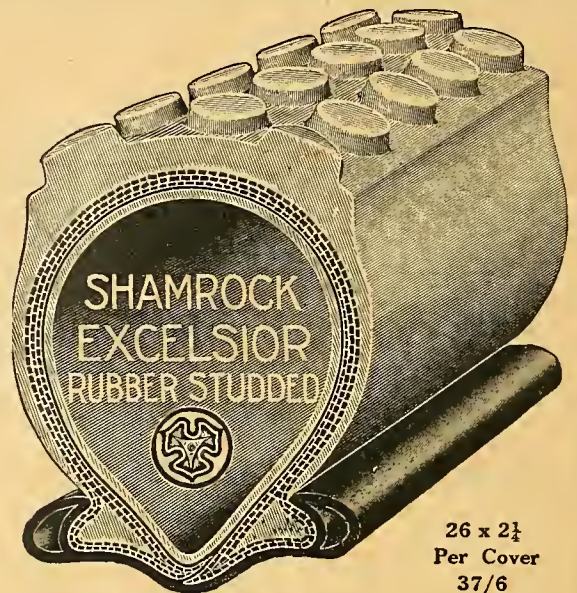


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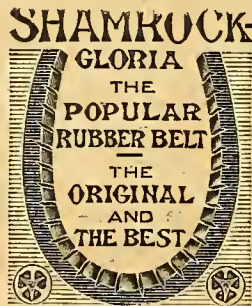


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Engine Construction.

?

Please enlighten me upon one or two points in engine construction. I am building an engine (twin cylinder) with m.o. overhead valves. The bore is 4in. and the stroke 5in. (1.) Will this engine give 10 h.p., and if not, what should the dimensions be? (2.) Will valves 1½in. in diameter be large enough? (3.) I find, according to the drawings (which, by the way, I did myself), that when the piston is at the top of the stroke the compression space is only 1in.—is this too small? (4.) Can a large engine like this be fired by means of a plain coil? (5.) Will two rings in each piston be sufficient? (6.) Could I put this engine, when complete, in a special light frame and gear it direct, that is, 1-1? —L.R.L.

(1.) The engine in question will give considerably more than 10 h.p. The R.A.C. rating is 12.8, and the actual power probably over 20 h.p. (2.) Yes. (3.) It depends upon what compression you want, but as with overhead valves you will have no pockets it is hardly enough; 1½in. would be about right. (4.) Yes, an engine of any size can be fired by a plain coil. (5.) Yes, if the fit be good. (6.) No it would be inadvisable to gear higher than about 3 to 1. Even large car engines are not geared 1-1. Such a gear, with 28in. wheels and the engine running at 2,000 revs. per minute, would give a speed of 166.6 miles per hour.

A Lightweight for Canada.

?

I am thinking of purchasing a motor cycle, and have no personal experience in the matter, beyond being a pedal cyclist. I am a missionary to the Blackfoot Indians, and have been amongst them for twenty-six years, and I find my work increases each year, and the question of locomotion is for me a very important one, both on the ground of expense and of time. After much careful thought and some enquiries, I am led to believe that I should find the careful use of a reliable lightweight motor cycle a satisfactory solution of my difficulty. The Indian Reservation covers a huge area, being about forty miles in length and nine miles in width. The "trails" (roads) are good, but are often well rutted, and yet the ruts are not, as a rule, deep (from two to four inches). The winds are frequent, and there are several hills, though neither very steep nor very long. These latter difficulties make the ordinary cycle a severe tax upon one's energy. I am no longer a young man—being 53—and am anxious not to tax my strength unduly. I have been recommended to entertain the Douglas, and from what I can hear it should be just the kind I am looking for. I don't wish to travel fast—I mean that fifteen miles an hour would be as fast as I should wish to move—but I do not wish to be shaken up by vibration, nor to have heavy running expenses, nor a constant repair bill. I should need at times to use a simple light sidecar, so as to take my daughter with me to help in the services. Does the Douglas haul a sidecar?—H.W.G.S. We think that the 2½ h.p. Douglas, the machine about which you specially enquire, would suit your purpose admirably,

as it is well-made, reliable, and not unwieldy. You will not notice the vibration unless the roads are very rough, engine vibration being non-existent on this machine. The makers do not recommend the use of a sidecar, and we fear that the roads will not be suitable for such a means of taking a passenger. The freight charges would be £2 5s. 6d. to a port in Canada, and the duty 20% on the actual wholesale value.

Gears and Clutches for Sidecars.

?

I am shortly taking my motor cycle to pieces for packing away during the winter. Could you tell me the best way to pack and preserve the inner tubes, also if a 4½ gear is too high for sidecar work, fixed gear all-round riding, and if a Mabon clutch is any advantage?—J.M.

The best way to preserve inner tubes is to pack them in a box with French chalk. 4½ to 1 gear is too high for sidecar work, except with a powerful machine. It certainly is for a single cylinder. 5 to 1 would be nearer the mark, or even lower. A Mabon clutch would be a great advantage for starting purposes

and would assist slightly on hills, but should not be slipped too much—only on the last stretch of a bad hill to keep up the engine revolutions.

EXPERIENCES WANTED.

Readers desirous of obtaining the experiences of others with various motor cycles or accessories must enclose a stamped addressed envelope in which the replies may be forwarded. Answers to the queries below should be addressed c/o The Editor.

"H.P.S." (Brooklyn, N.Y.) Scott two stroke, particularly with regard to cooling after running with open throttle.

"J.W.A." (Coventry). 7-9 h.p. Indian and 6 h.p. Zenith-Gradua for sidecar work.

"M.T." (London). Foot starter wanted for 1912 8 h.p. Bat-Jap and Mabon clutch.

"R.C." (Manchester). 7 h.p. Indian sidecar reliability consumption.

"J.F." (Medbury) Osborne four-speed pulley on a twin Rex.

"H.P." (South Lancing). Lomax or other detachable bands.

"W.J.B." (Middlesbrough). Roberts non-skid bands.

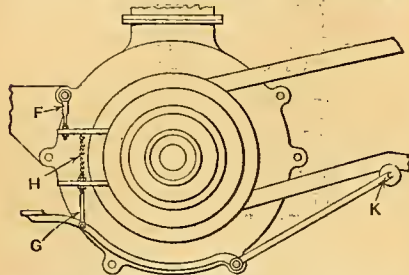
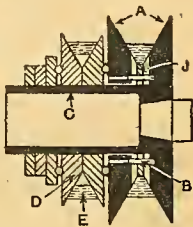
"H.S." (Newcastle-on-Tyne). Packer and Prentis decompressor.



SUMMER MEMORIES. A beauty spot. Gawsorth Church, Cheshire.

An Expanding Pulley Gear.

The members of the expanding belt pulley A are caused to rotate together by pins B. The fixed pulley flange carries a sleeve C, upon which is mounted a second expanding pulley D which takes no part in the drive, but co-operates with a wedge piece E to actuate the movable pulley flange A. One end of the wedge piece is anchored to the engine at F, and the other is connected to the operating pedal G, a spring H normally driving the wedge piece inwards, pressing the pulley flanges A together, and providing the highest gear. Depression of the pedal withdraws the wedge piece, allowing the flanges A to separate and provide lower gear ratios. Full depression of the pedal may allow the flanges



A to separate so far as to permit the belt to rest on a ring J, providing a free engine, and connected to the lever G

Enfield Autorette.

The Enfield Autorette is not on view at Olympia this week, as the Enfield Autocar Co., having shown this vehicle at the Car Show, were precluded from exhibiting it elsewhere.

A Locking Switch.

Mr. V. W. Brandt has provisionally protected an electrical switch, which is to be seen on Stand No. 20. This switch is put into action by a key having wards, which the owner carries, and is intended to prevent theft.

The Tourist Trophy Race Fund.

Mr. C. H. Hitchen, Morecambe, informs us that he is willing to sell fifty brass exhaust whistles (the usual price of which is 7s. 6d. each) for 2s. each, and he will give the £5 he receives to the above fund. This is a sporting offer, and one which motor cyclists should consider who desire to see the fund increase.

Catalogues Received.

The catalogue of the Hazlewood 2½ h.p. motor cycle is to hand. This contains illustrations and descriptions of the Jap-Hazlewood engine, Armstrong three-speed gear, etc. Copies of the catalogue can be obtained from Hazlewoods, Ltd., West Orchard, Coventry.

An advance proof of the 1912 Douglas catalogue is to hand containing 112 pages of matter. The first portion gives a brief history of the company, then illustrations and full specifications of the various Douglas models, and, lastly, a section devoted to hints and tips.

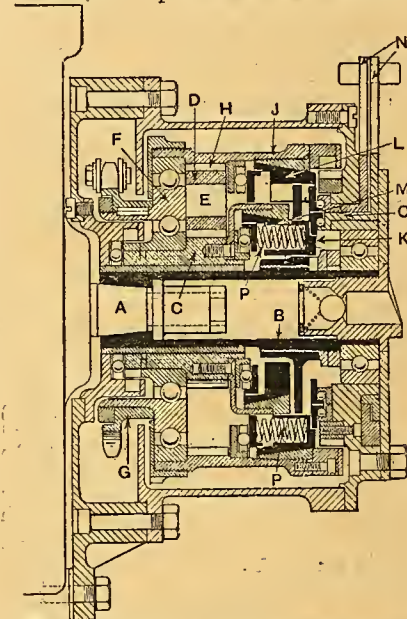


is a jockey pulley K, which takes up the slack of the belt when the gear is reduced.—A. T. Thomas, No. 27,897, 1910.

A Three-speed Crankshaft Gear.

In place of the usual driving pulley there is keyed to the crankshaft a sleeve B, upon which is rotatably mounted a sun pinion C, engaging planet pinions D, free to rotate on spindles E, on a carrier F. The carrier F also carries the driving chain wheel G. The internally toothed ring, or annulus H, completing the epicyclic train, is carried by a sleeve J. This annulus and the sun pinion C are prevented from backward rotation by one-way clutch devices. Rotating with the sleeve B is a driving member K, carrying cone clutch surfaces LM, the former engaging a corresponding cone on the annulus sleeve J, and the latter a cone secured to the sun pinion C, and these clutches are operated by levers N through face cams O, the clutches being normally pressed into engagement by springs P. In operation, when both clutches are in engagement the epicyclic train is locked and a direct drive is obtained. For the first reduction the clutch M engaging the sun pinion is released. The drive is now through the annulus H to the planet pinions, the sun pinion being held against backward rotation by the one-way clutch before mentioned. Rotation of the

pinions around the sun pinion therefore takes place, rotating the carrier F and the chain wheel G. For the second reduction, the clutch M is engaged with the sun pinion and the clutch L disengaged. The drive is now from the driver K to the sun pinion C, this in turn rotating the pinions D. The annulus H being prevented from backward rotation, the pinions rotate within it,



again transmitting the necessary motion to the carrier F and chain wheel G.—J. J. H. Sturme, No. 21,768, 1910.



A Spring Belt Rim.

The name and address of the patentee of the spring belt rim published on page 1200, is Mr. J. W. C. Bassett, 21, Bank Street, Cheadle.

Centaur in London.

During this week the Centaur Cycle Co., Ltd., will be showing their 1912 models at their London Depot, 21, Holborn Viaduct, E.C.

A White Tread Tyre.

Gaulois tyres are now specially made to fit English rims. The most noticeable feature of these tyres is the white rubber tread, which, it is said, does not cut so easily as the ordinary grey type. A grey tread is manufactured as well, but the white is more expensive. Both beaded and wired-on tyres are supplied. The most substantial cover is the "triple stripe," a three-ribbed tread, while a further speciality is a steel-studded cover with a thick tread, consisting of a leather band, under which there is a pad of soft rubber. The Gaulois Tyre Co., whose address is 6, Bath Street, City Road, E.C., also manufacture a well-constructed butt-end tube, the joint of which is so designed that there is practically no possibility of the ends coming apart.

Sidecars in London.

Motor cyclists contemplating the purchase of a Montgomery sidecar can inspect these machines at the sole agents for London, Messrs. Phelon and Moore, 4, Percy St., Tottenham Court Road, W.

Detonating Plugs.

The British Low Accessories Co. advise us that they will have a good display of their special Cup detonating plugs on view this week at 15, Great St. Helens, E.C. We hear that these plugs have been greatly improved by the fitting of solid nickel points.

Flexible Petrol Pipe.

Mr. J. Sarolea has invented a flexible pipe in which a closely coiled spring is inserted into the rubber connection with the object of protecting the rubber from the deteriorating effect of the petrol.

Trade Changes.

Mr. G. E. Roberts, a well-known member of the M.C.C. and Coventry clubs, has re-joined the Simms Magneto Company.

The Wulfruna Engineering Co., Ltd., Great Brickkiln Street, Wolverhampton, inform us that they have been appointed sole representatives for the new 2½ h.p. vertical Moto-Réve engine and engine set. The other models will, of course, be handled by the Moto-Réve Co. as before.

Messrs. Siemens Brothers and Co., Ltd., Caxton House, Westminster, S.W., inform us that the dry battery branch of their business has been transferred to their Woolwich works.

THE MOTOR CYCLE

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Again the Clubs and the A.C.U.

ONCE again the Auto Cycle Union has met representatives of affiliated clubs in an endeavour to arrive at some satisfactory scheme which will put an end to the constant grumbling—mainly on the part of affiliated clubs. It will be recalled that the refusal of the A.C.U. to grant the Liverpool Club a permit for an open reliability trial stirred up feeling in the North; other clubs joined in, and the outcome was that a meeting took place last Saturday to enable the associated clubs to state their grievances. During the afternoon the hon. secretaries of provincial clubs met to consider their plan of campaign, and in a nutshell practically all were agreed that provincial clubs had not sufficient voice in the control of the pastime, and that the present A.C.U. General Committee is not sufficiently in touch with the sporting side of motor cycling. Further, they could overrule any recommendation of the provincial clubs. Ultimately a resolution was drawn up for presentation to the A.C.U. to the effect that the representatives of provincial clubs on the general committee should consist of thirty active motor cyclists, any one of whom could represent a number of clubs and be entitled to a vote for each club he represented. This, of course, could hardly work, as the committee would become unwieldy, besides, four representatives each with six votes would be able to carry any resolution. The sum total of the discussion at the evening meeting was that the provincial clubs have not adequate representation, and, as at present constituted, can easily be overruled by the London clubs. It was pointed out that big provincial clubs were not entitled to send a representative, although much less important clubs near the capital were represented; this is not as it should be. The

local centre scheme was recommended as the best solution, and we certainly hold this opinion. An amendment to the original loosely-worded recommendation was carried, but on being put as a substantive proposition it was lost. It was clear that the club representatives had no set policy; the discussion will, however, be ultimately of service.

The Outlook.

TO say that the Show at Olympia was prosperous would be putting it very mildly; it was a colossal success from every view-point. Exhibitors were practically all satisfied, although there was a murmur from one or two occupants of stands in the Annexe who were closely adjacent to loud-voiced vendors of wares that were neither cycles nor accessories. A notable feature this year was the rush of cycle agents, who have previously held aloof from the motor cycle business, to gain some information regarding, to them, the "new industry." It was a case of the early bird and the worm, for they found in most cases that the agency plums had already been snatched up by their more enterprising brethren. As in previous years, visitors thronged the stands of exhibitors who have done well in competitions.

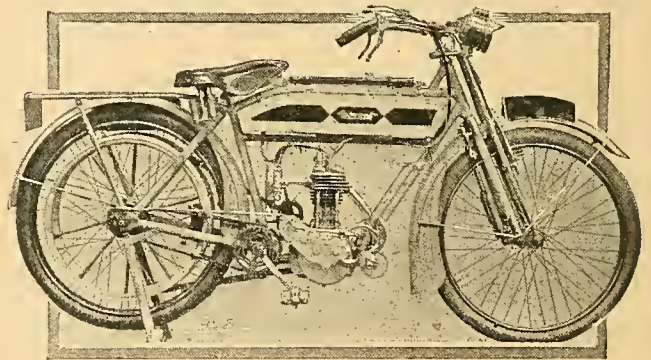
Every purchaser of a new machine must place his order at once or no machine will be forthcoming when it is wanted. When the Manufacturers' Union decided to hold an annual exhibition at Olympia many opinions were expressed concerning its success. At the conclusion of the exhibition we were told officially that the attendance at the 1910 Show had been the greatest on record, but that this year the attendance had been increased by 70 per cent. Nearly all of this was represented by the public who paid for admission.



By B. H. Davies

AS I wandered thoughtfully round the stands at Olympia I found my memory harking back to the previous phases of evolution in the cycle trade, and saw history repeating itself. The pedalling boys of the old brigade will all recall how rapidly the main outlines of the push bicycle became stereotyped, and how thereafter one show was very much like another, except for the occasional eruption of some brilliant invention like the free-wheel or the multi-speed hub. Year succeeded year, and the main novelties handed out by publicity managers to serve weary travellers as "talking points" for next season resolved themselves into perfections of inconsiderable details. It is a healthy sign when an industry reaches this stage. It is no sign that invention has exhausted itself; rather is it a sign that invention has exhausted its subject, and that in main essentials finality is in sight. Now the motor cycle is a far more complex proposition than the push bicycle; the manifold components of its specification give a designer far more range and scope; and if Olympia has produced no crowd of really startling novelties, I am far from saying that finality is upon us already. Nevertheless, the motor cycle has, beyond contradiction, "shaken down" so far as its main features are concerned. Engine design, frame design, ignition, carburation, and general outfit have taken shape; one exhibit is pretty much like another, and there is a great levelling up of quality. The rider of a 1911 mount will not be so very badly out of date in 1912; and the odds are at last in favour

variable gear. No longer need the corpulent aspirant delay purchase because he shirks the walking or running mount. He can make his choice between countless machines which can be started from the saddle by pushing down a lever, and will move off sweetly

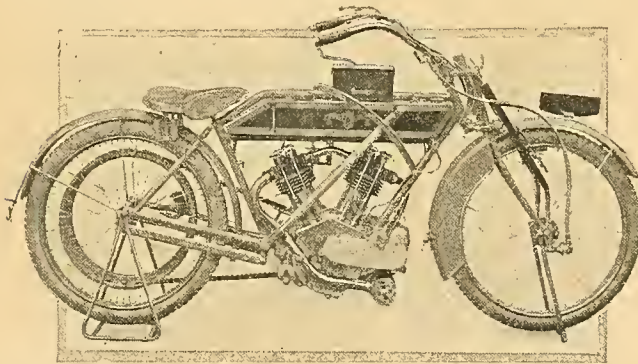


The latest design of 2 h.p. Quadrant lightweight.

and gently on the clutch. No longer can we extend pity to the inept tuner of engines, who conks out half-way up a bad hill on a sultry August day; we shall hereafter only mock at his folly and pride in bestriding a single-gear mount when there are others about. The veriest duffer can now ride a motor cycle without running any inevitable risk of being dubbed a sportsman. The modern motor cycle is childishly easy to handle on dry roads at moderate speeds.

Two Important Points.

Two great problems remain in an interesting stage—the problem of weight, and the problem of transmission. In the matter of weight we are all ready and eager to be converted. None of us ride heavy machines because they are heavy. It is all a question of compromise. The whilom enthusiast on an 8 h.p. twin is quite ready to buy an 80 lb. lightweight as soon as those lively little locomotives can break a "60" dial speedometer; and the "open muffler boob" (as the Yankees term him), who now disports himself on a T.T. $3\frac{1}{2}$ h.p. single is ready to ride a $2\frac{3}{4}$ h.p. twin as soon as these vivacious doubles can scratch out another 15 m.p.h. In the meantime the bulk of the demand is gradually sliding lower and lower down the weight scale, and there are unmistakable signs that before long the $2\frac{3}{4}$ h.p. multi-speeder twin will sell at least as freely as the "F.E. $3\frac{1}{2}$ h.p." The transmission question is more open. Belts are deliciously easy to cobble, and only a combination of bad weather and steep hills can make the most critical of us ferociously discontented with a good inch belt. Still,



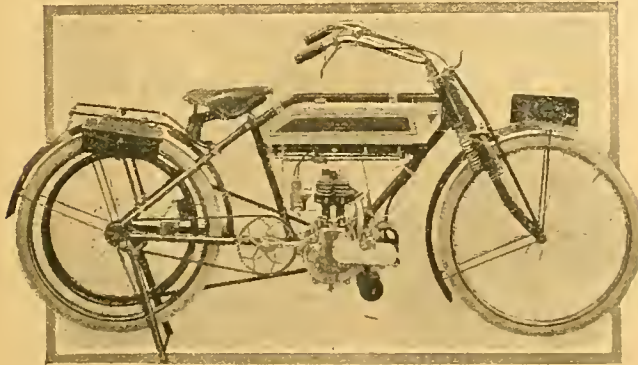
The new twin-cylinder six-speed Matchless, with overhead valve J.A.P. engine.

of an absolute novice fitting himself out with a really roadworthy machine, even if he be too proud to avail himself of skilled advice. All this is to the good.

Probably the chief advance upon last year is to be identified by ease of starting from rest, and increased hill-climbing certainty. There was scarcely a stand in the Show which did not include a free engine and a

A Critic among the Solo Models.—

there it is. The men who influence public opinion are the men who most often essay phenomenal hills in a heavy downpour, and I am inclined to think that



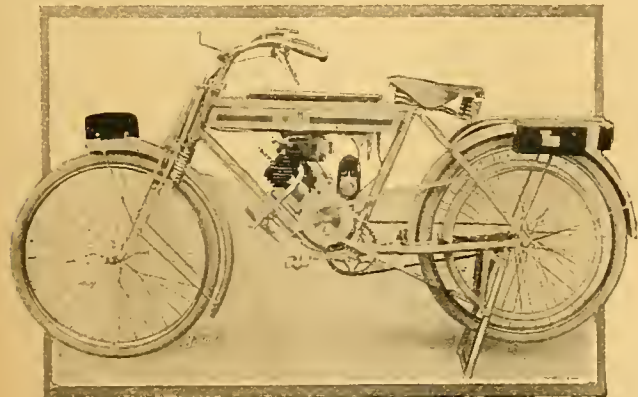
New 2 h.p. Lincoln-Elk lightweight.

the chain is slowly but surely coming back into its own. Firms who for years have been faithful to the belt are incorporating the chain, if only as one item of a mixed drive, and straws show which way the wind blows.

The British Machine.

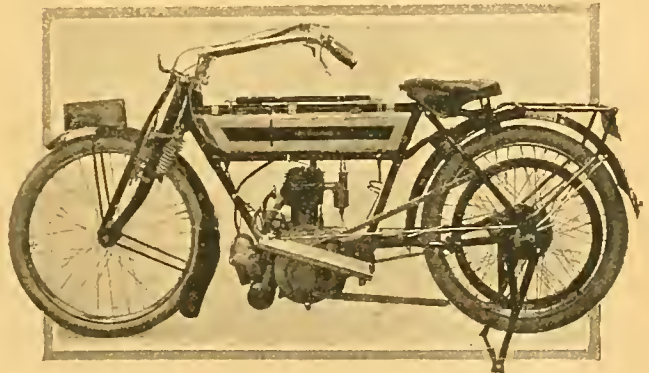
I wonder, by the way, if there is any other sphere of industry in which British capital, British designers, and British labour can show such a sweeping triumph. For every first class machine of foreign manufacture on the international list, there are at least a dozen Britishers of equal grade.

There are less certain signs that other evolutions are just beginning to take shape. I think every practical road rider would agree in saying that our two crying needs are improved springing and improved lubrication. The Show produced earnest and clever attempts to grapple with both problems. A number of spring frames were exhibited, of which only the Bat, the N.S.U., and A.S.L. already possess a large *clientèle*. I specially liked the P.V., recently described in these columns, and the Edmund, which was new to me. The latter secured all the necessary lateral rigidity, while its springing utilised every possible inch of leverage, and included a frictional damping device to minimise bouncing. I thought the check-



M.R. single-cylinder model, in which there is only detail alteration beyond a slightly lower frame.

bar of the carrier, against which the cee springs butt, might cause a noise on very bad roads, but the plan has real possibilities, and was very well thought out. Several other spring frames were handicapped by obvious uglinesses, or constructional defects. The stream of tendency was sharply divided in the matter of lubrication. The multitude of drip feed lubricators are at least a confession on the part of the trade that something is wrong, but, except in the way of visibility, they showed no real advance on our old friend the J.A.P. drip feed. The inverted domes and tilted glass cylinders may be easier to watch than the vertical barrel of the J.A.P., but possess no other advantage; and in some cases the new designs were really retrograde in comparison. I saw several which relied on crank case suction for the oil feed, possessing no pump of any sort or kind, and others in which the pump merely served to produce air pressure in an oil tank. Either of these systems would put the rider in the cart if the tell-tale glass were broken. However, any sort of drip feed, with a hand pump in reserve, spells real progress, and the more visible it is the better; but I must say I had hoped for something a trifle more original than the discarded leavings of motor car designers, and was therefore rather disappointed.



3 1/2 h.p. Campion with Roc two-speed gear in the rear hub.

Forced Lubrication.

Mechanically operated oil pumps figured on one or two machines, and are known to be satisfactory in the way of keeping a correct level of oil in the crank case, but they do not force the oil by conduits under pressure to all the bearings, and can, therefore, only be considered as an advance on spring pressure-fed drips. Some consider a motor cycle engine unsuitable for driving a pressure feed oil pump, and that it takes an appreciable amount of power to do it, but there has been much talk of forcing the oil under pressure to each separate bearing, and we shall doubtless come to that if the strain on the big end bearing is increased as recklessly as it has been in the past. For this reason the W.D. machine, described in our Show issue of November 23rd, was to me the most interesting mount in the Show. Without entering into technicalities, one may say that if a rider fills the crank pit of this engine to a certain height on starting out, he may forget he has a lubrication system until he has covered 200 miles; at the expiry of this distance, he opens a cock on the crank case, acting as a level tell-tale, and pumps oil in till the tap oozes, after which he may

A Critic among the Solo Models.—

safely ride another 200 miles. The design is well thought out, and in other respects the engine should be a clipper. A world of experience, thought, and comparison has gone to the perfection of its valves and timing, for instance. But a glance at the engine rebukes those who glibly prate of the need for stan-

of slim, soft bolts. Many pannier toolbags continue to be secured by flat plates and lilliputian bolts and nuts. When will the trade learn that only a doubly bent plate and locked nuts can last out 100 miles? Nobody seems specially sanguine about solving the exhaust valve bother. I failed to obtain a single guarantee of an unbreakable exhaust valve, and "stretching" is more common than ever it was. I had two machines last year—one never broke a valve, but always stretched them; the other never stretched, but often broke.

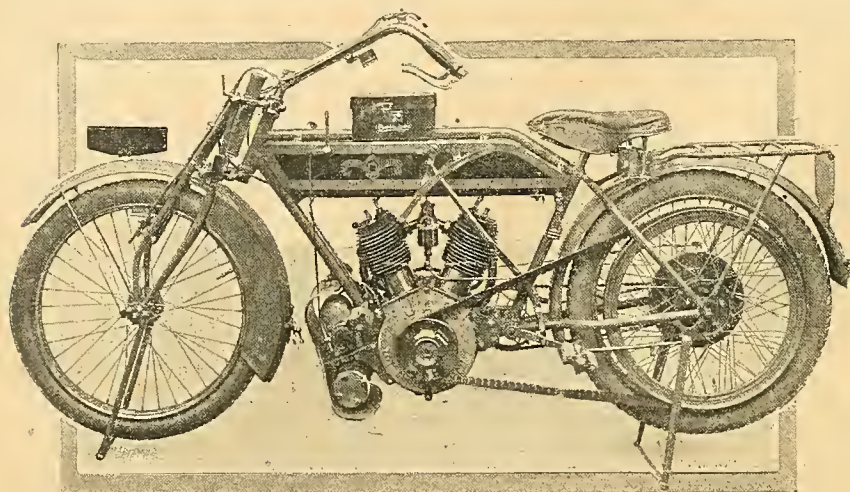
Important Details.

The carriers of many new types will come adrift on the first rough road. The screw-down petrol valves are a thousand times better than tight and leaksome taps. Adjustable spring tappets are the rule. Engine trouble is a thing of the past with the best makes. Tanks, like Caesar's wife, are above suspicion. The wheels are more quickly detachable than a Rudge-Whitworth or Riley car type—chiefly because a stand is quicker than a jack. The waterproof magneto has come at last. Carburettors are wonderfully improved. Wheel bearings

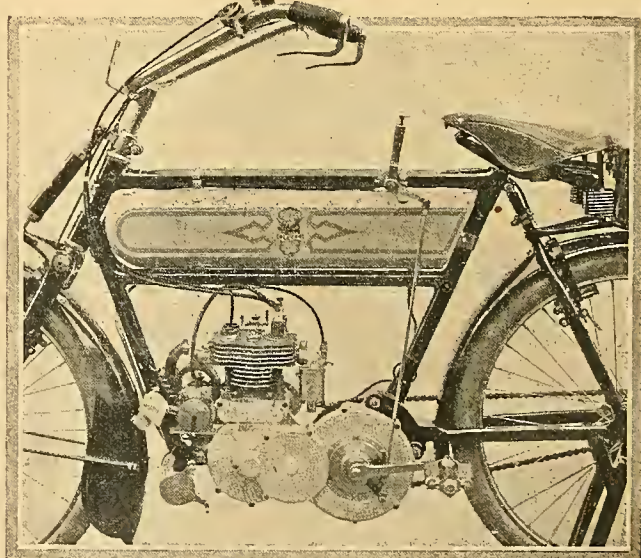
are waterproof, and do not necessarily lose their adjustment if a wheel is slipped out. Engines evince an average rise of about 10% on last year's actual horse-power. Variable gears are at last Legion, and the Show contained practically an even quantity of single and variably geared machines, which in itself is a record. Free engines are almost universal, and, apart from their control gear (see above), are very satisfactory; but why, as one firm prefers, have two separate hand levers when we are eager to see such matters foot-operated? A good Show, my masters, to which the Vicar of Wakefield could safely send son Moses with a £50 cheque and no tremors.

dardised forced oiling. The trade cannot be expected to go to the trouble and expense of building so refined a design until circumstances compel them; and at present splash oiling serves the ordinary man's needs fairly efficiently.

I cannot pretend to handle such an enormous exhibit in detail, but the following points struck me forcibly. There will be road trouble with some of the foot starters. On many of them the two sprockets, with centres six inches or so apart, were a good inch out of line in one position or the other; some designers left them out of line at rest, others when in operation. Neither plan should make the engineer responsible burst with pride. Many of the overhead inlet valve systems will wear disgracefully. The buyers who fancy this system should look at the N.S.U. for an example of staunch and silent construction. The clutch pedals on many machines were simply ridiculous, and only fit for operation by the tiny foot of a *première danseuse*. The New Hudson people are on the right lines in compounding their leverage, but even here a bigger footplate is desirable. Pedals which a car owner would deem fooling for working a cut-out are applied to the control of a clutch which is not always smooth. On some machines the spring pulls the clutch in; where this is so, a tiny pedal is comparatively pardonable. On others the heel piece has to be used to force the clutch in, steadied by the toe piece; and when the rocking lever is only 6in. long and the foot plates are no bigger than a crown piece, graceful starts will be difficult. The majority of the cylinder heads are still placed just where they can best char the trousers, and are destitute of guards. The adjustments of some rear brakes are bound to strip or snap in the first emergency. There are still makers who evince a fondness for clips composed of a small bent piece of thin metal, and a couple



5-6 h.p. Matchless two-speed T.T. roadster.



The side-by-side twin-cylinder 3 h.p. Aleyon.

The Light Side of the Show.

THERE are twelve different ways of seeing the Show, and I adopted the thirteenth. It was a method all my very own, and one fraught with tremendous possibilities. Briefly, I went to Olympia with an idea, and let the idea take me whither it listed.

This idea of mine had all the charm of simple grandeur. I would go to the Show, I said, and I would buttonhole a director of any one of the leading firms. (One is always sure to find the board of directors on the stand!) I would lead him gently to some dark corner in the hall—unfortunately, there's never any room round the refreshment bars—and there breathe into his ear a real business proposition; to wit, that the said leading firm should present me with a *modèle de luxe*, which I would undertake to test for them thoroughly, reporting results. "Another Road Record by a Shamateur—Ten Miles a Week for a Fortnight." Something like that. Though I was quite prepared to promise anything up to 500 miles a day, so long as I got the bicycle. I would even waive the question of fees and expenses. And the managing director and his board would weep warm tears of gratitude down the back of my neck, and forthwith despatch me my choice by wireless.

Counter Attractions.

That was the idea. That it was not crowned with complete success I ascribe simply to the fact that I was distracted from the pursuit of it by the many counter attractions which beset me as soon as I entered the building.

I entered from Hammersmith Road, between flanking mountains of empty crates. Evading a slim young man with an eagle eye and a chewed cigarette who wanted me to take a free sample of something I didn't want—it was not a free engine—I made my way to a stand where I knew original ideas were likely to be appreciated, and looked for the managing director. My attention was distracted by a hilarious couple who were inspecting a hip-bath on wheels.

"No, Algernon," she said, "it wouldn't do at all. There's only room for one."

"Unless, petsy, we sat *very* close together!"

I fled, blushing, from this "Dawn of Love."

Close by was a motor cycle fitted with a sort of jaunting car seat over the back wheel. A *very, very* stout lady examined it dubiously. Her son, or son-in-law maybe, was expatiating on the joys of riding on a pillion seat. She looked round at the interested spectators, embraced them all in a motherly grin, and said, "I don't fink!" And we all agreed with her.

Too Tempting for One's Relations.

Passenger machines were, indeed, a pronounced feature of this year's Show. Tricars, quadcars—the latter not to be confused with the defunct forecars—were present in forms as varied as their etymology, and sidecars have attained a degree of luxury too tempting, methinks, to one's wife's twenty-stone relations. One machine in particular had hood, luggage grid, portmanteau, wind screen, apron, and side doors all complete. There would be no keeping mother-in-law out of that.

That feature, and the large number of ladies' mounts, accounts for the very large proportion of the

fair sex who graced the Show with their presence, as compared with former years. Which is all to the good, for no sport or pastime can really be called popular unless it appeals to the partners of our joys, as motor cycling very manifestly does. The thousands of ladies whom I saw at the Show on the opening night are sufficient witness thereto.

But I digress: I am losing sight of my idea. Passing a stand where, in response to the query, "Are you in the 'trade'?" a visitor was giving ocular proof to the attendant by showing his hands, which were certainly dirty enough for a dozen trades, I brought up alongside a big central stand. Here were displayed the products of the firm which I had mentally decided were to be favoured with the benefits of my idea. They would be the most likely to jump at the chance of adding yet another record ("One hundred miles on a gallon of beer!") to their many achievements.

Chasing the Chairman.

I looked for the board of directors. Away in the far corner was a pale distinguished-looking man, thoughtfully spitting into a palm-pot. The chairman, likely. I edged my way round the vast expanse of stand: but by the time I reached the spot, he had vanished. I next spied him lurking in the south-west corner. I circumnavigated the stand again, but by the time I was halfway round, he was back in the north-east.

"This must end!" I muttered grimly, and I stepped over the cords. Just then I felt a touch on my shoulder. I looked round and saw a total stranger, holding out to me a box of cigarettes. I took the box. "No, no," he grinned. "Just take *one*," with an unnecessary emphasis on the "one." I took one. What is there about me, I thought, which compels utter strangers to lavish gifts upon me like this? Then I saw the benevolent stranger proffer his box to someone else—a very ordinary-looking person. Some Yankee advertising dodge, I guessed; and promptly decided it would be safer to give the cigarette to a weary-looking policeman standing near. In the meantime my quarry, the pale, distinguished-looking person, had vanished. His place was taken by a youth with a cut-away chin who looked as if an idea would hurt him. I passed on, foiled.

At the next stand was a machine with a change-speed gear, connected to the lever on the tank by a natty set of cranks and levers. When I came up a confident young spectator, with the awful colour scheme of a bright red face and a railway-green muffler, was showing his companion "how it worked." The attendant was nowhere near—he never is.

"You just move it this way," he said. . . . "Blight the thing! it's stuck—bit stiff—just move it like this . . . grrrh!! . . . oh, lor'!!"

Something gave way. The red-faced young man and his friend folded their tents, like the Arab, and silently crept away. The attendant then came up and I caught his startled and suspicious eye, and hastily followed the red-faced young man with the emerald scarf and his friend.

By the way, another great feature of this year's Show was the large number of working models and sections. All provided with handles so that the enquiring mind

The Light Side of the Show.—

could see the wheels go round. And every handle with an enquiring mind diligently turning it, while its delighted lady friends watched the pistons "jiggling" up and down. At one stand, enquirers were saved the labour of turning, a messenger boy being permanently clutched to the handle. The boy was on the low speed all the time, and looked very bored. But I venture to say his model was the only one to survive the whole of the week. For a real engine test, better than 44,000 miles of road work, commend me to the ordeal a working model has to go through during Show week at the spasmodic hands of enthusiastic seekers after knowledge.

After an amusing interlude at a stand where a young lady in a hobble made a determined, and at last a disastrously successful, attempt to mount a lady's model, I turned to business again.

"What about the idea?" said I to myself. "I will away to the Gallery, prospect the ground from above,

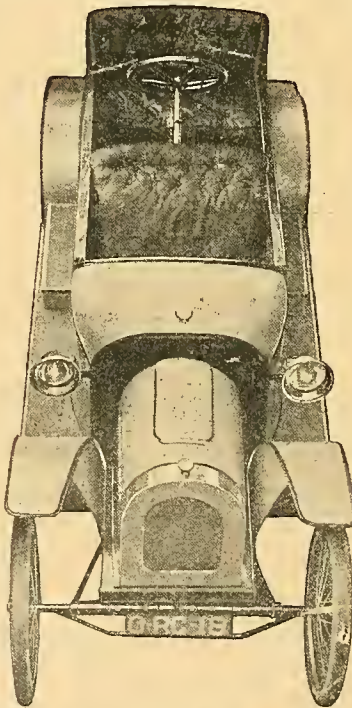
and then descending, fix my man and clinch the deal."

I "awayed" to the Gallery. There I saw a scandalous flirtation between a decorative bandsman and a *chic* waitress; I saw an unnecessarily large number of unnecessarily noisy youths; and, finally, prospecting over the rail, I saw, in the centre of the hall below, a prosperous-looking individual in a rotund red waistcoat with gilt buttons—a motor cycling magnate—a whole board of directors in himself. And he ornamented the stand of a company whose products are the very last word.

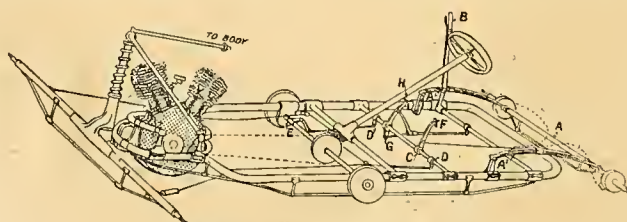
"I will ride an Ultimate Word!" I cried enthusiastically. I descended hastily, found the magnate, and told him all about it. It took him some time to grasp the idea in all its complex beauty. Then he spoke. He said—but no! I have been brought up on prunes and prisms, and I cannot repeat what he said. But he said it very emphatically indeed. After what he told me I can see I shall have to *buy* my next year's machine after all.
H.R.T.

A TANDEM-SEATED QUADCAR.

IN our last issue we published an illustration of the Rollo quadcar, which is being made by the Rollo Car Co., Ltd., Conybere Street, Birmingham. As the title implies, this little vehicle has tandem seats, and weighs only $4\frac{1}{2}$ cwt. The appended sketch of the chassis shows that the engine—an 8 h.p. J.A.P.—is carried in front and attached to engine plates in a way similar to a motor bicycle. The combustion heads are cooled by two fans; the bonnet will also open at the top, as illustrated in the photograph showing a plan view of the body, etc. The frame is made out of one length of $1\frac{1}{2}$ in. weldless steel tubing, bent inwards at the front and joined across the back. Across the frame is a counter-shaft driven by a silent chain; the transmission then goes to the road wheels by means of Whittle belts on expanding and contracting pulleys, one on each end of the counter-shaft. To tighten and slacken the belts to suit various gears, the rear axle A can be moved backwards and forwards. The axle is attached to semi-elliptical leaf springs A', and a rod and lever connects it with the operating lever B, the motion being communicated through a knuckle joint C to levers D D and so on to forks E, on the counter-shaft pulleys, which open or close the flanges as required. By this means an inter-connection is secured between the moving back axle and the counter-shaft pulleys, so that when the flanges are opened the distance between the centre of the counter-shaft and the centre of the back axle is automatically altered to coincide with the amount of opening of the flanges on the counter-shaft pulleys. The equivalent of a clutch is obtained by placing the heel on the pedal F, so operating the knuckle joint C, which draws the lever G backwards and operates the forks E independently of the back axle. The pulley flanges then fly open, the belt drops on to the bottom of the groove, and a free engine is obtained. By pressing on H, the knuckle joint is returned to its locked position, and the forks which operate the pulley flanges remain in the position they occupied before the joint



A plan view of the Rollo tandem-seated quad.



Details of the chassis of the Rollo quad car.

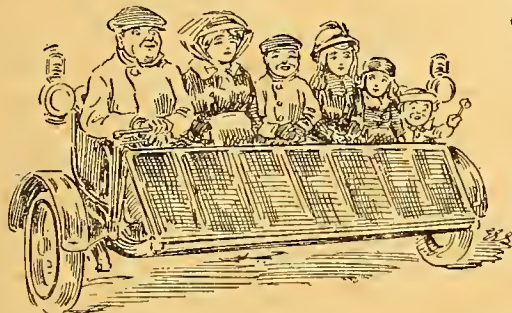
was broken. It will be seen that this mechanism allows a free engine at any position of the rear axle.

A variation of speed from 4 to 45 m.p.h. and gear ratios of $4\frac{1}{2}$ to $7\frac{1}{2}$ to 1 are obtainable by means of the hand lever at the side, and by means of the pedal the speed can also be reduced to free engine instantaneously and the machine brought to a standstill in traffic. The front of the chassis is sprung on one central coiled spring, so that it is provided with three-point suspension. Steering is by wheel and double steel wire cables. These are connected to the front axle by means of strong spiral springs, which cause the wire cables to be always in tension, so absorbing road shocks. The cables are wound round a wooden drum at the base of the steering column, and when the drum is turned the steering motion is communicated to the stub axle of each front wheel. The brakes are compensated, and the shoes, operated by Bowden cables, are inside the belt rims of each wheel. The operating cables are attached to a fixed portion of the chassis, and there is sufficient play of the cables between the brake shoes and the anchored positions to allow for the backward and forward movement of the rear axle.

The dimensions of this little vehicle are wheelbase 8ft. 2in., track 3ft. 4in., overall width 3ft. 10in., and length 10ft. 6in. The body, which is coachbuilt, presents a remarkably smart appearance; it is upholstered in pegamoid, and hair-stuffed; the back of each seat is provided with springs, and the cushions are made detachable. The petrol tank has a capacity of about four gallons and lubrication is by pressure from engine exhaust, with a visible and adjustable drip feed to the crank case.

The starting handle, which fits on just in front of the side door, is so geared to the engine that it revolves the latter two or three times to one; it is therefore quite easy to start the engine on the magneto. The vehicle is sent out complete, with two oil side lamps, one tail lamp, acetylene head light, horn, and ample kit of tools.

HUMOURS AT THE SHOW



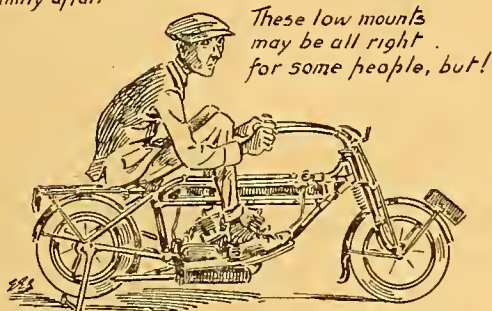
*The Sociable
Quite a family affair*

*A Real Roman.
Who nose?*

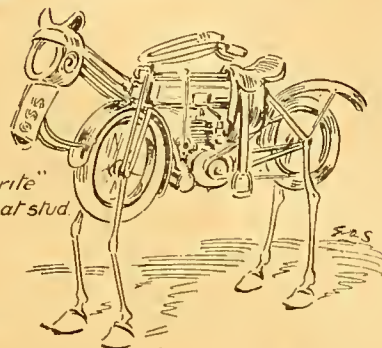
*To think
that we
should
come
to this.*



Dressing the part.



*These low mounts
may be all right
for some people, but!*



*"The Favourite"
One of the Bat stud*

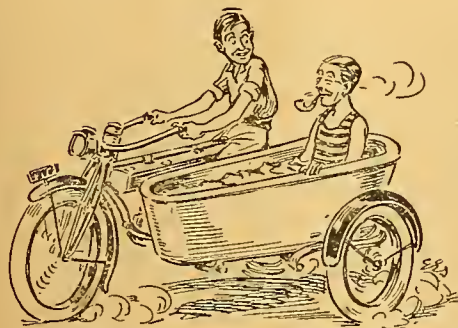


What did you say, my dear?



*Something our artist did not see
and why.*

*One who
accepted
all the
catalogues
& leaflets*



*Something for the Summer.
suggested by some of the
sidecar designs.*

*Robin Hood
and
Little John.*



*Isn't she
a beauty? Which?*

OCCASIONAL COMMENTS

By "IXION"

Driving from the Sidecar Seat.

A friend of mine declares he has solved the problem of driving a rigid sidecar comfortably from the sidecar seat. He steers with the help of a stout cord, ending in a wooden grip, tied to the far end of the handlebar. He has a separate control, of the Bowden wire type, mounted on that stay of the sidecar which bolts to the seat-pillar lug of the bicycle. I give his opinion for what it is worth.

Newspaper Diagnosis.

The inevitable handicaps under which an enquiry bureau labours are rendered evident in the following incident. A friend who was still in his novitiate informed me that his machine was remarkably difficult to start, but that when once the engine fired the machine ran perfectly, and the engine developed full power on hills. I made a number of obvious suggestions of an elementary kind, but after testing them all he told me that his trouble still continued, and finally I paid a call at the low corrugated iron shed which he is pleased to call his garage. Within ten seconds I discovered that his pedalling gear was remarkably stiff in action, and a moment more sufficed to trace the stiffness to the pedalling crank spindle. A glance showed that one of the pedals bore the marks of a heavy fall, and a turn of the cranks showed that the stiffness was confined to one point in the circle of revolution, and that there was no squeaking noise. Obviously, therefore, it was not a case of a broken ball or an overtight cone, but of a bent spindle. But what expert at the desk of a newspaper office would guess that a bent pedalling axle was the reason why the engine of a brand new machine would not start? Wherefore, oh ye new readers, be merciful to us if we are not always inspired in reply to your agonised appeals for assistance.

The Eclipse of the Featherweight.

In one respect Olympia is a little surprising. Two or three years ago a good many cognoscenti confidently expected the 80 lb. lightweight to come into its own by about this time, but once more its boom is postponed. I say "postponed" deliberately, because as soon as an 80 lb. machine can be produced which can do all that a $3\frac{1}{2}$ h.p. or a two-speeded $2\frac{1}{2}$ h.p. can do, speed only excepted, the 80 lb. machine will come out on top. The coming of the variably geared medium weight has been slow. It is a good many years since I first sampled the $2\frac{3}{4}$ h.p. type of twin; little by little it has been perfected until regarded as a tourist mount, pure and simple, it is the equal of a $3\frac{1}{2}$ h.p., i.e., it is quite as reliable, quite as sure a hill-climber; and as a consequence it now ranks as a very formidable rival, since few of the new generation of motor cyclists wish to travel at 50 m.p.h. History may be expected to repeat itself. The next phase of

the industry should see two parallel processes. The $2\frac{3}{4}$ h.p. multi-speeder should in a large degree oust the $3\frac{1}{2}$ h.p., which is heavier and more expensive; and simultaneously lighter machines with smaller engines will gradually depopularise the $2\frac{3}{4}$ h.p. Finally the fittest will survive for ordinary purposes in the guise of an ideal featherweight.

Valve Cotters on Small Engines.

A detail which seems to stand in urgent need of attention on small engines is the valve cotter. Old stagers like myself can well remember the days when we invariably carried two or three spare inlet and exhaust cotters in our purses to make sure of having a spare handy, since we well knew they would be freely and frequently required. To-day I can exhibit an exhaust cotter which has run for two years under a 40 lb. spring. The old troubles are being repeated with the miniature valves on some small engines.

Whenever I get the opportunity I inspect the valve cotters on such engines, and in most cases I notice that the spring pressure is too much for the cotter. Its back is bent, and its extremities have bulged and flattened, so that strenuous work with a file will soon be needed to extricate the cotter, unless it solves the question by snapping in half.

This is simply a question of metallurgy; the springs on small engines are weak by comparison with those on a $3\frac{1}{2}$ h.p. or an 8 h.p., and though the cotters are correspondingly smaller, they would stand up to their work if they were made of better material.



Wm. Bennett, of Scorrier, Cornwall, who is 67 years of age and an ardent rider of a $2\frac{3}{4}$ h.p. Royal Enfield. The above photograph was taken on the occasion of a fifty mile trip over some well known Cornish hills.

Cost of Running a 3½ h.p. Motor Cycle.

Further Replies to a Reader's Query.

Sir,—In reply to "H.M.'s" query which appeared in *The Motor Cycle* of November 2nd: I have taken some pains to get the figures as correct as possible, and hope my notes will be of use to some readers of your excellent paper. I began the season in April as a novice.

Petrol, 4,500 miles odd (50 gals.)	£2 19 6
Lubricating oil (3½ gals. Price's Huile de Luxe)	0 17 6
Duty and licences	1 10 0
Accessories, etc.	2 13 9
New lamp generator	0 7 6
Second-hand speedometer	1 0 0
New springs, spare valve, two plugs, and other items	1 15 6
Collan oil and grinding mixture	0 1 6
Footrests, belt odds and ends	0 11 0
Accident to handle-bars	0 4 0
Storage	1 15 0
Holiday running expenses, not including petrol, lubricating oil, or lodging for two nights	0 10 0
One waterproof suit and case	1 8 6
Total	£15 10 3

Cost per mile = .827d.

Or, subtracting the price of spares and things bought but not used—587d.

A friend bought the machine new in September, 1910. In April he bought a T.T. model. The same month I bought the 3½ h.p. 1910 free engine Triumph from him after it had run about 1,500 miles. Hence the machine, tyres, and parts have really done 6,000 miles.

I have allowed nothing for depreciation, because the machine is still worth what I gave for it.

F. SPARROW.

Sir,—In response to your request for readers' experiences regarding cost per mile of running a 3½ h.p. motor cycle, I give below average costs, which I think will be found to be borne out in actual practice. The following statement of costs agrees substantially with a similar statement which I sent to you for publication several years ago, and which I believe was the first statement of cost to be widely published. At that time the idea was ridiculed in the Press that the running cost of a motor cycle could be well over one penny per mile, as I then stated it. Since then, however, riders have become more closely acquainted with the facts concerning running cost, and I feel sure that the experience of a large number of your readers will coincide with the statement below.

It may be advisable to point out that the depreciation in market value of a motor cycle is much greater than in the case of ordinary machinery. Not only does the market value of a motor cycle decrease rapidly owing to the rapid rate at which changes in detail and design are being made, but the machine does not continue to perform its duties as well as when new, owing to the effects of use, and the decrease in efficiency is rapid as compared with ordinary machinery.

Below is the average cost per mile of running a 3½ h.p. motor cycle, based on a distance of 6,000 miles per annum:

	Per mile.
Depreciation	... .. 1d.
Repairs and renewals	... .. 1d.
Petrol, oil, and licences	... .. 1d.
Tyres	... .. 1d.
Total cost per mile	... .. 1½d.

The total cost of a penny farthing per mile may be considered as the minimum for 5,000 miles per annum. If we add an extra farthing for depreciation, one eighth of a penny for repairs and renewals, one eighth of a penny for petrol and oil, and one farthing for tyres, making a total extra of three farthings, to the penny farthing above, we get twopence per mile as the cost of running the same machine with sidecar for 2,500 miles, that is, half of the yearly mileage of 5,000 miles. CHAS. WALMSLEY.

Sir,—Having ridden a free engine Triumph for eighteen months, I have kept a careful account of cost of running, etc.

Apart from interest on capital and depreciation, it figures out as under. I use the machine almost entirely for business, on journeys averaging about eighteen miles, and in all weathers, and have covered 5,450 miles on the original tyres. A fortnight ago I took off the cylinder for the first time and found about a thimbleful of deposit. You will see my running cost is less than ½d. per mile.

63 gals. Shell	£3 13 6
1½ gals. Vacuum A	0 6 9
Repairs, two belts, inner tube, etc.	4 6 11
Licences one and a half years	1 12 6
Fire insurance one year	0 10 0
Total	£10 9 8

H. Y. BEALE.

Sir,—The following are the running expenses of my 3½ h.p. Rex and sidecar "Saucy" from January to date, mileage being by 1911 Cowey. Result, 3d. per mile for two passengers.

The combination, single geared with adjustable pulley allowing 6 to 1, but seldom used. With passenger, portman-teau, and camera up I easily climbed Chatham Hill on 6 to 1 gear. Returning from Margate via Maidstone I ascended Wrotham on a 5½ to 1. I can touch 40 m.p.h. (by speedometer) all out on the level. Recently I took my passenger in sidecar, together with another passenger on the carrier (8½ stones), to Southend and back in the day, using a 5½ gear. We climbed Brook Street and Rayleigh Hills all up, but shed the back passenger on Crays Hill near the top. I use and can recommend the Service leather belt and Palmer cord tyres and Lodge plug. F 3480.

[We shall publish a number of further instructive replies on the above subject in subsequent issues, the cost of running being a subject which has created a lot of interest at this season of the year.—Ed.]

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	TOTALS.
Mileage	560	330	10	600	520	630	800	550	800	300	5,100
Petrol and Oil	8 7	7 0	—	7 7	8 7	10 8	16 5	9 5	14 4	5 9	4 8 4
Tyres and Tubes	1 8	8½	9 4	1 2	5 2	3 0	3 7	4 0	1 14 7	2½	4 15 0
Belts and Fittings	2 9	4	5	2 0	—	1 8 6	1 8	9	16 2½	6½	2 13 2
Engine and Ignition	—	—	—	—	9	—	—	—	—	—	9
Carbide and Lamps	3 6	3½	1 0	3 4	3	2 8	—	3 1	6 0½	1 0	1 1 2
Storage	2 6	2 6	2 6	2 6	2 6	2 6	2 6	2 6	2 6	2 6	1 5 0
Sundries	—	1 4	2 10	—	6	2 6	3 4	9	10	1 8	13 7
Licences	—	1 0 0	—	—	—	—	—	5 0	—	—	1 5 0
Sidecar (accident)	—	—	—	—	—	—	—	6 6	—	—	6 6
TOTAL EXPENSES (each month)	19 0	£1 12 2	7 6	19 6	15 0	£4 9 10	£1 7 6	£1 12 0	£3 14 6	11 6	£16 8 6

The table of expenses compiled by F3480.



Bristol B. and M.C.

The hon. sec. of the motor section for the ensuing year is Mr. H. Blocksidge, 14, Frederick Place, Clifton, or headquarters, Full Moon Hotel, North Street, Bristol.

Oldham and District M.C.

The above club on Tuesday, November 14th, held an interesting billiard match at headquarters, the Crown Hotel, between married and single members. The games were well contested, the "married" team eventually proving victorious.

North-west London M.C.C.

As previously announced, the A.C.U. permit has been granted for the winter reliability run to Gloucester and back on Saturday, December 30th. The route is *via* Stanmore, Amersham, High Wycombe, and Oxford, starting and finishing at Jack Straw's Castle.

Walthamstow M.C.

The annual dinner and prize distribution will take place at the City Arms, St. Mary's Axe, December 16th. All motorists are welcome. The membership has now reached seventy-six, and as there are several valuable cups and numerous other prizes for competitions during 1912, a very successful season seems assured.

Essex M.C.

A paper, "Motor Cycles and Motor Cycle Accessories shown at the Olympia Show," will be read before the members of the Essex Motor Club at the Royal Automobile Club premises, Pall Mall, S.W., on Thursday, December 7th, at 7.30 p.m. Motor cyclists are cordially invited to attend. Entrance by western door.

Pontefract M.C.

This club held a breakdown competition at headquarters on Wednesday last. Five minutes were allowed to get the machine in running order, and it had to run for 15 secs. Mr. Smith won both events, the faults being, first, the contact breaker screw removed and the throttle lever wire disconnected, and secondly, a faulty plug and a choked jet.

Perth and District M.C.C.

The annual business meeting and supper were held at the Royal George Hotel, when prizes were distributed to the season's winners and the following officers were elected: President, Mr. A. L. Watt; vice-president, Mr. A. G. Forrest; hon. sec., Mr. J. Beveridge; hon treasurer, Mr. B. Syme. The evening terminated with some music.

Birmingham M.C.C.

The third round of the autumn reliability trials will be run on Saturday next. Competitors qualified to take part in this round will meet at the Stratford Road tram terminus at 3 p.m. sharp. The course will be from Birmingham to Stratford, Sunrising Hill, to the Round Tower, Edge Hill. This is to be the first stop, and tea will be partaken of here. The return journey will be *via* Stratford, Alcester, Studley, to the King's Head, King's Heath tram terminus. Other members of the club are invited to accompany the competitors on this round, and are requested to report any stops made.

North Middlesex M.C.C.

A very successful whist drive was held on Saturday, the 18th inst., at headquarters, Ye Old Gatehouse, Highgate, a large number of members and friends being present. Thanks are due to Mr. Blakey, who kindly presented the prizes, and to Messrs. D. Grey Blakey and J. M. Butterfield for making the necessary arrangements. The first club dance takes place on December 8th, at headquarters, evening or fancy dress. The supply of tickets being limited, early application for same should be made to the hon. secretary, Mr. D. Grey Blakey, "Heathfield," Great North Road, Highgate, N., or to any member of the committee. All those interested are cordially invited to attend, and it is expected a very pleasant evening will be spent.

Mersey M.C.

The annual general meeting will be held at the club headquarters, St. George's Restaurant, Redcross Street, on December 7th, to be followed by a smoker, supper, and prize distribution.

Blackpool and Fylde M.C.C.

This recently formed club is now in full working order. The secretary is Mr. E. Taylor, Victoria Café, Blackpool. A silver trophy has been promised. A reliability run to the top of Shap Fell will take place on Boxing Day.

Redditch and District M.C.C.

A dinner will be held on Thursday, December 7th, at the Unicorn Hotel, at 6.45 p.m. This will be followed by a smoking concert and prize distribution. Future competitions: A "breakdown" competition will be held at the headquarters, on Wednesday, December 13th, at seven o'clock. A motor cycle will be put "out of order," and the competitor who diagnoses the trouble and puts the machine in running order in the shortest time will be adjudged the winner.

Surrey M.C.C.

The fifth annual dinner and presentation of prizes will be held at 7.30 p.m. on Thursday, December 14th, at the Angel Hotel, Guildford.

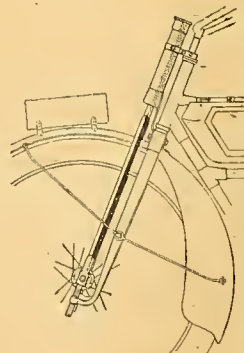
A lecture by Mr. W. G. McMinnies will be delivered on the same evening, starting at about 8.45. The subject will be "Speed and Power," and the lecture, which will deal largely with carburation and the new carburettors, will be fully illustrated with lantern slides.

Purley and District M.C.C.

The 100 miles night trial on 18th and 19th inst. was run off over roads which, although nearly dried by a keen wind, were flooded in four places. Of seven starters five finished. There were four surprise controls, and the total errors from a fifteen miles per hour schedule resulted in Mr. D. H. Ebbutt (3½ Precision and sidecar) being first on points, but he was disqualified for not stopping at the last control; and in a dead heat between Messrs. R. Charlesworth (3½ Zenith and sidecar) and S. J. Taylor (2½ Douglas). These two will re-ride the course next Saturday, 2nd December, starting at 4 p.m.

A NEAT SPRING FORK.

Messrs. Crawley Bros., of Heckerill Works, Bishop Stortford, have designed an extremely neat spring fork, of which we append an illustration. The sketch is self-explanatory, and it will be sufficient to give a short description of the action.



The wheel is carried in a floating fork, which is connected to the main rigid fork by suitable guides in which it is free to move upwards or downwards. The movement is controlled by springs acting on an extension of the floating fork, and enclosed in a tube fixed rigidly to the main fork above and below the steering head. The upper of these two springs serves to take the load while the lower acts as a damper or rebound spring. An adjustment for spring tension is provided, and takes the form of a screwed cap at the top end of

the tube which encloses the springs.

The fork has a very neat appearance, and should the necessity arise it is easily dismantled.



Letters To the Editor



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 26, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Rear Springing Devices.

[6086].—With reference to the correspondence and articles in your columns re spring frame motor cycles, I am pleased to testify to the excellent results from the N.S.U. spring frame. I bought one of these machines in August last purely as an experiment.

When I add that in the Liverpool trials I had a puncture and did not know it until a fellow competitor drew my attention—you may judge for yourself. The spring frame I feel certain will become standard on all machines. My experience of motor cycling has been gained in my occupation as a commercial traveller.

H.B.

Belts and Bad Weather.

[6087].—Referring to the Service Co.'s letter [No. 6000] on the above subject, I was an interested spectator at the Herts County open speed trials at Luton Hoo, and I believe Mr. F. W. Barnes used the leather belt referred to on his Zenith-Gradua and sidecar. It will be remembered that in the reports of this event it was stated that his belt slipped, so partly losing him the race. I think that we can safely assume that such an experienced competition rider as Mr. Barnes would not start without having his belt properly cleaned and adjusted. My experience is that leather belts are superior to rubber ones in wet weather, but both are unsatisfactory under such conditions. I shall have chain or shaft-drive on my next new sidecar mount.

E. W. CHOLDCROFT.

Quarterly Trials Results.

[6088].—Taking non-stop runs and the order on the test hills into consideration, it will be seen that I made by far the best performance in the heavyweight class in the 1911 Quarterly Trials. My times on the test hills showed that I was only 39½s. out, while the next one in order, also a Rudge rider, was 85½s. out. We both made non-stop runs, but I was deprived of my non-stop certificate on one of the trials for omitting to have a magneto shield on my Rudge machine. This was only a small technical error, but nevertheless it prevented me from winning the cup, as I made by far the best performance on the hills, as well as doing four non-stop runs.

CECIL S. BURNEY.

The Motor Cycle in Canada.

[6089].—I have been reading with interest riders' opinions of motor cycles in distant lands. I must say that the average frame is not strong enough for the rough and rocky roads of Canada. I have been riding a 3½ h.p. for six months in this district, but finally finished up with a broken frame, which broke clean off at the steering head while only travelling at a slow speed. I came off uninjured, leaving fragments by the roadside to be carted home the next morning. The rims and spokes are not strong enough; my wheels are a long way from being true. Also I note the Tangent Cycle Co. state the Triumph suits us in the country surrounding Toronto. I suppose that does not include Muskoka, but if the Tangent Cycle Co.'s representative should be up this way I should be pleased to show him some roads that will soon put a machine out of commission with constant riding. The pleasures of motor cycling are a temptation to one even if the roads are bad. I am the only motor cyclist in Gravenhurst.

Muskoka, Canada.

W. MORRISH.

Are Provincial Shows Wanted?

[6090].—Now that we have had so successful a show in London, it seems to me high time to agitate for a motor cycle show in Manchester.

How long is it since a fair collection of motor cycles was shown in this sporting district? About four years, I think. We have our show for cars, but surely we can claim sufficient interest to ask that we shall not be left in the cold altogether as regards motor cycles, for it is an impossibility for many of us to get to Olympia. Shall we ask in vain?

JEFFRIES HAROLD.

Touring in South-west Wales.

[6091].—During a recent tour in South-west Wales, I had occasion to visit a farm near Llansawel, Carmarthen shire. Leaving Carmarthen by the Lampeter Road *via* Altwallis, I took to the mountain track at New Inn and crossed a most terrible seven miles, rising to 1,256 feet, coming out on to the Llan-y-byther-Llansawel turnpike at Rhydwmerau. This "road" across the mountain consists of lumps of slate about the size of one's foot, water splashes, transverse gutters, sand, and gates alternately, with one fair bit of about a quarter of a mile on top where one can ride on the grass. It was raining when I crossed with my P. and M. loaded up with baggage, a gallon tin of Shell, quart of oil and suit of oilskins. By using the low gear, I managed to get across in the saddle. I asked several farmers on the Llansawel side if a motor cycle had ever before been seen on this "road," and they said "no." I shall be interested to hear if any of your readers know this track. Does any reader know the exact steepest gradient of the Fishguard Hill on the Newport side? Local report says 1 in 3½. I climbed both these hills on the run (turning round) after a "blind" from Newport. This is what a touring machine should do, and it is absurd allowing competitors in trials to cool engines before test-hills.

BD 50.

A Lady's Experiences of the Pastime.

[6092].—Feeling sure the question of expense keeps many ladies from buying a motor cycle, I want to tell them that it is quite possible to get an old machine, cheap that goes well. I tried to get a lady's model second-hand, but found the price beyond me, so I had to content myself with a man's. I had the luck to get an elderly 3½ h.p. Bat that had sown its wild oats, as it always starts at once at a walking pace, will go up any hill I have met at any speed from a crawl to an excess of the legal limit; it is as comfortable and safe as a bath chair, infinitely more so than a push cycle. The secret of its good behaviour, I think, is that it has a low compression De Dion engine. I certainly did not at all fancy mounting like a man, but I reasoned he would not mount that way if it were not the easiest, so I took my courage in both hands, leapt, and found myself safely seated in the saddle; it is easier than mounting an ordinary lady's bicycle.

Of course, I am a light rider, but I have gone hundreds of miles alone, and had no trouble but an occasionally slipping belt. I find that motor cyclists are always ready to help. The old Bat has persuaded two friends to invest in motors, and I think two more have decided to take the plunge.

I am persuaded that I look much better on a motor bicycle than on a pedal machine—a great point this with ladies! A little ingenuity has got over the skirt trouble.

CR 994.

A Suggested Midland Winter Trial.

[6093.]-With reference to the winter trials generally, I should like to ask whether it would not be possible for one of our big Midland clubs to arrange an open reliability trial on Boxing Day for the benefit of Midland motor cyclists who cannot, through various circumstances, participate in the London-Exeter run? I think most of us will agree that, while the London-Exeter run meets the requirements of those residing in and around London, yet it is hardly fair that the rest of England should not be given the same opportunities for enjoying a days winter sport, and I, for one, feel sure that if such a trial were arranged in the Midlands, it would be attended with much success. CECIL PEERS.

Protection of the Magneto.

[6094.]-The week ending October 28th a friend and I undertook a short tour in North Wales. Unfortunately we encountered very stormy and wet weather, the Sunday's ride home being in continuous rain and hailstorms. When we were about twenty miles from home my friend's machine, a 1911 Bradbury, suddenly stopped. We soon located the trouble, which was due to water having found its way into the magneto, and after an hour's delay matters were put right. Such a trouble (even on a pouring wet and stormy night) would never have occurred had his magneto been provided with a substantial cover similar to that fitted to the magneto of my B.S.A. Needless to say, my B.S.A. in this respect did not give me the slightest trouble. I must mention I experienced similar trouble with my last mount, the magneto being exposed.

The B.S.A. and Bat, built with the magneto entirely protected, are machines which must interest the all-weather rider, and I hope to see 1912 touring machines provided with a serviceable and substantial magneto cover, which I think is an absolute necessity.

ALL WEATHER RIDER.

[The Bosch Co. have now brought out a perfectly water-proof protection for their 1912 motor cycle magnetos.—ED.]

The A.C.U. Reinstatements.

[6095.]-Your readers may like to hear what I think of my reinstatement? Naturally, I am pleased, as it will enable me to ride in the T.T. Race before I become too ancient. Moreover, I have been very lucky in the End-to-end record, and could hardly expect to regain it if it were broken. My present intentions are to ride in the T.T. Race, and perhaps at Brooklands, but track work has not such attractions for me as the open road. I should much like to have another cut at the End-to-end, as I consider that another two hours could be cut off if the engine held. Mine did not last out owing to the seating of the exhaust valve going, and I lost a lot of time on tyres. However, that is all in the game.

I dare not say that I am now going to behave myself and back the authorities up, as I fear that no one will believe me, but my promise holds good until June next year to abstain from all record road attempts, and I consider it extremely unlikely that I shall make any further attempts. After all, in these days there are so many commandments. "Thou shalt not box," "Thou shalt not exceed the limit," etc., that the ordinary man revolts and lets off superfluous energy. Hence I regard the T.T. as the safety valve of the movement. We must let our projectiles out sometimes. Every one does it, of course; but I see no reason why we should be sent to Brooklands to do it. Practically no skill in corner work is required—the road is the thing, and if it can be legalised all the better; if not *tant pis* for the offender.

I am sorry to observe that our tame Catt is shut up behind "bars." Why are Gibson and myself let free. Does the A.C.U. wish to scotch us as the most likely offenders in the near future? It would be interesting to know whether Gibson has given his promise *never* to go again. I have not. Two years may see great changes.

IVAN B. HART-DAVIES.

Sidecars and Single-cylinder Engines.

[6096.]-In view of the recent correspondence about sidecar work, perhaps my slight experience may be of interest.

I purchased a $3\frac{1}{2}$ h.p. single-cylinder single-geared machine in May last to which I attached a heavy coach-built sidecar. I was quite a new hand at the game, and, probably,

that accounts for my selling same a month later. I must say I was very disappointed in the combination—it would not go, as I fondly believed, anywhere. Where serious hills existed I always had to drop my passenger, and occasionally myself, and I was not sorry to see the last of this combination.

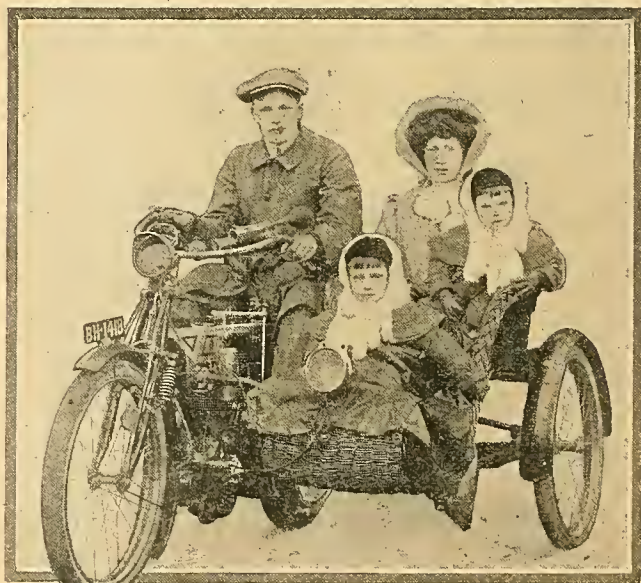
I then invested in a 6 h.p. Matchless, passenger model, with two-speed and twin belts, and Millford sidecar. Now I have no interest in these firms, but I am thoroughly satisfied with this combination. I cannot speak too highly of the machine. I have never had to drop my passenger or push, and during my holiday in North Wales it never jibbed at a hill, and I went out of my way to find some bad ones. One hill certainly I could not get a grip on, and that was the Little Orme from the Rhos side, but even then I did not stop, although I came fairly close to it, but the surface was very loose. I should like to know the gradient of that slope—the last twenty yards at the top.

The double belt drive is very efficient. I have tightened belts once in 1,150 miles, and on my journey to Wales from Birmingham—105 miles (the last fifty of which were in the pouring rain)—I never once felt a suspicion of slip. The two-speed enables one to move away like a car—it cannot slip, the lever working on the ratchet system. I have had magneto control fitted to handle-bar, also cut-off switch, both of which are a big boon, and with XL all-pan saddle fitted, which is most comfortable, I consider I have got one of the most reliable turnouts. SATISFIED.

Lamps and Winter Riding.

[6097.]-I am much interested in lamps and winter riding, and should like to let your readers know by what methods I have induced my 800ft. F.R.S. lamp to give the finest light that I think can be got out of it. I have a medium-sized Lucas generator, and after buying it immediately relieved it of the padding and filtering material it contained, which I have never found to be any benefit, but often a source of trouble. I did the same thing with the F.R.S. lamp, and on trying it I found that with its 14 litre burner as supplied the beam was decidedly narrow and very inconvenient for seeing cross roads and round curves.

Accordingly I cut away the hood and front part of the front door to the point where the door widens to its broadest dimensions, and fitted a new and rather thinner front glass, quite an inch bigger in diameter than the original. This first improvement gave me considerably more near-side light, which is often useful, and I was also surprised and pleased to find that the light was now as bright with the front door shut as open, which was decidedly not the case before.



FAMILY SIDECARS.

H. R. Webb, of Fenny Stratford, Bucks, and his $3\frac{1}{2}$ h.p. two-speed Bradbury and sidecar. He tells us that since July he has covered 4,000 miles and has had no trouble whatever.

Next, to improve the breadth of the beam, I fitted a 28 litre burner, which made a tremendous improvement, and I can now see both hedges on a broad road.

Finally I found my generator was not always able to keep a bright and steady flame at so large a burner, so, by way of experiment, I joined the generator and lamp by eighteen inches of bicycle inner tubing, and now, when I turn a good supply of water on, the tubing swells out with gas, and I get a full, bright, and steady flame at the burner as though I was using a big car generator. My lamp now gives a splendid, never-varying light, showing up objects clearly and well over a hundred yards ahead, and my only wish now is for a 7in. F.R.S.

H. SOWERBY.

The Prevailing Conditions in Canada.

[6097].—We have only just noticed in your Overseas Number letter [5943] signed, "A Man on the Spot," who is pretending to make the English manufacturer think that 28in. wheels are wanted here, handle-bars V pattern, level with the saddle, and, last but not least, a spare set of parts with each machine. Quite an order for the English manufacturer. Your correspondent's experience up to now must have been with the "junk" type of motor cycle. It has come to our knowledge that someone in Toronto is trying to induce a motor firm of undoubted merit in England to build a colonial model with 28in. wheels.

We may say that our experience with motor cycles for a large number of years has taught us that an engine clearance of 4½ in. to 5 in. is sufficient. We should like "Man on the Spot" to sign his name in future, and then maybe we may find a fly in the ointment.

TANGENT CYCLE CO.

Toronto.

Fitting a Variable Gear to a Lightweight.

[6098].—Perhaps some of your readers could help me in a little difficulty. My father uses a 1910 model 250 c.c. Wolf single-cylinder motor cycle. The machine is a fixed gear one, and we wish to know how it can be converted to a variable geared machine, i.e., a two or three speeder or failing that to a free engine machine. An engine-shaft gear is put out of court by reason of the outside flywheel. The width between the two rear forks is about five and a half inches. Most hub gears seem to require over six inches. I believe the forks could be widened by a competent repairer. The gentleman in question has never learned the running mount, and it is rather a heavy addition to the day's work, in a country (medical) practice, to pedal into animation a 2½ h.p. machine weighing 100 lbs. with a seventy inch pedalling gear.

There does not seem any hope of obtaining one of several very successful and widely advertised change-speed hubs unless one happens to be a manufacturer or a prominent (sh)amateur. I feel I should like to ask Mr. Roy Walker if he ever bestrode one of the 1909 Wolf lightweights of 1½ h.p. 63 mm. x 66 mm. Their only drawback was the round leather belt and jockey pulley. The machine weighed 72 lbs., and cost £19 19s., and gave excellent service for over a year in a fairly hilly part of Stirlingshire.

I consider that this year's competition results will have made the heavy brigade open their eyes. The lightweight T.T. winner's speed was very little below the senior figures.

Next we have the Humber lightweight figures for the hour record. Lastly the 2½ h.p. A.J.S. machines chased the 3½ h.p. Rudge to the last mile for the A.C.U. quarterlies championship.

I should be very glad to hear from riders who have transformed similar machines or from members of the trade who would be willing to undertake such a conversion as to probable cost, additional weight, etc.

ALEX LINDSAY.

A Plea for the Cut-out.

[6099].—With reference to the proposed new regulation prohibiting the use of cut-outs, perhaps my own case may be of interest.

I own a 2½ h.p. J.A.P. engine machine, and with the cut-out open my machine makes very little noise, if any, up to twenty miles an hour than does a modern 3½ h.p. with cut-out closed. When I close the cut-out, the engine is absolutely silent, only the ticking of the valves being heard. It would be impossible to ride always with cut-out closed, as, apart from the fear of overheating, it would be most

uncomfortable, especially on a long ride, for what is more pleasing to the ear than the even throb of a good engine.

With my silencer I am able to shut off all noise when passing horses or other animals on the road, and many a nod of thanks I have received from riders of nervous horses for so doing. In travelling through a town one certainly does not do above fifteen miles an hour when there is very little noise with the cut-out open. If this regulation comes into force it will mean that I shall have to enlarge the bores of my silencer and do away with the cut-out; it will then make nearly as much noise as it does with cut-out open, only I shall not be able to cut right off for passing animals on the road, also I fear that with my small engine it will affect it in hill-climbing.

Of course what makers should fit is a silencer that is perfectly safe to use with no cut-out, and quite silent without fear of back pressure and loss of power. But who is to pay for the fitting of these new silencers? We have to take what the makers give us? I quite think that a regulation is wanted to stop those people who career about towns on powerful machines at high speeds with cut-outs open. We have to thank these people for the new regulation. The cut-out does not affect the more powerful machines to the same extent that it does their less powerful brethren.

S. W. TURNER.

The A.C.U. and the Liverpool A.C.C.

[6100].—May a mere amateur looker-on suggest to Mr. Lewis Mogridge [letter No. 6085] that there is room for an amateur body, not under trade control or influence? It might take a little time to develop, but it would be worth the trouble, apparently.

VETERAN.

A Plea for Crankshaft Plain Bearings.

[6101].—Why do not more makers fit, or at least give their customers the option of, plain bearings to the engine main shaft? Ball bearings, unless of very large size, are quite unsuitable when they have to withstand a pounding action, and in a petrol engine, subjected as they are to the explosion shock received via the connecting rod, the balls become so many centre punches resisted only by the intense hardness of the bearing ring. When wear does take place, further wear and final destruction of the ball bearing is extremely rapid. I believe it has been demonstrated by tests that a well-made, well lubricated plain bearing gives about 97% efficiency, so that a ball bearing under equal conditions can, at most, be only about 3% better, if absolutely efficient.

The initial effort required to rotate a ball bearing under load is certainly less than that required of a plain bearing, but this only when sufficient time has elapsed to allow the film of oil to be squeezed out of the plain bearing; once on the move and the lubricant reaching it, the plain bearing immediately attains its efficiency.

It may be urged that ball bearings requiring less lubricant can be run under conditions that would cause a plain bearing to seize. How about, under the same conditions, the big end bearing of the connecting rod, which is a plain bearing, even on engines with ball bearing main shafts?

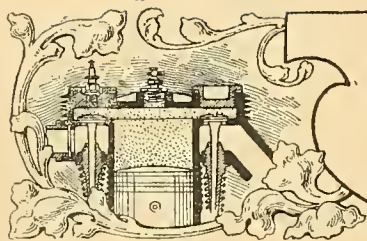
To conclude, my contention is—after many years' riding experience—that ball bearings are not desirable on the petrol engine used by the man who requires durability and sweetness of running of his engine, even at the cost of the alleged slightly more efficient ball bearing engine. Perhaps there are others who possess the views of

PLAIN BEARING.

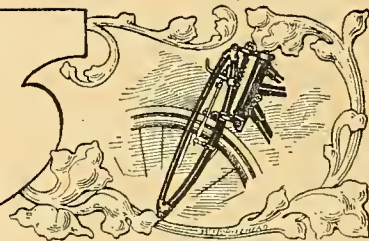
[We do not understand our correspondent's real objection to ball bearing crankshafts; they seldom if ever give any anxiety on well made engines, and apparently retain oil better than the plain bearing.—Ed.]

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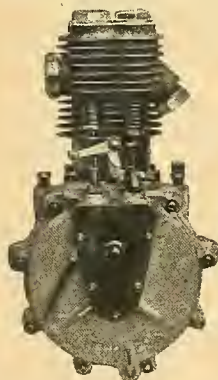
SHOW GLEANINGS.



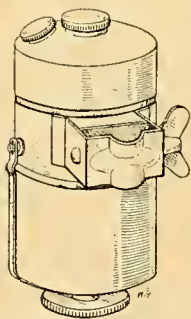
Naturally, there are always one or two items left over which cannot be dealt with in a show report, as they very often arrive too late to be included.

Autotrix.

The No. 1 Autotrix shown by Edmunds and Wadden, and described in the Show report, is fitted with what is known as the "Auto-gradual" gear. This consists of a fixed pulley mounted eccentrically on a bracket midway in the frame. Between the fixed flanges there is a movable flange. The drive is by belt to the counter-shaft, the belt from the engine pulley running on the left of the two flanges, and by belt from the other flange to the rear wheel. The right side division of the pulley is provided with a loose ring on which the belt runs in the free engine position. Moving the counter-shaft forward tends to tighten the rear



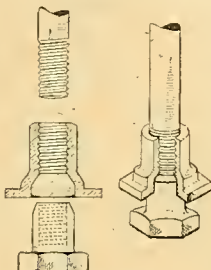
The new 3 1/2 h.p. Matchless engine, which is a replica of the J.A.P.



Lucas generator fixing for flat or round brackets.

Blumfield Engines.

A further visit to the stand of Blumfield, Ltd., of 70, Lower Essex Street, Birmingham, revealed a late arrival on the stand—a dog clutch gear box. Both shafts are supported in double row Skefko ball bearings, which allow a universal movement, and thus prevent any possibility



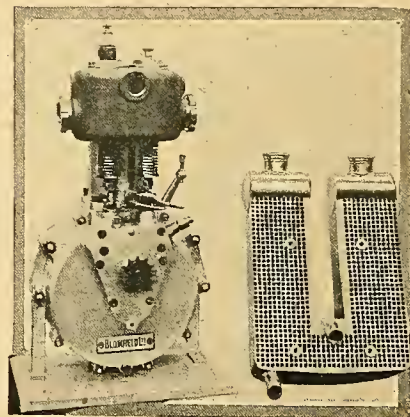
Blumfield adjustable valve stem.

of the bearings binding. This gear box is specially designed for side-car work in conjunction with the latest Blumfield twin. The connecting rod of the twin was, also, worth careful examination. The forked portion was made as short as possible, and to obtain this it was slightly offset. The inner bearing consists of a steel bush, secured by the ends being rolled over, while the innermost bearing through which the crank pin runs is a floating phosphor bronze bush, unsecured in any way. In the natural course of events oil issues from the timing gear through special channels to the main shaft journals and crank pin, but holes are carefully bored on the outer side of the connecting rod bearing to conduct to the right place any oil which may get there through "splash."

The Twin Fafnir.

One of the features of the Chater-Lea exhibit was a twin Fafnir engine, 5-6 h.p., 70 x 80 mm., a beautiful piece of work and possessing a cone clutch gear

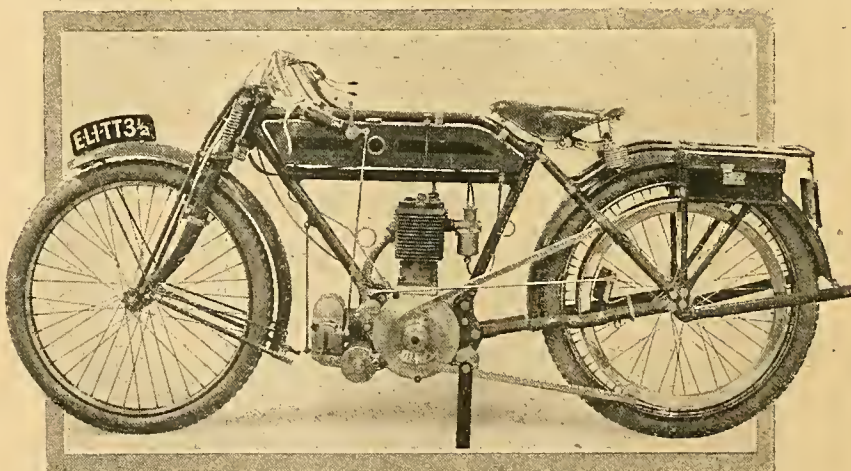
box, forming a unit with the engine. This gear is a well-tried article, which, up to the present, has not been pushed by the agents for Fafnir engines, Strauss and Co. The twin Fafnir is fitted to the A.S.L., and is well spoken of.



A new Blumfield water-cooled single-cylinder engine and honeycomb radiator.

The Sée Band and Tyre Co., Denmark Street, Charing Cross Road, W.C., showed on Messrs. Lohmann's stand a new device known as the "steel grip repair band." This band is provided with steel grips at each end to fasten round the wire of a wired-on tyre or the bead of a beaded tyre. The steel grips securely attach the band, which makes an exceptionally neat fitting, enveloping as it does the exterior of the cover in the case of a burst. It should command a ready sale.

of the two belts, causing the drive to be taken up. The more the counter-shaft bracket is moved forward the higher the belts mount the pulley and the higher the gear, while the lower gears are obtained by moving the bracket in the reverse direction. In the case of the other three-wheeled Autotrix the 8 h.p. twin engine is placed amidships in the frame. On the engine-shaft is mounted a plate clutch, and behind it and driven by chain a Chater-Lea three-speed gear box. From gear box to back wheel the drive is also by chain. The body is provided with a scuttle dash, and is open in front so that air may reach the cylinders, while in future models an air deflector will be fitted. The gear control lever and the rear brake lever are carried inside the body. The model shown at Olympia had direct steering, but in future models, we understand, there will be a sprocket mounted at the bottom of the steering-shaft with a chain encircling it connected to rods coupled to the steering arms.

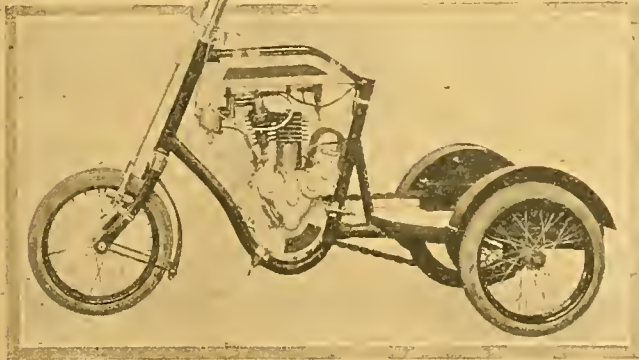


3 1/2 h.p. T.T. model Eli-Precision.

Show Gleanings.—

Motofrip.

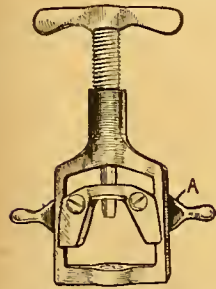
A considerable crowd was attracted to the Moto-Rève stand to see the Motofrip, a tiny belt-driven motor tricycle carrying a 1½ h.p. M.R. engine. The wheels are 10in. in diameter, and only one of the rear wheels is driven. It is intended to be used as a runabout by both sexes for short distances, and is reminiscent of the Max motor cycle, as the rider is intended to stand instead of sit in both instances.



The Motofrip (the invention of a lady) which was shown on the Moto-Rève stand.

Star Punches.

Mr. S. T. Robson, 59, Hornmoor Row, Birmingham showed an ingenious belt punch made to adapt itself to any size belt. The belt is first put upside down through the "stirrup" of the punches, then the sliding portion A is pressed down upon it, holding it tightly in position, so that the hole may be drilled truly and dead in the centre. This was to be seen on

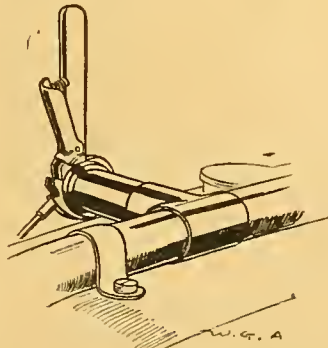


Robson's belt punch.

Messrs. Broadhurst's stand.

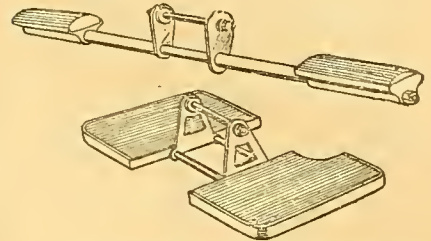
The Swan.

Among the novelties exhibited last week was the Swan motor bicycle, made by the Swan Motor Manufacturing Co., Frodsham, and illustrated in our Show report number. The frame is of aluminium alloy, braced with steel at the necessary points. There is also an inner frame pivoted on ball bearings and placed in the centre of the main frame. This frame is made of the same aluminium alloy, and is designed to carry a dog clutch type of gear box, it also carries bearings for the sprocket shafts of the chain drive. The rear forks are hinged to the frame, their ends being supported on laminated springs anchored at the forward ends to the frame. As the sprockets are carried centrally in the inner frame the chain line is not altered in any sense, and there is no alteration in the distance between the centres of the chains either between engine and gear box, or between gear box and much the spring portion may move. The total weight is between 160 and 170 lbs. The machine is suitable for either women or



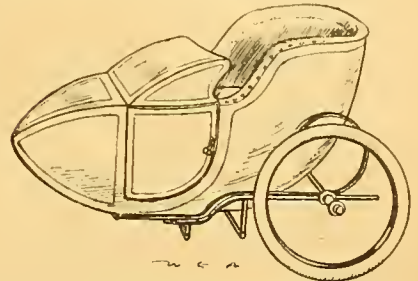
The change-speed quadrant attachment on the three-speed James. This consists of a T lug and a piece of tube; it is both ingenious and neat.

men. When it is delivered suitable for a member of the fair sex a guard is placed round the cylinder. The firm has the introduction of water-cooling under consideration.



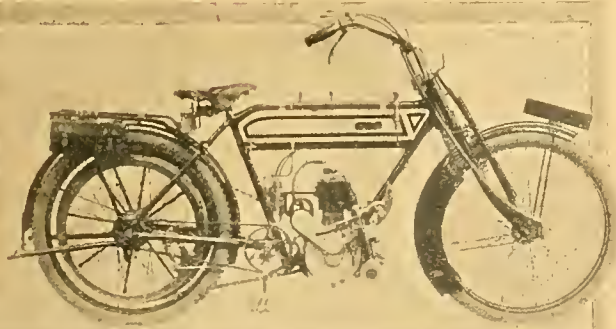
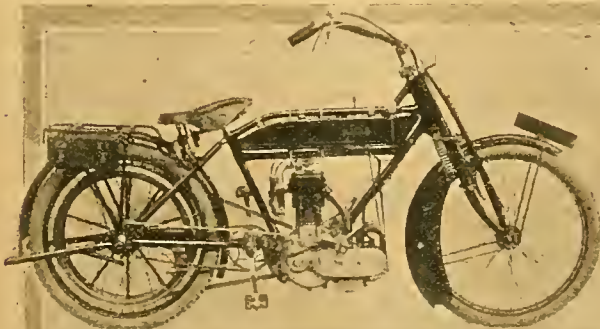
The New Hudson Co. can supply footrests and footboards which are interchangeable one with the other.

A late arrival on the stand occupied by W. H. Dunkley, jun., Alvechurch, was a sidecar, the frame of which has been specially strengthened to carry the type of body with which it is fitted. This body may be best described by being called scoop-shaped. It is provided with scuttle dash, which lifts up to allow the passenger to enter, and when closed down affords ample protection. A side door allows access to the body. A spacious locker is provided for spares, etc.



The Dunkley coach-built sidecar. One of these is being used for a long distance ride referred to in the Current Chat pages.

One of the most interesting sidecars in the show was that attached to a 3½ h.p. P. and M. and shown on their stand. It was one of Montgomery's castor wheel patterns, and was one of the few which had a properly sloped hack. A storm apron was made to clip round the passenger's neck. The body was of the basket type, and two stands were fitted, one to prop up the sidecar wheel, the other lets down when the sidecar is detached.



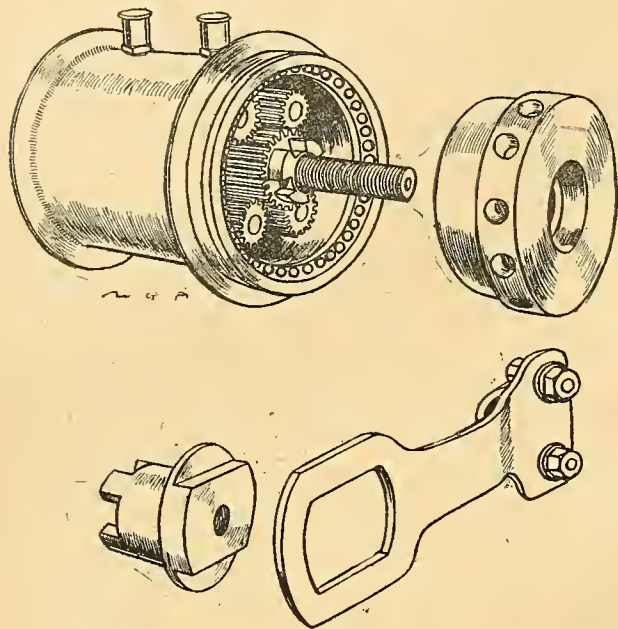
1. The new 3½ h.p. clutch model Hobart-Precision. 2. 2½ h.p. Handy Hobart, which now has a vertical engine.

Show Gleanings.—

Villiers Two-speed Hub.

This hub was exhibited by the Villiers Company, Wolverhampton, and is one of the simplest of its kind. It is an adaptation of the Villiers clutch hub, the clutch consisting of a number of semi-circular half tubes of metal arranged concentrically with one another, alternately as drivers and driven members.

The sketch shows the left end of the hub with the internally-toothed driving



End view of the Villiers two-speed hub gear showing the sun wheel and planet pinions. Lower sketch shows the fixed dog clutch.

pinion removed. The four planet pinions mesh with a sun-wheel, which can be slid along the fixed spindle to enable a direct drive and an indirect reduced speed. These pinions revolve on pins carried on a bracket which forms the driving member of the clutch. This bracket combines a dog clutch, which engages with a similar clutch formed on the inner end of the sun-wheel. The sun-wheel has also a dog

clutch on its outer end, which is capable of being engaged with a similar dog clutch by sliding the sun-pinion outwards (see illustration). This dog clutch is anchored to the bicycle frame by a clip, and passes through the centre of the internally-toothed driving pinion.

The high gear is obtained by sliding the sun-wheel inwards away from the belt rim, when it engages with and becomes solid with the driving clutch member and the bracket carrying the planet pinions.

These latter mesh both with the sun-wheel and the outer ring, and since they cannot move, the drive is conveyed direct through them without any reduction in gear.

To get the low gear the sun pinion is moved out towards the belt rim, when it engages with the dogs of the anchored shoulder. The planet pinions can now rotate, and the drive is communicated to the clutch by the outer toothed ring revolving the planet pinions about the fixed sun-wheel, when they carry around with them their bracket. A spring normally holds the sun pinion in such a position that the low ratio is in operation; the high gear is therefore held in with a ratchet, and is actuated by throwing forward the change speed lever. The method of anchoring the fixed dogs to the frame relieves the spindle of twisting strain.

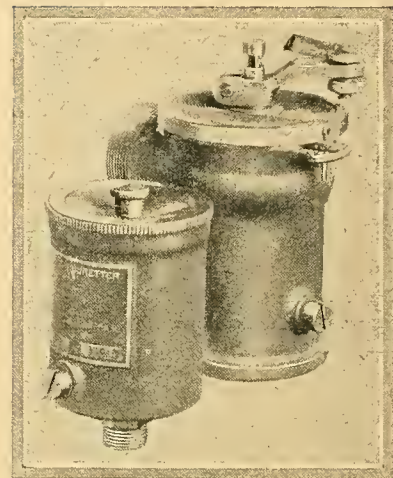
The gear control is on a quadrant fixed to the top tube of the frame. The lever is of sensible strength and size, and the ratchet large enough to stand any amount of hard wear.

The Lukin Carburetter.

The Lukin single lever carburetter, a very neat carburetter on entirely novel lines, has been invented by Lukin, Ltd. It is being manufactured by Peck and Co., Ltd., the well known water meter makers of London, and was shown and is being marketed by the Service Co., of 292, High Holborn, W.C.

The principle of this carburetter is ingenious, and its action extremely simple, there being only one moving part.

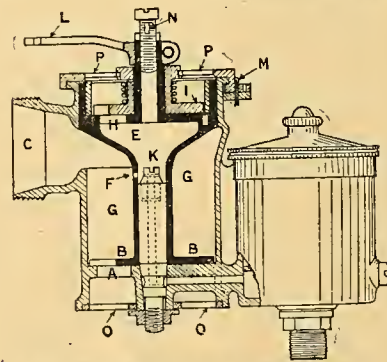
Referring to the section published herewith, it will be noticed that the petrol is fed by a float device of the usual type to a jet K, which has two very small orifices. From K the petrol flows to the control chamber E, whence it passes through three small holes F to the mixing chamber G, being completely atomised on the way. The jet is surrounded by a tube having at the bottom a plate B, in which ports are formed for the admission of air; owing to the peculiar construction of the carburetter these ports also act as a throttle. At the top the walls of the tube are belled out, forming



The Lukin carburetter showing single control lever.

the mixing chamber E and carrying the plate H, in which ports are formed. Above this lies the stationary plate I, in which are cut corresponding ports.

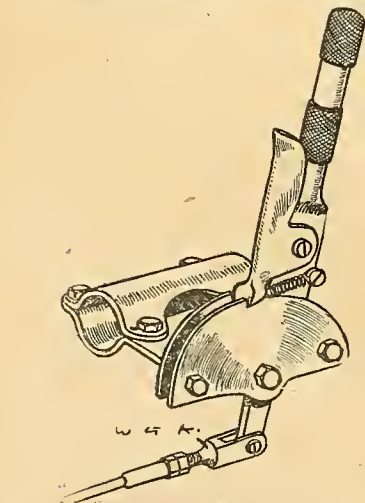
The action is as follows: When the lever L is rotated it carries with it the plate H and the tube and base plate B, so that as the ports A are uncovered by the plate B (thus opening the throttle), the ports H are covered by the plate I, thus, by cutting off the air from the jet, increasing the suction effect. The converse is obvious, but an important feature of this carburetter is that after shutting the ports A the control lever still has a certain amount of negative movement, by which the ports A can again be opened while the ports H remain open. Thus there is practically no suction on the jet;



Part sectional elevation of the Lukin carburetter.

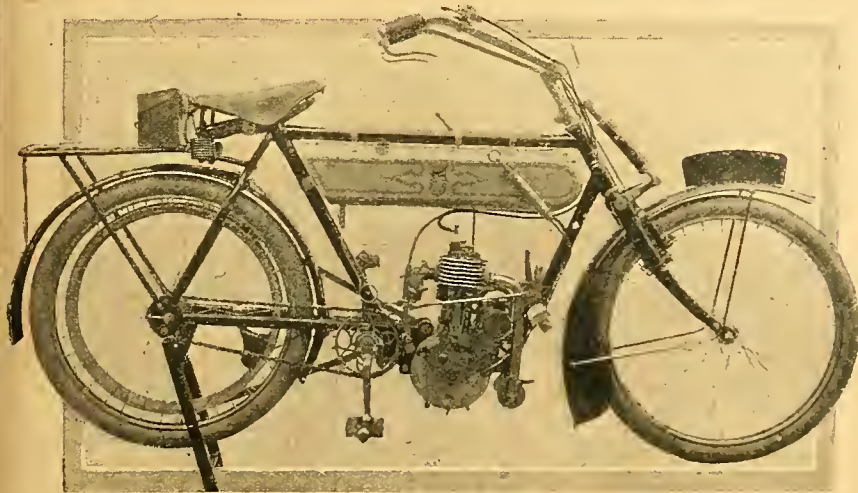
but cold air is drawn into the engine through A, causing a scavenging action and also forming a brake. O and P are gauzes to prevent the ingress of dust or mud. Two simple adjustments can be made. First, by removing the pin at M the cap can be revolved slightly, thus altering the relative position of the ports H to the ports in I; secondly, the suction on the jet can be regulated by the admission of air through the central pin N.

The carburetter is very cleverly designed, and appears to be on the right lines. It combines simplicity and efficiency with a single lever control, and can be instantly altered to suit various types of machine.



The Villiers change gear lever and quadrant on top tube.

Show Cleanings.—



The 1912 2 h.p. Alcyon which was shown at Olympia last week by G. N. Higgs. —

Silent Chain Transmission.

An interesting machine was to be seen in the Gallery at Olympia on the stand of the Coventry Chain Co., viz., a $3\frac{1}{2}$ h.p. Singer with a silent chain from the engine to the counter-shaft and a roller chain to the back hub. This should make a most efficient transmission.

We are informed that 557 magnetos were exhibited last week, and of that number 541 were made and supplied by the Bosch Magneto Co.

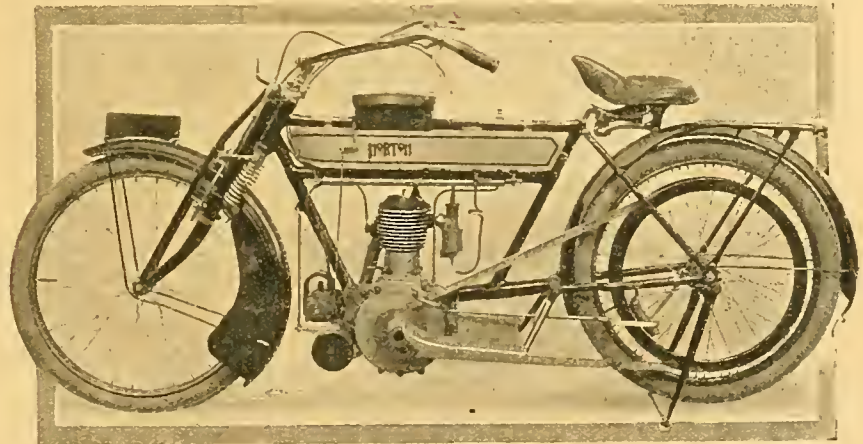
A late arrival on the M.R. stand was a machine fitted with the new M.R. clutch and two-speed hub gear. This clutch is of the leather-covered cone type, and is engaged by rotating two inclined planes against steel balls, thereby pressing plungers against a disc, which forces the clutch outwards. The gear is a simple form of epicyclic gear, the high speed being engaged by means of dog clutches.

D.H.K. Hub Clutch.

The "D.H.K." free engine hub consists of an inner shell which has disc adjusting bearings running on $\frac{5}{16}$ in. balls. The shell is screwed at one end for the belt rim and at the other to take the pedalling clutch. In it is pivoted a lever which moves in a slot and projects up the interior of the barrel; inside is a cone which is pushed forward or pulled back by a phosphor-bronze plate operated by a pin working in a slot in the spindle. Over the inner shell is mounted the outer hub to which the wheel rim is spoked. This

hub is provided with phosphor-bronze parallel bearings, which fit on to the hardened and ground surface of the inner shell.

When the cone is pressed forward along the interior of the hub it depresses the

Belt side of the 1912 model $3\frac{1}{2}$ h.p. Norton.

lever and expands the phosphor-bronze band which engages with the recess on the outer hub, and consequently the hub revolves as one piece. When the cone is withdrawn the phosphor-bronze band forces the lever back into position, releasing the outer hub, thus the interior of the

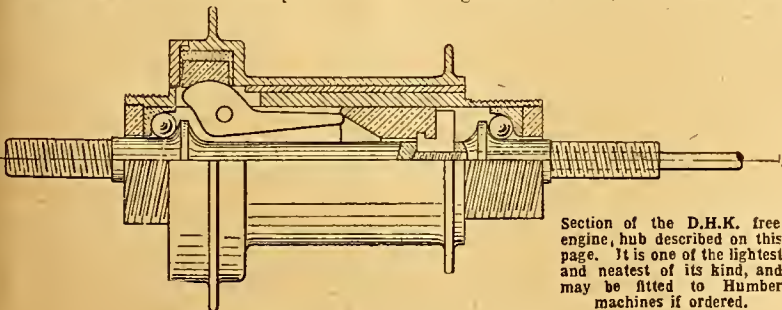
hub, which carries the belt pulley, is free to revolve on the parallel bearings, giving a perfectly free engine. There are no springs of any kind, or even an extra ball race included in its manufacture.

It is made with two chain lines, $2\frac{1}{2}$ in. wide for heavy weights and 2 in. for light-weights. The larger size weighs just under 7 lbs. and the smaller just over 5 lbs. It is made by the D.H.K. Co., Ltd., 20, Mary Ann Street, Birmingham, and was exhibited on the Humber stand at Olympia.

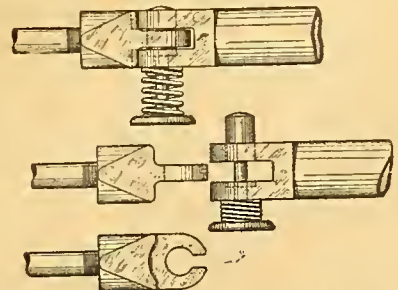
Adjustable Pulley and Spring Handle-bar.

On the Lincoln Elk stand, Mr. Rey, of Hampstead, showed a sidecar, sold at a very moderate price, with which twelve months' guarantee is given. It is fitted with quickly detachable joints. Yet another interesting device is an adjustable pulley, the movable portion of which is provided with a stud, which engages with slots cut in the adjusting ring.

A spring handle-bar, known as Scott's, was exhibited by F. and H. Melen, Ltd., Sherlock Street, Birmingham. This is made in two forms. The handle-bar is pivoted about its centre, and at right angles to it are two arms, from which springs extend to each side of the vertical tube of the handle-bar, so that the latter may have a rocking motion. The other form is to attach a rod at the end of



Section of the D.H.K. free engine hub described on this page. It is one of the lightest and neatest of its kind, and may be fitted to Humber machines if ordered.



New design spring operated quickly detachable fastening used on the sidecar supplied by Maude's Motor Mart.

BRITISH MOTOR CYCLE RECORDS.

Compiled by A. V. EBBLEWHITE, Official Timekeeper to the Royal Automobile Club, Auto Cycle Union, and the British Motor Cycle Racing Club.

CLASS A. For motor cycles of which the cylinder capacity does not exceed 275 c.c.

Length.	Date.	Name.	Cyls.	Machine.	B. and S.	C.C.	Record.	m.p.h.
Flying kilo.	26th August, 1911	H. Martin	1	Martin-Jap	76 × 59.5	270	33.68s.	66.42
Flying mile	26th August, 1911	H. Martin	1	Martin-Jap	76 × 59.5	270	55.60s.	64.75
Flying 5 miles	17th May, 1911	H. Martin	1	Martin-Jap	76 × 59.5	270	5m. 1.2s.	59.76
50 miles	3rd September, 1911	H. Martin	1	Martin-Jap	76 × 60	272	55m. 24.4s.	50.79
100 miles	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	2h. 21m. 45.2s.	42.33
200 miles	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	5h. 5m. 12.8s.	39.31
1 hour	3rd September, 1911	H. Martin	1	Martin-Jap	76 × 60	272	54 miles 310 yds.	54.17
2 hours	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	84 miles 1,575 yds.	42.45
3 hours	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	127 miles 126 yds.	42.36
4 hours	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	163 miles 1,622 yds.	40.98
5 hours	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	196 miles 1,011 yds.	39.31
6 hours	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	223 miles 1,494 yds.	37.30

CLASS B. For motor cycles of which the cylinder capacity does not exceed 350 c.c.

Flying kilo.	17th August, 1910	H. Martin	1	Martin-A.S.L.	85.5 × 60	345	32.76s.	68.28
Flying mile	17th August, 1910	H. Martin	1	Martin-A.S.L.	85.5 × 60	345	54.57s.	65.97
Flying 5 miles	17th May, 1911	H. Martin	1	Martin-Jap	76 × 59.5	270	5m. 1.2s.	59.76
50 miles	26th October, 1911	S. Wright	2	Humber	60 × 60	340	51m. 9.2s.	58.65
100 miles	26th October, 1911	S. Wright	2	Humber	60 × 60	340	1h. 45m. 31.5s.	56.85
200 miles	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	5h. 5m. 12.8s.	39.31
1 hour	26th October, 1911	S. Wright	2	Humber	60 × 60	340	58 miles 1,408 yds.	58.80
2 hours	26th October, 1911	S. Wright	2	Humber	60 × 60	340	109 miles 980 yds.	54.77
3 hours	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	127 miles 126 yds.	42.36
4 hours	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	163 miles 1,622 yds.	40.98
5 hours	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	196 miles 1,011 yds.	39.31
6 hours	31st October, 1911	N. D. Slatter	1	Aleyon	62 × 82	247	223 miles 1,494 yds.	37.30

CLASS C. For motor cycles of which the cylinder capacity does not exceed 500 c.c.

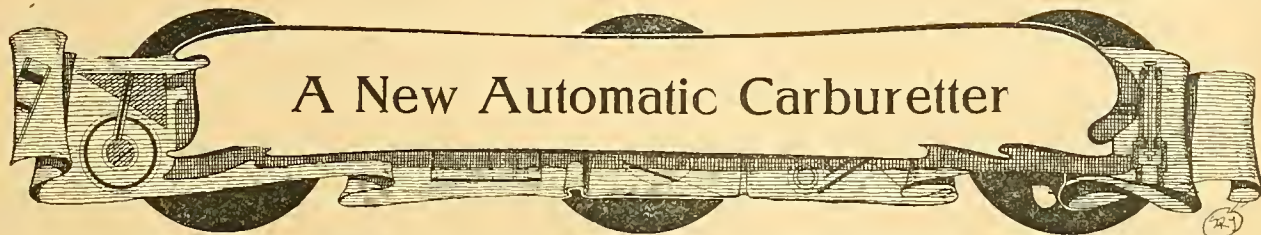
Flying kilo.	26th August, 1911	H. Martin	2	Martin-Jap	76 × 55	498	30.25s.	73.90
Flying mile	26th August, 1911	H. Martin	2	Martin-Jap	76 × 55	498	49.39s.	72.89
Flying 5 miles	3rd October, 1911	Stanhope-Spencer	1	Rudge	85 × 88	499	4m. 33.6s.	65.79
50 miles	3rd October, 1911	Stanhope-Spencer	1	Rudge	85 × 88	499	45m. 34.2s.	65.83
100 miles	3rd October, 1911	Stanhope-Spencer	1	Rudge	85 × 88	499	1h. 34m. 8s.	63.74
150 miles	6th November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	2h. 26m. 34.4s.	—
200 miles	6th November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	3h. 14m. 46.8s.	—
250 miles	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	4h. 38m. 51.2s.	53.79
300 miles	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	5h. 35m. 11.2s.	53.70
1 hour	3rd October, 1911	Stanhope-Spencer	1	Rudge	85 × 88	499	65 miles 803 yds.	65.45
2 hours	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	124 miles 258 yds.	62.07
3 hours	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	184 miles 1,388 yds.	61.59
4 hours	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	239 miles 947 yds.	59.88
5 hours	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	268 miles 154 yds.	53.61
6 hours	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	322 miles 603 yds.	53.72

CLASS D. For motor cycles of which the cylinder capacity does not exceed 750 c.c.

Flying kilo.	17th August, 1910	F. H. Arnott	2	V.S.	75 × 75	662	29.78s.	75.11
Flying mile	26th August, 1911	S. T. Tessier	2	Bat-Jap	85.5 × 64	735	48.76s.	73.83
Flying 5 miles	17th May, 1911	S. T. Tessier	2	Bat-Jap	76 × 64	580	4m. 18.4s.	69.66
50 miles	3rd October, 1911	Stanhope-Spencer	1	Rudge	85 × 88	499	45m. 34.2s.	65.83
100 miles	3rd October, 1911	Stanhope-Spencer	1	Rudge	85 × 88	499	1h. 34m. 8s.	63.74
150 miles	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	2h. 26m. 34.4s.	61.40
200 miles	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	3h. 14m. 46.8s.	61.61
250 miles	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	4h. 38m. 51.2s.	53.79
300 miles	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	5h. 35m. 11.2s.	53.70
1 hour	3rd October, 1911	Stanhope-Spencer	1	Rudge	85 × 88	499	65 miles 803 yds.	65.45
2 hours	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	124 miles 258 yds.	62.07
3 hours	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	184 miles 1,388 yds.	61.59
4 hours	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	239 miles 947 yds.	59.88
5 hours	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	268 miles 154 yds.	53.61
6 hours	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	322 miles 603 yds.	53.72

CLASS E. For motor cycles of which the cylinder capacity does not exceed 1,000 c.c.

Flying kilo.	26th August, 1911	C. R. Collier	2	Matchless-Jap	90 × 78.4	998	24.52s.	91.23
Flying mile	11th August, 1911	C. R. Collier	2	Matchless-Jap	90 × 78.4	998	39.4s.	91.37
Flying 5 miles	11th August, 1911	C. R. Collier	2	Matchless-Jap	90 × 78.4	998	3m. 35s.	83.72
50 miles	30th August, 1911	A. J. Moorhouse	2	Indian	82.5 × 93	998	40m. 59.2s.	73.11
100 miles	3rd October, 1911	Stanhope-Spencer	1	Rudge	85 × 88	499	1h. 34m. 8s.	63.74
150 miles	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	2h. 26m. 34.4s.	61.40
200 miles	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	3h. 14m. 46.8s.	61.61
250 miles	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	4h. 38m. 51.2s.	53.79
300 miles	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	5h. 35m. 11.2s.	53.70
1 hour	30th August, 1911	A. J. Moorhouse	2	Indian	82.5 × 93	998	70 miles 1,388 yds.	70.78
2 hours	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	124 miles 258 yds.	62.07
3 hours	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	184 miles 1,388 yds.	61.59
4 hours	21st November, 1911	J. R. Haswell	1	Triumph	85 × 88	499	239 miles 947 yds.	59.88
5 hours	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	268 miles 154 yds.	53.61
6 hours	21st November, 1911	W. L. T. Rhys	1	Rudge	85 × 88	499	322 miles 603 yds.	53.72
12 hours	5th May, 1909	H. A. Collier	2	Matchless-Jap	76 × 95	862	471 miles 784 yds.	39.28
24 hours	6th May, 1909	H. A. Collier	2	Matchless-Jap	76 × 95	862	775 miles 1,340 yds.	32.32

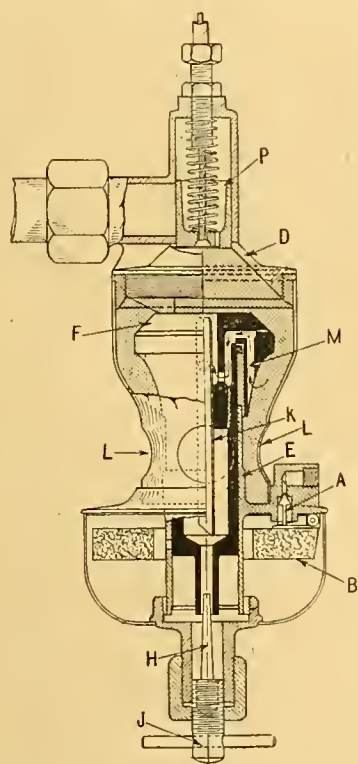


A New Automatic Carburetter

THIS carburetter, which is manufactured by the Stewart-Precision Carburetter Co., Ltd., 199, Piccadilly, W., has proved its worth on motor cars, and is now being made suitable for motor cycles. Its advantages are simplicity and efficiency. As regards simplicity, there are only three moving parts—the float, the valve, and the throttle.

Referring to the sectional sketch, petrol enters at an orifice, which is closed by the needle valve A, and fills

the float chamber until the float B, which is of varnished cork, by rising operates the needle valve and closes the orifice. In the vaporising chamber D the descending piston creates a vacuum and causes the valve F (shown black in section) to rise from its seating E. As the valve is held down by gravity alone, the amount it will lift depends entirely upon the amount of air passing, so it must always assume a definite position in relation to the depression in the carburetter. In the illustration it will be noticed that the valve F is shown clear of its seating in the position it would assume when the throttle is fully



Section of the Stewart-Precision automatic carburetter.

open. This valve has a central passage through which the tapered needle H projects. This needle is attached by means of a pin to the screw J, so that it has a slight rocking movement to avoid any possibility of binding. The petrol is drawn through a central tube K, whence there is free egress into the vaporising chamber. At the same time air is drawn in through the main air ports L, and, passing up the passage marked M, follows the direction of the arrows and rushes at a high velocity past the jet, serving to atomise the spirit thoroughly. The throttle, which is of the piston type, is situated at P, and is kept closed by a coil spring and opened against spring pressure by the usual Bowden control on the handle-bar. The carburetter is claimed to be thoroughly constant in its action and to give an accurate mixture at all speeds. Naturally, the further

the valve rises from its seating the greater is the amount of petrol and air admitted.

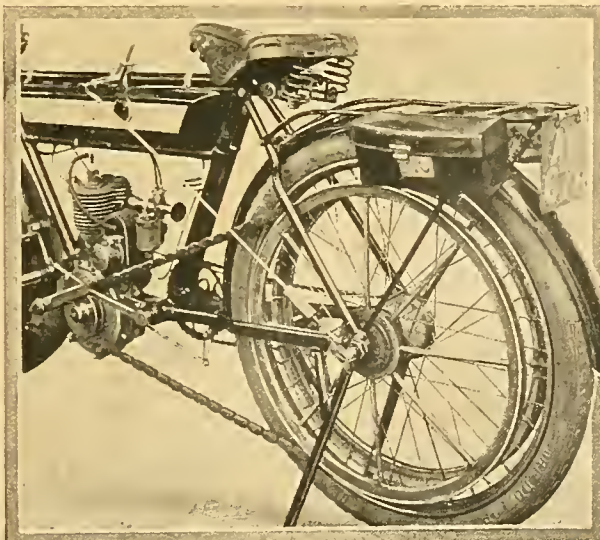
It is interesting to note that in the interior of the valve there is always petrol up to the level of the float; in fact, slightly above it, so that there is always a head which can be drawn upon for starting, thus removing the necessity for flooding.

The air valve is kept from a tendency to jump or flutter (due to the intermittent pull of the cylinder or cylinders) by the "dash pot" action of the petrol at the lower end of the stem. There is a slight annular space left around the reduced part of the stem which allows just sufficient liquid to flow under the stem to permit a very slow movement, the valve, of course, being unable to rise faster than the speed at which the liquid can fill the space below the stem. The same petrol that acts to restrain the movement of the valve also forms a perfect lubricant for the stem, and as the stem only moves when the throttle is moved, very little wear can take place.

The only criticism we can offer is that the depth of the carburetter is rather against it, the space on the average motor cycle being rather limited.



The complete Stewart-Precision carburetter.



The new Sturmey-Archer three-speed gear fitted to a 2 h.p. Humber lightweight.

CURRENT CHAT

TIME TO LIGHT LAMPS.

Nov. 30th	...	...	4.53 p.m.
Dec. 2nd	...	...	4.51 p.m.
" 4th	...	...	4.50 p.m.
" 6th	...	...	4.50 p.m.

Smaller Stones for Street Gritting.

As the result of representations made by the R.I.A. with regard to the gritting of streets, a number of authorities are using smaller material for this purpose.

Reflex Rear Lights.

500 pedal cycles belonging to the police throughout the Metropolitan area are to be fitted with reflex rear lights. These lights have been presented to the Commissioner of Police by the Royal Automobile Club.

The Show.

Business generally was exceedingly good, many firms, notably the Scott, Triumph, Douglas, Zenith, P. and M., Morgan, and Clyno, having booked sufficient orders to last them for many months. Immediate delivery of the most popular makes of machines is now almost an impossibility, except through agents; we even heard of a £10 premium being offered on a Morgan runabout for delivery at the beginning of the New Year.

The Clyno Co. is arranging to manufacture 1,500 sidecar machines next year.

Most people attended the Show on Wednesday and Saturday. On those days it was difficult and in some cases impossible to examine any of the novel exhibits minutely owing to the crowds swarming on the stands.

Two or three papers included in their so-called "stand to stand" show reports machines which were not on exhibition. One journal referred to the new two-speed Triumph as "one of the features of the Show."

The Triumph magneto control, as we indicated last week, came in for an exceptional amount of criticism. Some did not favour it at all, and we heard of several orders being placed subject to handle-bar control being fitted.

The Autofrip was the funniest thing in the Show. Mrs. Kent, the inventor, never tired of explaining its advantages to the public.

Our "exposure" last week of the fact that a four-wheeled vehicle was in the Show led to the authorities demanding a notice being attached to the Humber railway inspection trolley pointing out what it really was!

Why is it that the Show exhibits of purely motor cycle manufacturers are so arranged that spectators can walk on to the stand and all round the machines to examine them closely whilst many cycle manufacturers, who are also makers of motor cycles, enclose their exhibits by means of rails, and so prevent a close inspection of what they have obviously staged solely for the purpose of criticism and inspection? There are exceptions, but this feature of the Show was quite



noticeable, and was freely commented on by motor cyclists. One excellent feature was that all machines were clearly marked with their respective horse-powers—a striking contrast with the cars at the Car Show, which, seldom, if ever, bore the horse-power figures.

We are often queried regarding the date of the manufacture of motor cycles, the owner or prospective purchaser only having a number to go by, which is usually stamped in small figures on frame and engine. The Rex Co. do not intend any doubt to exist in future on this subject regarding their machines, as we noticed at the Show the figures 1912 cast on various parts.

SPECIAL FEATURES.

SOLO MODELS AT OLYMPIA: A CRITICISM.

BRITISH MOTOR CYCLE RECORDS TO DATE.

THE LIGHT SIDE OF THE SHOW.

Purley and District M.C.C. Night Trial.

The winners of the 100 miles night trial, referred to in our club news pages, have agreed to divide the prize—a pair of butted tubes presented by Mr. A. Jago.

The T.T. Winner's Ambition.

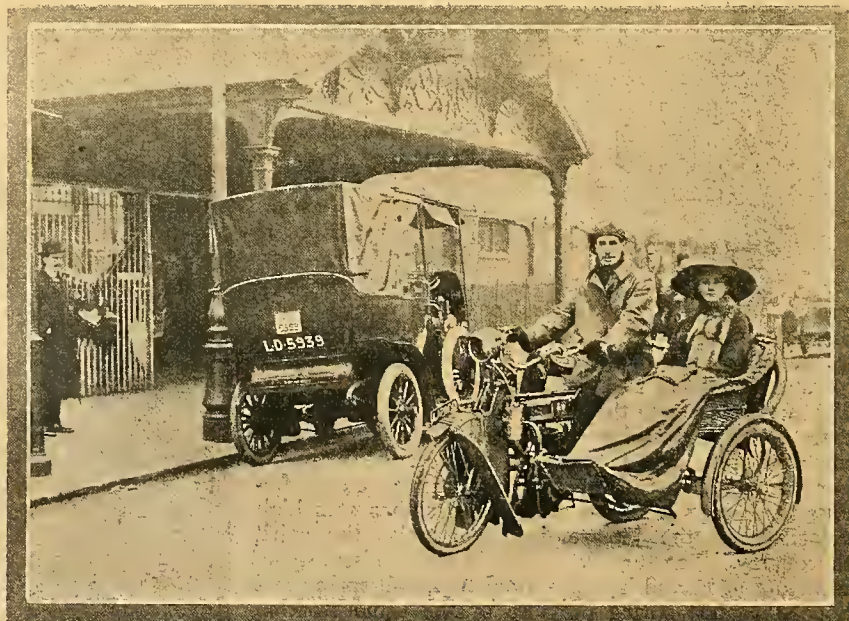
Chatting with O. C. Godfrey at the Show, we learned that his ambition is to be the first motor cyclist to attain a speed of one hundred miles an hour, and a special machine is being built in the Hendee Manufacturing Co.'s works on which Godfrey hopes he will be able to accomplish his desire. Unfortunately, doctor's orders debar him from motor cycling for from two to three months.

Twenty-six Records in One Day.

Twenty-six world's records were broken on Tuesday last week, which is probably the biggest day's haul ever known. Haswell, Rhys, and Bashall shared the honours.

Next Year's Competitions.

The Herts County A.C. has booked no less than eleven dates for competitions in the 1912 fixture list, so that other local clubs must take a back seat.



Making converts at Olympia. The Premier and sidecar shown above took quite a number of ladies for trial trips in the vicinity of the Show.

Motor Cycles in London.

Up to September 30th last, 16,376 motor cycles had been registered with the London County Council since the Motor Car Acts of 1903 came into force.

"The Motor Cycle" Show Issue.

With records of all kinds in the air, it is worthy of note that last week's issue of *The Motor Cycle* contained the largest number of pages of any motor cycling journal ever offered to the public, and, what is more, the circulation of 65,050 copies constitutes another record.

Electric Generator Sets.

Now that electric generator sets are being introduced for motor cycle use motor cyclists will be interested to know that a complete set for a car with lamps front, side, tail, and a small inspection lamp for the dash costs as much as a good motor bicycle, viz., about £50.

Breaking Strain of a Belt.

The technical school attached to the Birmingham University were asked to ascertain the breaking strain of a Midland motor cycle belt, and they have reported that the belt did not give way until the instrument registered over a ton. Seeing that the maximum strain on a motor cycle belt is 250 lbs., this experiment shows what a great margin of strength is possessed by the average motor cycle belt and the Midland in particular.

Collision Case. £50 Damages.

A Manchester motor cyclist named R. G. Pool secured £50 damages last week at Manchester Assizes from a car driver named H. J. Naylor. The motor car was driven towards Mold from the Queens-Ferry end, and the motor cycle was travelling along the Flint Road towards Chester. The collision occurred at the cross-roads. The car owner's case was that the motor cyclist was not keeping a proper look-out, that he took the wrong course, and that owing to his speed he could not manoeuvre his machine properly. The jury thought otherwise.

A Scottish Appeal.

Mr. F. K. Dickson, a member of the Automobile Association and Motor Union, was convicted at the Kilmarnock Sheriff's Court for riding a motor cycle at a speed in excess of ten miles an hour, a fine of £2 10s. being imposed. The police evidence consisted of the testimony of two constables who timed the defendant over a measured distance of 220 yards, but who were standing together some fifty feet beyond the end of the measured distance. The constables swore that from the place where they stood they could judge to a nicety when the defendant entered the measured distance, and when he left it, notwithstanding that it was shown by both sides that there was a curve in the road, and that it was established in defence that the defendant must have been a number of yards inside the measured distance before he was visible to the constables from their point of observation. The case is one in which the conviction appeared to have been so largely against the weight of the evidence, and also wrong on points of law, that the A.A. and M.U. has decided to defray the expenses of an appeal to the higher court.

FUTURE EVENTS

- Dec. 9.—M.C.C. Annual Dinner at the Café Monico.
 26-27.—M.C.C. Winter Reliability Run to Exeter and back.
 27.—Dublin and District M.C.C. Open Reliability Trial to Waterford and back.
 30.—North West London M.C.C. Twelve Hours' Winter Reliability Trial.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.

A Six Days' Sidecar Ride.

A motor cyclist named M. H. Butler, driving a 4 h.p. twin Minerva motor bicycle and Dunkley sidecar, has just started on a six days' ride, in which he intends to cover 2,000 miles if possible; the engine is fitted with the N.S.U. two-speed gear. Mr. Butler left *The Motor Cycle* Offices, 20, Tudor Street, E.C., last Friday en route for Edinburgh; it is his intention to post cards at frequent intervals informing us of his progress.

Gymkhana in Australia.

A motor show was held recently in Sydney, which proved very successful. In the afternoon and evening of the first day a series of competitions for both cars and motor cycles were held, the results of the latter being as under:

Novice race.—1, A. C. Searl (5 J.A.P.); 2, J. Challand (5-6 F.N.); 3, R. B. Archer (5-6 F.N.).

Obstacle race.—1, J. E. Yee (3½ T.T. Triumph); 2, F. Holmes (3½ T.T. Speedwell).

Speed race.—1, W. W. Reynolds (3½ Triumph); 2, A. C. Searl (5 J.A.P.).

Lifebelt race.—1, L. A. Esdaile (3½ Triumph).

Potato race.—1, F. Holmes (3½ T.T. Speedwell); 2, R. B. Archer (5-6 F.N.); 3, A. L. Maddocks (5-6 F.N.).

This is the first competition of its kind to be held in Australia.

Brooklands.

Lieutenant Smith, on a 3½ h.p. Singer, made an attempt on Friday last to beat the six hours' record. Though he travelled well for four hours he had eventually to give up through plug trouble.

Hugh Gibson goes to Oldham

Mr. Hugh Gibson, the well-known Southport motor cyclist and record holder, is to join the staff of Bradbury and Co., Ltd., Oldham, on January 1st, as chief competition rider and representative for Scotland and Ireland.

English-Dutch Reliability Trial.

The Dutch M.C.C. will organise an international reliability trial next August, twelve riders to represent each country. These twelve will be composed of six amateurs and six trade riders. Further details will be published shortly.

Olympia.

There were no less than 552 motor cycles exhibited at last week's Show, an increase of 159 compared with last year. Just over half, viz., 283 machines, had change-speed gears. Belt transmission was used on 456 machines. Further details appear on page 1334.

To the Show by Road.

A goodly number of motor cyclists visited the Show on their machines, and on Saturday there were two or three rows of motor cycles staged outside the main entrance to Olympia, including several passenger machines. About a dozen motor cycles at the Hammersmith Road entrance were available for demonstration and trial.

Unsightly Advertisement Hoardings.

The Roads Improvement Association is doing good work in connection with unsightly advertisement hoardings which also obstruct the view of traffic at corners and other dangerous places. The Surrey County Council, subject to Home Office sanction, has adopted the following by-law: "No advertisements shall be exhibited upon any hoarding, stand or other erection visible from any public highway, waterway, or railway, and so placed as to disfigure the natural beauty of the landscape."



P. Platt driving a 3½ h.p. chain-driven two-speed Bradbury, with four passengers (total weight 40 stones), up Rock Street, the steepest ascent in Oldham. The gradient is said to be 1 in 5.

A HIGH-SPEED MOTOR CYCLE RACING TRACK IN THE MIDLANDS.

A preliminary meeting, under the able chairmanship of Mr. T. W. Loughborough, was held at Olympia on Saturday last to discuss the advisability of building a racing track in Birmingham. The idea of the promoter, Mr. F. A. McNab, is to erect a "saucer" track two laps to the mile, and banked for a speed of 100 miles an hour in or near Birmingham. At an informal meeting Mr. McNab reported that about £50 had been promised. He suggested a limited company should be formed and that a 1s. fund should be started, the price of each share being 1s. Such a track, he said, would be excellent from a spectacular point of view, and a capital testing ground for makers. Mr. McNab proposed, and Mr.

E. M. P. Boileau seconded, that such a track should be built—a motion which was carried unanimously. The names of Messrs. P. Butler and T. W. Loughborough were put forward as hon. treasurer and designer of the track respectively, of which it was suggested Mr. J. H. Price be asked to take up the organisation. Among those present were Messrs. J. Slaughter, W. L. T. Rhys, Stanhope Spencer, George King, Roy Walker, H. Martin, H. A. and C. R. Collier, S. Wright, G. N. Higgs, N. D. Slatter, and B. A. Hill. It was decided to call a committee meeting in the Midlands at no distant date, when the question of furthering the scheme will be finally arranged.

The Evolution of Transmission.

By "IXION."

I AM a faddist above all things, but my latest fad is rather bigger than most of its predecessors; for after many years of devoted allegiance I have at last lost my faith in the belt drive as the one and only motor cycle form of transmission for time and eternity. I do not wish for one moment to imply that the belt is either moribund or deceased. I firmly believe that it will remain the most popular type of transmission for some years to come. But I do also believe that it will finally be ousted on all but the very cheapest machines by the enclosed chain, but that will not come about yet awhile.

Rapid Progress.

During the last two or three years first-grade motor cycles have made gigantic strides towards reliability, and for several seasons past my involuntary stoppages have been practically confined to belts and tyres. Tyre troubles, like the poor, we may expect to have always with us. The combined genius of the pedal cycle and automobile industries has failed to evolve a satisfactory unpuncturable pneumatic tyre; but these two industries, which are sisters of the motor cycle industry, have long since perfected no trouble transmissions. Who would buy a push-bicycle with a transmission that needed attention, perhaps, every 500 miles in dry weather, that sometimes completely failed to drive the rear wheel in wet weather, and that had to be scrapped and replaced at a cost of a guinea or so every 1,500 or 2,000 miles? Who would buy a car with a propeller-shaft requiring adjustment every 500 miles on dry roads, that slipped badly uphill when the roads were wet, and that wore out in a little over a month? The belt drive has undoubted merits—it is very sweet in running, it is very easily repaired and adjusted—but it also has grave faults. Anybody who competed in either the Scottish or Harrogate Six Day Trials this season will recall the frenzied adjustments at the foot of every bad hill, adjustments often repeated two or three times in as many miles when the roads were awash; and even the least experienced spectators commented freely on the festoons of spare belts with which the handle-bars were swathed. Surely we are only waiting for the chain drive to be perfected to adopt it as our standard.

I do not think I have yet sampled a chain drive as applied to a large single-cylinder engine which could compare with a good belt for sweetness of running; but I have certainly used chains on twin-

cylinder engines, large and small, from the 7 h.p. Indian to the $2\frac{3}{4}$ h.p. Enfield (to mention actual examples), which ran as nicely as any belt. There is no reason why a progressive industry should not before long provide us with encased chains, running in oil baths, fitted with a simple separate adjustment for each chain, and softened by an efficient shock-absorber in the drive. The Clyno machine shows that such a design does not necessarily imply inaccessibility. Such a drive would probably run up to 15,000 miles without replacement, and last at least 2,000 miles between adjustments. Here is an ideal for the trade to work towards. I am aware it implies rather heavier-built engines, and that a percentage of the lissom verve of the modern $3\frac{1}{2}$ h.p. T.T. belt-driven single may have to be sacrificed, but few care about that? The vast majority of future motor cyclists will not be zealots for the last veneer of speed, and they will plump for an inexpensive and troubleless transmission, which will not cause any more anxiety than, say, the reliable magneto machines with which our mounts are fitted.



EVERYTHING BUT THE MOTOR.

The nearest thing in push cycles to a motor cycle. Mr. Saville Brown, of Hull, whose cycle is fitted with wheel-steering, three-speed gear, three head lamps, mascot, rear lamp, and motor mudguards.

ANOTHER LIGHT QUAD.

A FRENCH-BUILT MACHINE WITH 7 H.P. WATER-COOLED ENGINE.

LAST week a very good example of what for want of a better term we will call a motor cycle quad car was shown to us. This is a type of vehicle for which there certainly seems a growing demand—something with four wheels and with side by side seating accommodation and at motor cycle price—and the vehicle we saw and tried was a good example of the species. In its general details, except in dimensions, it is a car in every sense of the term—pressed steel frame, water-cooled engine, Renault type bonnet, scuttle dash, two-seater body, etc., but it only weighs about 550 lbs.

The car in question has been designed by Mr. J. Averies, of Englefield Green, near Egham, Surrey, and has been built for him in France. In its arrangement it incorporates just those details which will appeal to the motor cyclist. For instance, the control is more suggestive of the motor cycle than the car.

The 7 h.p. single-cylinder engine has a bore and stroke of 90 x 130 mm. respectively (though it can be made of 87 mm. bore if required), water-cooled on the thermo-siphon system, which passes the water through Renault type radiators on the dash. This engine, which is very substantially constructed, is fitted with an automatic inlet valve, past which the charge is drawn from a Claudel-Hobson carburetter. At the front of the engine a high tension Bosch magneto is driven, and from a tank on the dash oil is dripped, past a sight-feed lubricator, to the crank case.

The Change-speed Gear.

At the back of the engine the crank case is extended to form a pit in which the fly-wheel and gear are placed, and the former is designed to take a leather-faced cone clutch, which is operated in conjunction with an epicyclic two-speed gear. This gear is so devised that for the low speed the case containing the planet pinions is held by a band brake, so that in transmission through the planet pinions the number of revolutions per minute is reduced in a way very similar to that employed for the gear of a lathe. In neutral both the band brake and clutch are out of action, while for the high gear the clutch

is put in, and the complete epicyclic gear, being locked, rotates solid with the flywheel. In the example inspected a reverse was not fitted, but we were given to understand that in future these vehicles will be fitted with a reverse.

From the gear the power is transmitted by propeller-shaft

to the final bevel drive on the rear live axle, the latter being neatly and strongly encased. The propeller-shaft has a plunging universal joint at the front practically on De Dion lines, and at the back we were informed that it was capable of sliding, as the shaft is surrounded by a torque tube, formed at its front end with U-shaped arms, and slung from the back walls of the flywheel and gear well so as to allow for the spring deflection. The final drive gives a reduction of $3\frac{1}{2}$ to 1, and as the low gear, as compared with the high or direct drive is 2 to 1, the ratio between engine and road wheels on the low speed is 7 to 1. The front axle is

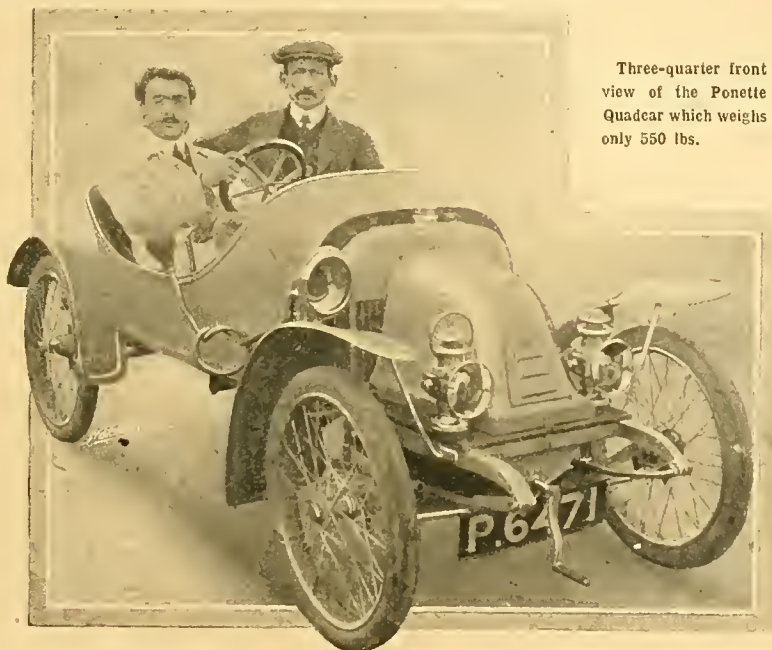
made from a steel forging, so neat that it looked as if it had been produced from dies. Brakes, which can be operated through wire connections either by pedal or hand lever, act internally on drums secured to the rear wheels. The brake lever, when in the midway and "on" positions, through the medium of a cam action, holds the clutch out of engagement, but when the brake is off the clutch can be engaged as soon as the driver's foot is taken off the pedal.

A third pedal for the accelerator affords the means for governing the engine on the throttle. Steering, be it added, is of the worm and sector type, and so irreversible.

On the Road.

The vehicle we tried under varying road conditions appeared to have an excellent turn of speed, and an ample margin of power for all contingencies, doing about thirty miles an hour on the level with comparative ease. In fact, the runabout well deserved its name, for it is to be called "La Ponette," which when interpreted means "the pony."

It is a pity that there is no organisation to cater for light runabouts in the matter of competitions.



Three-quarter front view of the Ponette Quadcar which weighs only 550 lbs.



The single-cylinder engine of the Ponette Quadcar, showing the disposition of the magneto and radiator.

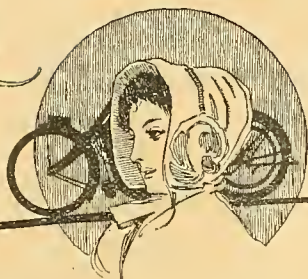
TAKING MOTOR CYCLES BY RAIL—A WARNING.

The L.B. and S.C.R. Co. summoned a motor cyclist at the Westminster Court, on Thursday last, for sending by rail a motor cycle the tank of which contained petrol. In the evidence it transpired that the defendant was asked twice at Victoria Station if the tank contained petrol, and in each case he answered in the negative and signed a declaration form to that effect. Subsequently the tank was examined and found to contain about a pint of petrol. The defendant's

plea was that he was under the impression that the tank was empty. The magistrate inflicted a penalty of £5 and 23s. costs, or two months' imprisonment. This penalty appears to us to be very heavy, considering the position of the defendant, who was described as a mechanic. It is certainly a serious thing to sign a declaration which is afterwards proved to be incorrect, but surely the punishment should fit the crime.

MOTOR Ladies

by Mrs. M.C. Cooke



CYCLES at Olympia

WHEN some six or seven years ago, ladies began to ride motor cycles and to ask that suitable machines might be built, manufacturers, with one or two exceptions, pooh-poohed the idea, and put it down to a craze which would soon die a natural death. But the movement is still alive, and very much so, as is evidenced by the number of open-framed machines exhibited at Olympia. Manufacturers are slowly but surely realising that there is a demand for this type of machine, and are acting accordingly, but those who were enterprising enough to study the question a year or two ago are now reaping the benefit of practical experience.

Some of the new models are really excellently suited to ladies' requirements, and show unmistakably that the makers have expended much time and careful thought in designing a machine to suit a woman's special needs, and have not attempted to palm off an adaptation of a man's machine, nor yet a pedal bicycle with an engine and other parts fitted as an afterthought.

The Range of Models.

Altogether about a dozen different patterns were exhibited, ranging in power from the lilliputian Moto-sacoche to its more powerful rival the 3¾ h.p. Scott. The last-named machine has been greatly improved from a man's point of view, but under its new 1912 garb is slightly too powerful, and withal looks too complicated for an inexperienced lady, though one could not help admiring the new side wings which must render it very clean to use. I am constantly told that the great point insisted upon by prospective lady motor cyclists is "cleanliness." Granted that this is an important point, I cannot agree that it is the most important. Ladies cannot expect to motor cycle in white skirts yet. I am afraid we must make up our minds to put up with a certain amount of dirt. Even when riding a push cycle we cannot keep absolutely spotless, and yet we do not refrain from cycling for that reason; and if we *must* undertake a muddy ride, well, we can cover the distance much more quickly on a motor bicycle.

Dressguarding.

With regard to the possibility of the dress coming in contact with the engine or driving mechanism, I think this danger is greatly exaggerated. Many makers have completely covered in all the mechanical parts to guard against any likelihood of spoiling one's clothes. So much so in fact, that more work is involved in removing shields if anything should go wrong—and trouble is not unknown as yet! I am aware that a special point is made of the ready detachability of some shields, but there are others which necessitate much fiddling. One model I noticed had five wing nuts to unscrew before one side could be

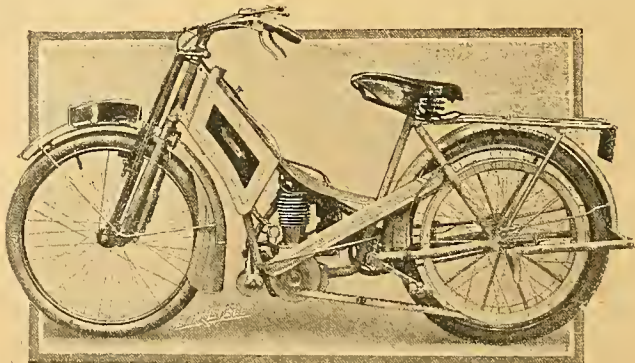
removed. Personally, I prefer to see some of the mechanism of the machine I ride, and I consider an engine guard such as is fitted to the Humber and Centaur models—and some other similar fitment for the carburetter—is quite sufficient to amply protect the dress. The small shields shown on the Enfield and Matchless machines answer the same purpose, and either of these looks prettier than a large shield.

I have a great dislike to the corded dressguard which is still fitted to several machines. Everyone knows how very dirty the cord gets on a pedal cycle, how difficult it is to clean satisfactorily, and how soon it gets chafed and ragged looking. How much more so on a motor bicycle! Some makers—notably of the Douglas, Enfield, Humber, and Centaur—have entirely dispensed with it, and have substituted a metal guard which is neater and much more efficient.

The Simplicity of the Control.

As regards driving, surely nothing could be simpler than present-day methods. The most perfect ignoramus could be initiated into the mysteries of the different levers in a few minutes. And then how little there is to go wrong! The ignition is scarcely given a thought in these days of reliable magnetos—it is always ready—one filling up with petrol will take a light or medium weight considerably over a hundred miles, and now the latest models are being fitted with drip feed lubricators which oil the engine automatically. Really we shall soon have nothing to do but sit on the machine and steer!

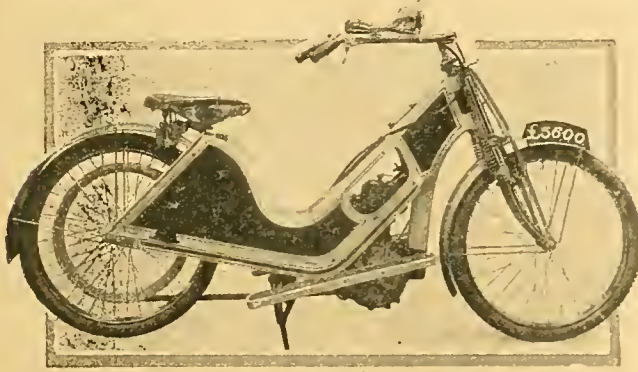
That reminds me I want to say a word about the handle-bars. The inverted lever seems to be out of favour on ladies' machines, with the consequence that the grips on the handle-bars are smooth and straight on many models, notably on the Douglas and Moto-sacoche. Would it not be as easy to fix grips with a curved hook at the end? It would add greatly both to the comfort and safety of the rider without detracting in the slightest degree from the appearance of the machine.



The new open frame 2 h.p. Quadrant.

Ladies' Motor Cycles at Olympia.—

Now to take the Show machines in detail. There are several old friends, some, however, with new faces, notably the Motosacoche, Douglas, Matchless, etc. These have all been perfected, and are already well known. The last-named is, I believe, rather a favourite in the colonies, where it appears in a slightly different form. It is a very serviceable-looking mount.



The 3½ h.p. lady's pattern Midget Bicar.

The Motosacoche is *the* lightweight, and is noted for its cleanliness. It is pretty in outline, very low built (24in. wheels), and every part is well protected. All the moving parts are controlled and regulated from the handle-bar—both brakes, throttle, gear, etc. At the first glance, the number of levers is rather bewildering, and I am afraid it would take a novice some time to remember them all, but it is an ideal machine for pottering about, visiting, shopping, etc., and that is the average lady's requirements. By means of its variable gear, it can surmount quite steep hills.

The Douglas, I believe, enjoys the distinction of having the greatest number of patronesses on the road. It has now, among other improvements, been fitted with an engine foot-starter in place of the handle. It is a pity this is on the left side rather than on the right. The dressguard for the back wheel is particularly neat, and worthy of note. The oiling arrangement is also excellent.

There are several newcomers, all of which embody some excellent features. The Humber and Centaur—identical in design—may be characterised as excellent mounts for beginners. They are fitted with pedalling gear, and may be had either with or without the Armstrong three-speed gear and clutch.

The Enfield is an exceedingly pretty machine, and looks very dainty in its delicate grey dress. Although not fitted with pedals, it is a very handy machine, and can be started very easily. It has a very sweet, even, drive.

The Little Levis Two-stroke.

The Levis open frame attracted a large amount of attention. It is quite unique in its design, and it will be interesting to see how ladies appreciate it.

The Hobart needs no introduction, for this machine has been on the market for some time.

The Forward, seen for the first time at the Show, is fitted with a twin engine completely covered up with the exception of the plugs, which appear through holes formed in the shield just where the

dress falls. I noticed this in a twinkling, for I have lively recollections of an uncovered plug on my Triumph! Every time my wet mackintosh touched it the current was diverted, very often passing into the coat and giving me a sudden electric shock, at other times bringing me to a standstill for no apparent reason. A little fitment on the end of the high-tension wire soon remedied this.

The Quadrant and the Singer are both workmanlike machines, and being turned out by such well-known and experienced firms is a guarantee of their excellence. A feature of the Quadrant which strongly appealed to me was the saddle. More of this anon.

A Notable Absentee.

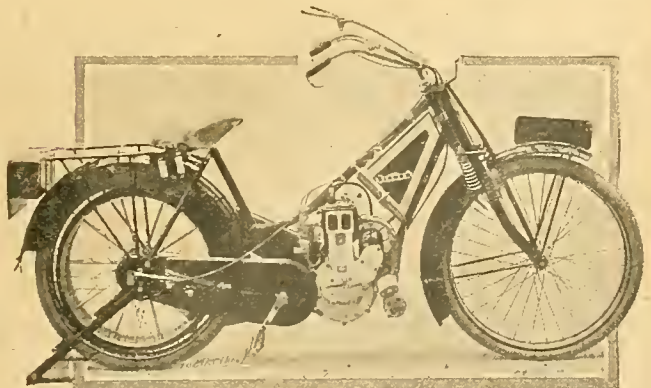
I was greatly disappointed at the absence of one of the lady's single-cylinder heavyweights, namely, the 3½ h.p. open frame Premier. The makers were not able to get it through in time for the Show. This was rather a pity, as a fairly powerful and fast machine, despite its weight, presents many attractions to experienced riders. I have no doubt it will be an excellent mount in its class, as I know a little of what Premier engines are capable.

A word with regard to accessories. When shall we see a suitable lady's saddle designed and marketed? I, for one, would hail with joy its advent.

I am glad to see that we are being catered for by the clothing manufacturers. The Service Co. were showing an excellent selection of patterns of materials, and also made-up garments. The material "Autoclos" is worthy of special note. It is a soft, pliable cloth, and is warranted rainproof, dustproof, porous, unshrinkable, and untearable. Costumes are shown for walking and cycling (among these an excellently designed divided skirt is conspicuous), and also some special styles in coats. The motor cycle coat has been designed to give the acme of comfort as well as protection.

From a lady's point of view, the Show was most interesting and instructive, and attracted crowds of the fair sex each day, many utter novices, who examined with beating hearts the different models; and blushed as they accepted an invitation to try the riding position.

In conclusion, manufacturers are to be congratulated on turning out such an excellent display of machines. There was never such a fine selection appealing to ladies, and the only difficulty now is to make a choice.



Lady's model 2½ h.p. Singer lightweight, which has very efficient dressguarding.

SHOW STATISTICS.

By H. HEWITT GRIFFIN, Fellow Royal Statistical Society.

IN *The Motor Cycle* of December 1st, 1910, an elaborate table was published (page 1205) showing, under twenty different heads, the entire exhibits of sixty-two firms. Motor cycles have now so settled down that many of these classifications, however useful at the time, are now unnecessary, such, for instance, as "Spring Forks." Who dare fit a rigid fork on a rigid frame touring machine in 1911? Yet there were twelve who did so last year.

Change-speed Gears.

What will occasion the most surprise is the large number of variably geared machines. *The Motor Cycle* campaign in favour of the change speed gear, which was instituted six years ago, has gradually but surely brought forward the necessity for an emergency gear for the go-anywhere-all-weather machine. Few would have guessed that there was an almost equal number of single and variably geared machines of the 552 exhibited.

Single v. Multi-cylinder.

401 single-cylinders and 151 twins and four-cylinders will cause no expression of astonishment. Many large firms who specialise on single-cylinder machines have not yet commenced experiments with twin-cylinders, but in the opinion of many experienced engineers twins are bound to receive more attention sooner or later, though, strangely enough, the proportion of twins is less this year than last.

Transmission.

There is an impression abroad that chain transmission has made great headway of late, but the total of 76 chain drivers appears small beside the 456 with belt drive. It should, however, be noted that some machines have combined chain and belt drive. In such cases, the belt only, being the final drive, is included in the statistics.

Short as is the table we now publish, it represents a lot of work. In the first place, the score sheets had to be prepared; then each one of the 552 motor cycles examined for the needed particulars. It will be seen that there is a splendid increase of over one-third more machines, while they were shown on eighty-nine stands against sixty-two last year.

Feature.	Solo Motor Bicycles.	With Detachable Sidecars.	Self-contained 3-wheeled Vehicles.	Totals, 1911.	Totals, 1910.
CYLINDERS—					
Single	342	45	14	401	280
Multiple	113	31	7	151	113
TOTALS	455	76	21	552	393
GEAR—					
Single	258	11	—	269	Not taken in this form
Variable	197	65	21	283	
TOTALS	455	76	21	552	
TRANSMISSION—					
Belt	403	52	1	456	339
Chain	43	23	10	76	41
Shaft	9	1	10	20	13
TOTALS	455	76	21	552	393

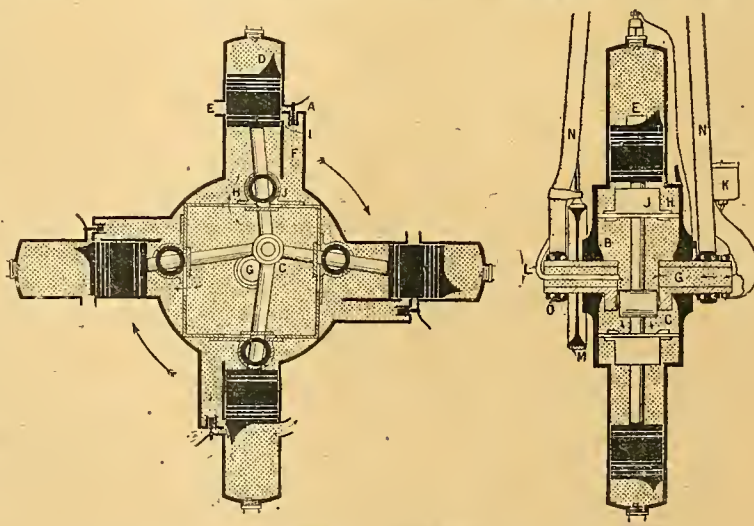
ROTARY PETROL ENGINES.

A GOOD many readers of *The Motor Cycle* are under the impression that the rotary form of engine for motor cycles is an entire novelty. That this is not the case is proved by the fact that an old illustration of a rotary engine fitted in the back wheel, and made in 1896, was published in our columns on May 19th, 1910, in connection with an article respecting the Gnome engine and its possibilities in connection with motor cycles.

The latest suggestion for a two-stroke rotary engine has been sent us by Mr. E. Dobson, of North Kensington, and we reproduce herewith sketches of the idea. The Barry revolving engine was another promising design which was actually made and exhibited at the Stanley Show some years ago, and has, we know, been used on the road, but little or nothing has been heard of it lately. The latest model of the Barry was a four-stroke engine, but the original design exhibited at the Stanley Show was a two-stroke engine with four cylinders, two being working and the others pumping cylinders. We imagine that if this type of engine were successful its inaccessibility when fitted in the rear wheel would be against it as a commercial proposition.

The sketch shows a four-cylinder rotary motor with slide valves operated by the connecting rods. The advantage claimed for this is that it dispenses with crank case compression, and

measures the correct quantity of gas for displacement of the exhaust. It will be noticed that there are four explosions to each revolution of the engine, and its torque equals a four-stroke single-cylinder engine

**A Rotary Two-stroke Engine.**

A. Air scavenging valve. B. Bushes. C. Cranks. D. Deflectors. E. Exhaust. F. Transfer passage. G. Gas inlet. H. Slide valve worked by connecting rod. I. Inlet. J. Roller and socket joint with packed roller. K. Carburettor. L. Lubricating pipe. M. Band brake. N. Fork tubes. O. Ball bearings, enabling crankshaft to rotate when brake is released.

geared 8 to 1. The free engine position is obtained by releasing the band brake on the crankshaft.

CLUB SECRETARIES AT OLYMPIA.

Relations with the A.C.U. Discussed.

Fixture List for 1912.

A REPRESENTATIVE gathering of club secretaries met at Olympia, on Saturday evening last, to draw up a fixture list of events for 1912. Previously, however, the Bradford M.C.C. had called a meeting to discuss the attitude the clubs should take up with the Auto Cycle Union, and before the fixture list came under discussion the following resolution, passed at the previous meeting, was debated upon before Mr. Robert Todd, the A.C.U. chairman: "That every affiliated club should be entitled to direct representation on the General Committee of the A.C.U. to the extent of one vote, and that a body of thirty London motor cyclists be elected by clubs to receive their proxies, and to carry plural voting powers to the extent of the proxies received by them." The matter was discussed at great length, but the gist of it all was the old story that the clubs had not fair representation on the A.C.U. Committee. (At present the constitution of the committee is as follows: Twelve members of the R.A.C., twelve of the private members, and twelve representatives of affiliated clubs—twenty-four against twelve. It must be pointed out, however, that only about four members of the R.A.C. attend regularly.) That the A.C.U. devotes too much time to competitions and too little to the welfare of its members. As the matter was clearly put by Mr. Perryman (Birmingham M.C.C.), the local clubs had no desire to break away, but they did insist on being fairly represented on the committee. Mr. Carty (Liverpool A.C.C.) urged that the solution lay in the A.C.U. working up the centres, of which he said only two—the Northern (the N.E.A.A.) and the Midland—were at all alive. The centres should entirely rule their districts, and each club

should have its vote, and each centre should send a representative armed with the votes of the clubs affiliated to that centre. Mr. Carty, though in this speech he took up a fair and reasonable attitude towards the A.C.U., in a subsequent oration went "all out" against the governing body.

An Amendment.

Eventually Mr. Brooker came to the rescue with an amendment to the effect that "The whole of the clubs forming the Auto Cycle Union should elect thirty representatives to serve on the General Committee, these thirty representatives to be approved by the whole of the clubs." This resolution was certainly a step in the right direction, as, although it did not give the clubs quite all they wanted, it placed them in an advantageous position, giving them an increase of eighteen representatives on the committee, six more than the total number composed of the R.A.C. and private members of the A.C.U. The amendment was put to the meeting and carried, but on being put as a substantive proposition it was lost. Seemingly, therefore, the meeting was an abortive one. But it is to be hoped that its effect will be more real than apparent. In addition to several members of the A.C.U., the following clubs were represented: Birmingham M.C.C., Scarborough and District, North Middlesex, the Motor Cycling Club, the N.E.A.A., Oxford, Cumberland, Derby and District, Walthamstow, Putney, Western District, Oldham, Worcester, Surrey, Mersey, Lincolnshire, Nottingham, Ilkley, Coventry and Warwickshire, Bradford, N.W. London, Edinburgh, and Essex M.C.C.'s, B.M.C.R.C., Sutton Coldfield, Manchester, and S.E. London M.C.C.'s.



OLYMPIA. A general view of the Main Hall during the progress of last week's Show.

Meeting of Club Secretaries at Olympia.—

1912 Fixtures.

By the time the foregoing discussion had been brought to a close very few secretaries were left to attend to the fixture list for 1912. This list stands as follows:

- Jan. 13.—Winter Trial, Derby and District M.C.C.
 „ 20.—Herts County Open Trial.
 „ 20.—A.C.U. Annual Dinner.
 Mar. 2.—A.C.U. One Day Open Trial.
 „ 23.—B.M.C.R.C. Race Meeting.
 „ 23.—Open Trial, Herts County M.C.C.
 „ 23.—Streatham and District M.C.C. Speed-judging Competition.
 „ 30.—Derby and District Open Hill-climb.
 „ 30.—Herts County M.C.C. Members' Hill-climb.
 Apr. 5-8.—N.W. London and Herts County M.C.C. Joint Trial and Open Hill-climb (Yorkshire) and Ladies' Competition
 „ 6.—M.C.C. Land's End and back.
 „ 8.—Scarborough and District M.C.C. Hill-climb Staxton.
 „ 8.—Westmorland M.C.C. Open Hill-climb Shap Fell.
 „ 13.—Oxford M.C.C. Open Hill-climb.
 „ 20.—Streatham and District Members' Hill-climb.
 „ 20.—B.M.C.R.C. Race Meeting.
 „ 27.—Bristol M.C.C. Open Hill-climb.
 May 4.—Herts County M.C.C. Hill-climb.
 „ 4.—Coventry and Warwickshire M.C. Open Trial.
 „ 11.—B.M.C.R.C. Race Meeting.
 „ 11.—M.C.C. Members' Hill-climb.
 „ 11.—N.W. London Run to Coventry.
 „ 11.—Herts County M.C.C. Open Speed Trials.
 „ 18.—Streatham and District M.C.C. Open Speed Trial.
 „ 24-27.—Herts County Touring Competition in Ireland.
 „ 24-27.—M.C.C. London to Edinburgh Run.
 „ 27-28.—Bradford M.C.C. Open Trial to Dunbar and back.

- June 8.—Ilkley and District M.C.C. and Bradford M.C.C. (joint) Open Hill-climb.
 „ 8.—Streatham and District M.C.C. Members' Reliability Trial.
 „ 8.—N.W. London Thomas Challenge Cup Trial.
 „ 15.—Nottingham and District M.C.C. Open Trial.
 „ 15.—B.M.C.R.C. Race Meeting.
 „ 15.—M.C.C. Team Trial for *The Motor Cycle Challenge Cup*.
 „ 15.—Herts County M.C.C. Amateur v. Trade Competition.
 „ 22.—Essex M.C.C. Gymkhana.
 „ 22.—N.W. London Members' Hill-climb.
 „ 29.—B.M.C.R.C. Race Meeting.
 July 6.—Herts County M.C.C. Scouts' Day.
 „ 6.—M.C.C. Race Meeting.
 „ 6.—Streatham and District M.C.C. Members' Hill-climb.
 „ 18.—Taunton and District M.C.C. Open Hill-climb.
 „ 20.—B.M.C.R.C. Race Meeting.
 Aug. 2.—Bristol M.C.C. Open Twenty-four Hours' Reliability Trial.
 „ 3-5.—M.C.C. Devon Tour.
 „ 5.—Cumberland M.C.C. Open Trial.
 „ 4-6.—Dutch International Reliability Trial in Holland (Provisional).
 „ 10.—B.M.C.R.C. Race Meeting.
 „ 12-17.—A.C.U. Six Days' Trial.
 „ 31.—Coventry and Warwickshire M.C. Open Hill-climb.
 „ 31.—Essex M.C.C. London to York and back.
 Sept. 1.—Streatham M.C.C. Open Hill-climb.
 „ 14.—B.M.C.R.C. Race Meeting.
 „ 21.—Herts County M.C.C. Open Hill-climb.
 „ 28.—Ilkley and District M.C.C. Members' Speed Trial.
 Oct. 5.—Herts County M.C.C. Members' Hill-climb.
 „ 12.—B.M.C.R.C. Race Meeting.
 „ 26.—A.C.U. One Day Trial (Open).
 Dec. 26-27.—M.C.C. Winter Run.

BROOKLANDS ACTIVITIES.

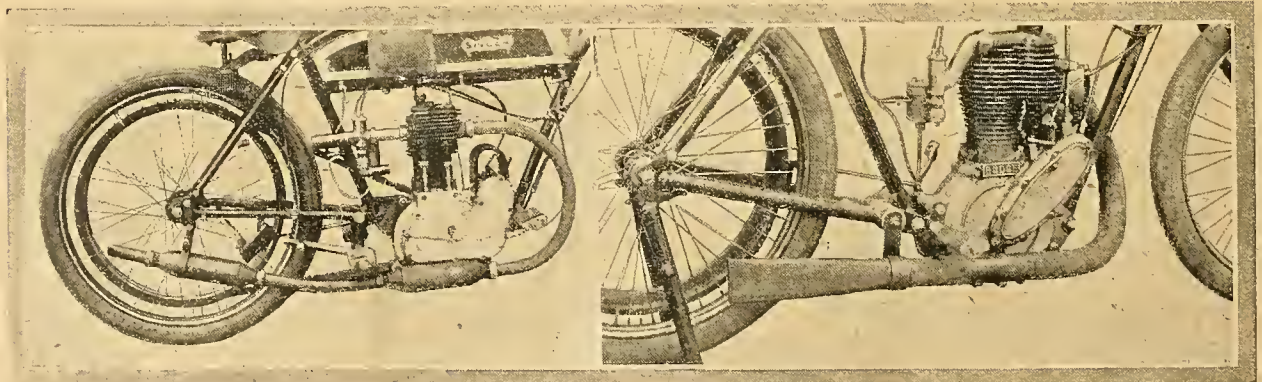
ON Tuesday last week Brooklands was the scene of two successful attempts at long distance records, first by W. L. T. Rhys on a Rudge, followed an hour later by J. R. Haswell on his Triumph, who set out on a 200 mile record ride. At the end of three hours Haswell stopped. Rhys had just beaten the four hours' record, 225 miles 151 yards, and he happened also to pull up and to mention to Haswell that he had beaten his four hours' record. This stirred Haswell to greater deeds, and he immediately mounted his machine and raised the four hours' distance to 239 miles 947 yards.

Haswell was inside record at two hours, in which time he covered 124 miles 258 yards, British record for any size engine. In three hours he traversed 184 miles 1,388 yards; in four hours 239 miles 947 yards. His time for 150 miles was 2h. 26m. 34s., and for 200 miles, 3h. 14m. 46s. The last four are world's records for any size engine. In the case of Haswell's Triumph, the silencer difficulty was over-

come by braunching the exhaust pipe and leading the two branches to separate silencers on each side of the chain stays. Rhys, having lost the four hours' record, succeeded in beating the five hours, in which time he covered 268 miles 154 yards. In six hours he rode 322 miles 603 yards. He also succeeded in beating the 250 miles record, time 4h. 38m. 54s., and the 300 miles 5h. 35m. 11s. These are world's records for any size engine. The weather was cold and fine.

New Sidecar Record.

On the same day J. T. Bashall established an hour Class E sidecar record with a twin Bat-Jap 85 x 85 mm. and sidecar, covering 45 miles 639 yards. The speed of his fastest lap was fifty miles an hour, and that of his slowest thirty-six miles an hour. The combination, which ran consistently throughout, weighed 324 lbs. and with passengers 647 lbs. The tyres were 2½ in. Hutchinson's and the belt a Lyso. The times were taken by Mr. A. V. Ebbelwhite.



TYPES OF SILENCERS NOW USED AT BROOKLANDS.

1. Method of silencing L. Smith's 3½ h.p. Singer by means of an expansion chamber. 2. System of silencing the exhaust on Stanhope Spencer's racing Rudge which is found to be most effective.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Clothing.

Q. Will you kindly advise me on the following points? I am anxious to obtain the very best jacket for all-round motor cycle work, one that is impervious to rain and wind, but I do not wish to have a mackintosh unless necessary. Would an Irish frieze lined with leather be equally serviceable?—O.V.T.

Irish frieze lined with leather would do, but nothing is absolutely waterproof except paramatta (when it is new) and oilskin (always). Irish frieze, leather-lined, would be warm, and would stand a considerable amount of rain, though it certainly holds dust.

Cost of Running a Motor Cycle.

Q. I am a probable buyer of a second-hand 1911 $3\frac{1}{2}$ h.p. two-speed mount with sidecar for passenger and child, but not being blessed with a superfluous amount of the necessary essential for motoring—money—I am desirous of running the machine at the least possible expense, with the greatest possible pleasure. I estimate my season's mileage to be about 2,500 miles, which will be run in the six summer months only. As I am an engineer with a considerable knowledge of petrol engines, I shall be able to undertake all ordinary repairs myself, and be able to keep the machine on my own premises, thereby keeping it in the best possible running condition, and shall always ride with the greatest consideration, placing reliability before speed. The mileage given would be over average roads with a fair proportion of hills. Your advice on this subject will be greatly appreciated.—E.L.P.D.

It is not possible to answer your questions definitely, as so much depends upon the driver and the machine. We have recently published letters on this subject, which show very different results. For the distance named you will require approximately the following: Driver's licence, 5s.; Inland Revenue, £1; registration, 5s. (this is not a yearly charge); petrol, £2; lubricating oil, 15s.; new cover for back wheel, say, 45s.; repairing outfit, 3s.; belts, 35s. You should be able to run from seventy to eighty miles per gallon of petrol, and a quart of oil should last between 200 and 300 miles.

A good deal more is required for sidecar work than solo. The covers on the front wheel and sidecar wheel should last about two years, but with tyres it is the pace that kills, and much depends, too, on the alignment of the sidecar. We have not included depreciation or any clothing.

How to Run Slowly.

Q. I have a $2\frac{3}{4}$ h.p. machine, Kerry engine, new 1911 B. and B. carburetter and 1911 Bosch magneto. The engine starts most easily with one push on the pedal, climbs hills, and accelerates beautifully. I was told it would run as slowly as five miles per hour. (1.) I cannot go slower than about 10 m.p.h., spark well advanced, throttle as little open as possible, and extra air just open. (2.) At above pace hardly any extra air can be given without causing misfiring and stopping engine. (3.) At higher speeds the extra air lever can never be opened as wide as throttle.—K.G.L.

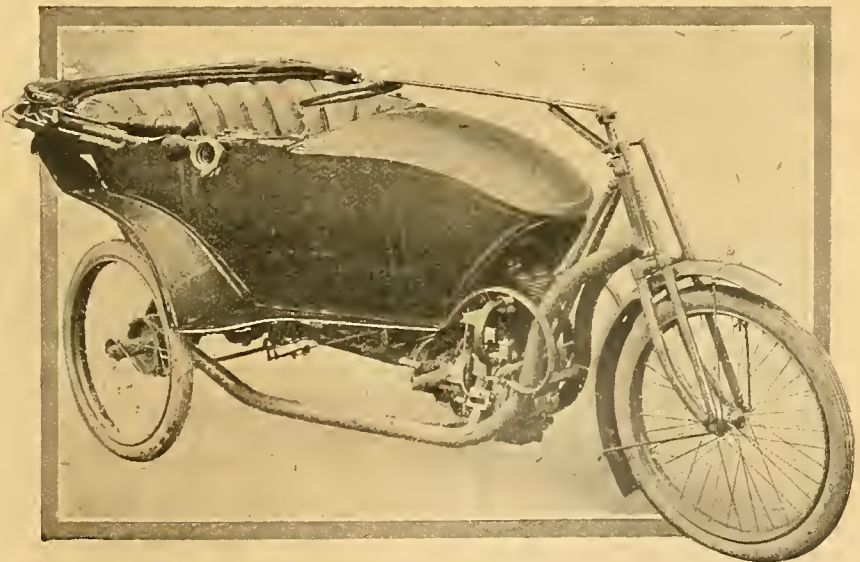
(1.) You might manage to run a little more slowly if you close the air, shut the throttle still further, and do not advance the spark. (2.) We do not wonder that no extra air can be given

without stopping the engine. At very slow speeds the air should be excluded altogether. (3.) If you fitted a larger jet you would be able to attain high speeds and use the air lever to its fullest extent.

Lining on Tanks, etc.

Q. I shall be much obliged if you could give me a tip for painting the tank on my motor bicycle. I intend having an aluminium background with either red or green panels. I have already painted it with aluminium paint, but my difficulty lies in getting the lines of the panels perfectly straight. Are, by chance, stencils sold for this purpose, or perhaps some type of transfer would have the desired result?—R.J.D.

We regret we cannot help you. The only person who can is a man who makes a practice of doing nothing else but painting tanks. The lines are done by a special sable brush with long hairs, and their exact width and straightness depend entirely upon the skill of the operator, who draws "freehand." Sometimes he steadies his hand by running his little finger along the straight edge of the article he is lining.



AT OLYMPIA. Roe two-seater pleasure tricycle with the engine (a $4\frac{1}{2}$ h.p. Precision placed vertically in the frame.

Curious Experiences with a Magneto.



I am only a novice at the game, and candidly admit the magneto is a bit beyond me. I have had no trouble with mine, and have, in consequence, never seen one in bits, but recently I have had an argument with a friend of mine, and I would much like you to settle the point for me. I do not know if I can quite put in question form what I want to know, but it resolves itself into something like this. Is the spark of a magneto stronger the farther it is retarded? I have frequently noticed lately that after starting my machine and getting nicely on the way at about 20 m.p.h. I want to increase my pace a bit, and open my gas lever a little, but with no apparent result. The spark is now fully advanced, and the road fairly level. Without touching my air lever I retard the spark one or two notches and the result is obtained immediately. Is this as it should be? My friend argues that it is not. From my own experience it is. The magneto is a Bosch DA2 1910. I had a "blind" with another friend one night, and he did forty-five by speedometer, and could not catch me, and I found then the stronger the mixture I was running on the further I wanted my spark retarded to get the best result. I may add I am riding a 1910 Triumph, with the maker's own carburetter, and have done about 5,000 miles during the last twelve months.—H.T.B.

Your experience is certainly unusual. Are you sure you are not advancing the spark instead of retarding it? The spark of a magneto is stronger the more it is advanced, or rather, to be more correct, the faster the armature revolves. Actually, the strongest spark is obtained at the maximum point in the revolution of the armature, and this is usually arranged to take place when the lever is advanced almost fully. In the case of a Bosch or any other high tension magneto machine used with a single-cylinder engine, there are two maximum points, but only one is used, namely, the one at which the contacts break when the ignition lever is in a certain position, usually about two-thirds advanced. You will readily understand that if the break

occurs at a point when the lever is fully retarded it occurs at a point that is not the maximum point, and, in consequence, the spark is weaker. It all depends upon the timing of the spark. If you have related your experiences correctly, the magneto is obviously timed too fast and should be altered. See "Motor Cycles and How to Manage Them." The magneto lever is usually set so that it should be fully advanced for speed on the level, and retarded at the most a couple of notches, say one-sixteenth to one-eighth of an inch for climbing an extremely steep hill. When the machine is running all out, we often find that the mixture has to be slightly increased in strength; that is to say, the air lever will not stand being quite so far open, but we never find this occurs until the engine begins to overheat.

A Home-made Runabout.



I am thinking of building a four-wheeled vehicle somewhat after the style of a runabout, and should be glad if you could answer the following questions. The vehicle is to carry usually two passengers, total weight about 28 stones, with occasionally perhaps light luggage: (1.) Water-cooled and m.o.i.v. engine is presumably best. What should the horse-power be, bearing in mind that my district includes the most hilly part of Derbyshire; also within what limits should the engine horse-power be kept to come under the cheapest inland revenue charge? What is this per annum? (2.) Would 26in. x 2½in. tyres be good enough, and should these be steel or rubber studded, or both on all wheels? (3.) What gear ratios should be used? I am thinking of using a shaft drive, with an epicyclic gear, two speeds, and reverse. (4.) What would you advise, worm wheel or bevel drive? (5.) Could the framework be built up of cycle tubes and of what diameter and gauge should they be? (6.) What firm could you recommend for supplying the tube and angles, etc.? My main object is not so much speed as thorough reliability, and ability to go anywhere, up any hill.—E.H.M.

(1.) We agree that a water-cooled engine with mechanically operated valves is preferable. The horse-power should be some-

thing between 5 h.p. and 8 h.p., preferably the latter, but if you have to consider the cost of the local taxation licence the maximum should be 5 h.p. (to be covered by a two guinea licence). (2.) We should recommend 650 x 65 car tyres on the back wheels. One or both tyres should be studded. (3.) We should recommend a top gear of 5 to 1. (4.) Both are quite satisfactory and reliable. (5.) Yes, the frame should be built of cycle tubing. We should advise you to communicate with the Chater Lea Manufacturing Co., Ltd., 116, Golden Lane, E.C., who would tell you the correct gauge and supply parts.

Misfiring at Speed.



I should be glad if you would explain the following: I am troubled with misfiring at speed when rushing a hill with spark fully advanced and throttle open. When running on the level with spark fully advanced and throttle almost closed, there is not a single misfire. The same thing occurs, only the misfiring is worse, when running the engine on the stand; in fact, it will not fire regularly at all with throttle fully open. I fancy when the engine is running on the stand that a fine spray is being forced out of the extra air inlet. Machine 1906, automatic inlet valve, accumulator.—W.B.

The trouble seems to be that you cannot get enough air at high speeds. You should either try a larger choke tube or a bigger air orifice to the carburetter. Before making any alteration you might experiment with a smaller jet. Also try a stronger spring on the inlet valve. There is always a certain amount of blow back.

EXPERIENCES WANTED.

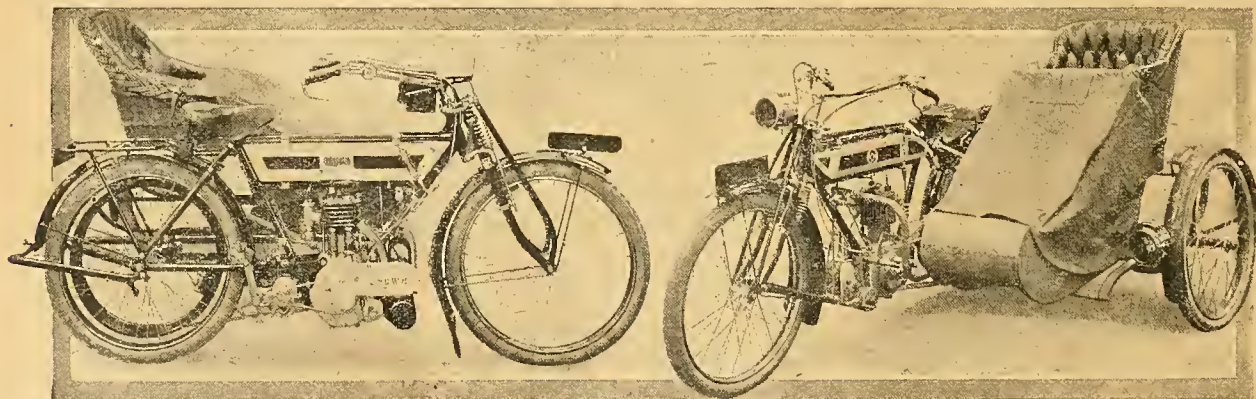
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"X.Y.Z." (Milford).—B. and B. variable jet carburetter used on twin light-weight.



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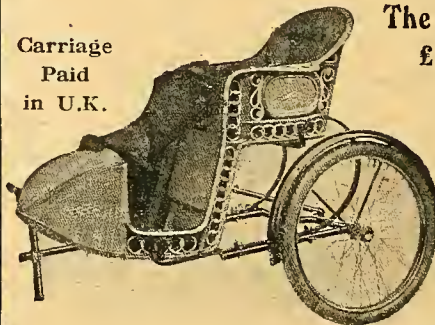
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HUMBER, 3½ h.p., 1909, two speeds, handle starting, h.-b. control	£26 10
REX, 3½ h.p., 1908, spring forks, magneto, h.-b. control, beautiful condition	£16 10
N.S.U., 3½ h.p., two speeds, magneto	£19 10
N.S.U., 3½ h.p., magneto, good order	£16 10
QUADRANT, 3½ h.p., magneto, spring forks	£16 10
REX, 5 h.p., two, with forecar	£11 10
N.S.U., 3½ h.p., M.O.V., magneto	£15 10
N.S.U., 3 h.p., M.O.V., nice order	£10 0
REX DE LUXE, two speeds, magneto, handle starting, h.-b. control	£26 10
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PREMIER, 2½ h.p., 1912, three-speed gear	£47 5
2½ h.p. MINERVA	£4 15
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XL/ALL Spring Forks	9/6
Gripskin Belting: ¾ in. 10d., ¾ in. 11d., 1 in. 1/-	
Wide Mudguard, 3in., 2/3; 4in., 2/11 pair.	
Handle-bar Watches, with holders	4/3
Quadrant loop frame, new	15/-
Trembler Coils, 6/6.	2/11
Powell and Hammer 4½ Lamp	11/6
16 Guinea Lowen Sidecar	£5 0
Nearly New Coronet Sidecar	£3 10
Diamond pattern motor cycle frame with wheels, tyres, belt rim.	30/-
New ¾ in. Treadle lathe	£3 or exchange

Booth's Motories,

Keighley Mills, Bedford Street North, Halifax.
Tel. 1062.

MOTOR BICYCLES FOR SALE.

CLYNOS.—Harry up. Place your order now, or you will be too late to get one this season.—Potter, Clynos agent, Leicester Grove, Leeds.

5-h.p. Twin Clynos, belt driven model, as new, fully guaranteed; don't miss it; £40.—Above.

B.S.A., 3½ h.p., new (200 miles only), cost £50, accept £39; a second-hand price for a new machine second to none.—Hey, Normanton.

5-h.p. Twin Minerva, in perfect running order; £10, or exchange lathe.—White Hall particulars, Thornton, Beech St., Paddock, Huddersfield.

1911 Matchless, 8 h.p. J.A.P., overhead valves, £10 worth of accessories; cost £70 will accept £56.—Allen Bros., Wellington Rd. S., Stockport.

1911 5-h.p. Penzance, Druid spring forks, Chatter-Lea frame, magneto, in splendid order; £27.—Allen Bros., Wellington Rd. S., Stockport.

N.S.U., 1911 Model de Luxe, 3½ h.p., 2-speed and free engine, brand new; list price £52/15, cash £40.—Graydon, 19, Kensington Rd., St. Anne's-on-Sea.

1911 4-cyl. 6 h.p. F.N., plating and enamel scratched, hardly used, extras; highest cash offer over £29.—Reader's House, Waddington, Clitheroe.

TRIUMPH, 1906, magneto, brand new Whittle belt, all spares, guaranteed perfect condition; £20, or near offer.—Davies, 11, Coronation Ave., Harrogate.

2½ h.p. F.N., 1910 model, shaft drive, 2 speeds. Antiope clipse lamp, spare valves, tools, only run 500 miles, like new; £30.—83, Bird's Road, Brighouse.

PHELON and Moore, 3½ h.p., 2-speed, perfect condition, just overhauled by makers, go anywhere, accessories; £25.—Blackburn, Athol Lane, Brighouse.

T.A.C., 7 h.p., 1911 model, 4-cyl., 3 speeds, free engine, complete lamp, speedometer, horn, tools, condition better than new; cost over £80, price £50.—Below

F.N., 4-cyl., 5 h.p., 1909, as new, dropped top tube, specially low, thoroughly overhauled, enamelled, grey, B. and B. carburettor, and many modern details; £30, bargain; photo.—Below.

TRIUMPH-MINERVA, 2 h.p., cylinder re-bored, new piston new tyres, capital running order; £8/10; perfect.—Walsh's, Central Garage, Blackburn.

1910 Triumph, good condition, new Kempshall and Dunlop tyres, B. and B. horn, whistle, spares, £29; late 1911 B.S.A., like new, £40.—W. T. Powell, Bedale.

3½ h.p. Excelsior, 1911 B. and B. h.b.e., enamel and plating as new, just overhauled, takes sidecar; bargain £6/15, cash wanted.—16, Burton St., Gorton, Manchester.

BRAND New £48 3½ h.p. Tourist Rex, ditto 5 h.p. twin, named and fully guaranteed; cash offers or exchange liberally considered.—Motor Exchange, Westgate, Halifax.

LINCOLN Elk, 1911, 3 h.p., little used, automatic lubricator, horn, whistle, knuckles, tools, spares, perfect condition; £26.—Hosel, 3, Herbert St., Moss-side, Manchester.

5 h.p. Twin-cyl. Rex, 1910, Mabon clutch, adjustable pulley; £40; the property of Mr. Mark Sykes, West 11th, Hull.—Can be seen and tried at Simpson's Garage, Prospect St., Hull.

SEE Geo. Merrick at the Show before buying your Bradbury, Chatter-Lea, Radge, B.S.A., A.J.S., N.S.U., Clynos, or runabout.—Merrick's Stores, Listerhills, Bradford. Tel.: 2439.

SECTION III.

Carnarvon, Deunigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

2 h.p. Minerva, running order; first cheque £3/5 secures.—Regent Cycle Stores, 6, Market St., Shrewsbury.

8-h.p. magneto Clyde, guaranteed good running order, good Palmers, reliable.—Trevelthna, Kenilton, Rhy.

TRIUMPH, May, 1909 condition like new, been carefully used; price £32.—Motorist, 2, Crane's Buildings, Wrexham.

F.N., 1909, 5-h.p., 4-cyl., magneto, perfect order; cash £25, or exchange car.—E. Smith, Rutland Sq., Bakewell.

1910 Triumph, standard, Cowey speedometer, Lucas lamp, many spares, splendid condition; £32/10.—Hewson, Caunock.

ZENITH-GRADUAS, 3½ h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

BRADBURY'S.—All models in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 250, Stafford St., Walsall.

SCOTT, May, 1911, perfect condition, spares, £45, or with 28 sidecar £49; will give any trial.—4, Woodchurch Rd., Birkenhead.

TRIUMPH, 3½ h.p., 1909 model, perfect order; any trial; £30.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

TRIUMPH, 3½ h.p., 1908 model, perfect order; any trial; £25.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

HUMBER, 3½ h.p., 1911 model, as new; £35; any trial.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

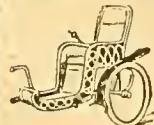
CORONET SIDE CARS

ONE MINUTE REQUIRED.

CORONET SIDECARS are all fitted with our improved QUICK DETACHABLE JOINTS, and can be detached in one minute.

LESS POWER REQUIRED.

In consequence of the unique design of frame in the "CORONET," less power is required to drive, compared with other sidecars.



MODEL C.—£7 2s. 6d.



MODEL A.—£3 10s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest car pattern mudguards. Wicker, cane, or coach-built bodies. Child's reversible seat. Excellent upholstery.

NOTE front arm which grips main tube of sidecar, which is the only correct mechanical method—nothing topside about this attachment.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURY'S, etc. Discounts to Agents.



TEE BEE
SEAT-PILLAR,
5/- each.

TYRES. TYRES. TYRES.

New Dunlops, 28 x 2 and 2½, wired edges	10/6
Dunlops, 28 x 2, beaded, heavy treads	14/9
24 x 2 and 2½ Beaded Clipper Covers, new	8/6
Best Quality Butt-ended Tubes	7/9
150 New Tubes, 26 x 2½	5/11
Rubber-studded Covers, best make	25/-

ENGINES:

4 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
3 h.p. BROWN, M.O.V., silencer, cut-out	£3 15
1½ h.p. CLEMENT GARRARD pattern	£27/6
3 h.p. FAIRIR, silencer, etc.	£3 10
4 h.p. STEVENS, good order	£5 5
9 h.p. DARRACO, water-cooled	£12 0
10 h.p. CLEMENT, two cylinder	£12 10
4 h.p. CORONET, M.O.V., water-cooled	£5 5
3½ h.p. AUTOMOTO £2 0	2 CYCLONE, M.O.V. £1 15
1½ h.p. MINERVA £1 8	2½ h.p. BROWN £3 5
3 h.p. QUORANT £3 0	2½ h.p. MINERVA £3 5

Exchanges entertained.

MAGNETOS. MAGNETOS. MAGNETOS.

We have a large stock of the best makes from 59/6. Your old coil and acc. taken in exchange.

NEW CARBURETTERS FOR OLD.

22/- and your carb. secures a new 1911 B. and B. with h.b. control.
20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control.
Delivery per return.

BOOTH'S MOTORIES,
KEIGHLEY MILLS, BEDFORD ST. NORTH
(off Pellon Lane), HALIFAX. Tel.: 1062.

MAUDE'S BARGAINS

THE PORTLAND SIDECAR

Remember—The Hour Record Holder.
40 miles 1660 yds. in the hour.

1912 IMPROVEMENTS consist of

HEAVIER SPINDLES.
QUICK DETACHABLE JOINTS.
HEAVIER RIMS.
IMPROVED SPRINGS.

These facts place the Portland high above others.

YOU CANNOT GO WRONG.



£5 5s. model.

£6 6s. model.



£7 7s. model.

£8 8s. model.

26 x 2½ Michelin tyres. Double Cee springs. Wide mudguard. Three-point suspension. Dropped bearer bar if desired. Treble stove enamelled. Guaranteed twelve months.

Need we say more ???

1912 Models.

What we sell we **RECOMMEND**; what we do not recommend we do **NOT** sell. We give you unbiased opinion.

We are Agents for—

RUDGE, F.N.,
ZENITH,
REX, INDIAN,
PREMIER, B.S.A.,
MATCHLESS, A.C.S.,
NEW HUDSON,
DOUGLAS, ROVER,
HUMBER, SCOTTS,
ETC., ETC., ETC.

We have best delivery dates, and our exchange prices are most reasonable.

Send for our exchange form and let us quote you. We Guarantee Satisfaction. We hold ourselves at your service.

**DON'T FORGET THE
"1912 PORTLAND."**

The hall mark of satisfaction

A few good agency districts still open.

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136 GREAT PORTLAND STREET,
LONDON W.

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(LISTS POST FREE)

MOTOR BICYCLES FOR SALE.

1910 Rex, as new, purchased May, 1911, and done 1,400 miles; 31 guineas.—Chirnside, Waterside Lodge, Barrel Well, Chester.

B.S.A. July 1911, standard, complete, lamp, horn, tools, condition like new; £43, or near offer.—Lowe, The Old Mill, Congleton.

TRIUMPH, 1911 model, 3½ h.p., new, free engine; £55, or nearest offers.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

1911 Clutch Triumph, enamel and plating perfect, engine like new, spares, accessories; any trial; £45, or offers.—Dr. Miller, Foregate, Stafford.

TRIUMPH, June, 1909, excellent condition, adjustable pulley. Whistle belt, tyres perfect, absolutely faultless; £32.—William Leavies, auctioneer, Ruthin.

1911 F.N., 4-cyl., Service horn, exhaust whistle, absolutely as new, unsratched, new heavy studded tyre, £37; with Cowey (new), £40.—Harold Potts, Broseley.

1911 3½ h.p. Triumph, free engine, bought August, not ridden 600 miles, absolutely new condition, fully equipped; £50, or best offer.—Lewis, Kerry Rd., Newtown.

ENFIELD, 1910, 2½ h.p., in splendid condition, overhauled by makers this season, spare belt, horn, etc.; bargain, £23/10 for cash.—9,018, The Motor Cycle Offices, Coventry.

3½ h.p. F.N., rebushed, accumulator, h.b.c., Minerva 34 frame, B. and B. carburetter, footboards, lamp, horn, etc.; £10, great bargain.—T. M. Brooks, 26, Empress Rd., Egremont, Cheshire.

TRIUMPH, 1908, Mabon free engine clutch, studded tyres, many spares, horn, lamp, Lucas generator, case for spare belt and tube, in excellent condition; £23.—Anderson, Hollies, Alderley Edge.

SPLENDID Bargain.—3½ h.p. Rudge, free engine, only been used one month, Lucas 460 lamp and generator, and all spares, only wants trying; cheap for cash.—Lindlow Motor Garage, Craven Arms, Salop.

FOR Sale, 1911 P. and M., delivered September, £50; 2½ h.p. V.S., magneto ignition, £15; 3½ h.p. M.C. and sidecar, £16/10; 6 h.p. air-cooled quad, unfinished, with or without engine; new 1911 silencer, with cut-out, 12/6.—Rollings, coachbuilder, Wrexham.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

TRIUMPH, 1911, standard; what offers?—Wheeler, Stone House, Wixford, Alcester.

1911 F.E. Rudge, in crate; £55; accept good magneto machine part exchange.—Plastow, Motors, Grimsby.

1910 F.E. Triumph, speedometer, lamp, generator, horn, back rest, Palmer cord studded tyres, nearly new; £45.—Plastow, Motors, Grimsby.

1911 Humber, 3½ h.p., 2 speeds, Dunlop studded tyres, new September, run 1,200 miles; £40.—Plastow, Motors, Grimsby.

1910 Douglas, excellent order, no less than 2,000 miles, not used this season owing to illness; £28/10.—Plastow, Motors, Grimsby.

1909 Minerva, 3½ h.p., magneto, good order, just been overhauled; £18/10.—Plastow, Motors, Grimsby.

TRIUMPH, late 1909, good condition, lamp, horn, tools, whistle; £34, offers.—5, Edgbaston St., Birmingham.

CLYDE, 2½ h.p., magneto, Michelin tyres, in good running order; £15.—Address, J. Insley, Bagworth, Leicester.

2½ h.p. Clarendon, spring forks, nearly new belt, fine gear; photo; £5.—Stimpson, Broad Walk, Stratford-on-Avon.

REX de Luxe, 5-6 h.p., 2-speed, French grey, just overhauled; £25/10, bargain.—52, Florence Rd., Acocoka Green.

ZENITH-GRADUAS, 3½ h.p., in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St. Leicester.

DOUGLAS, Model D, in stock for immediate delivery.—Sole district agents, Paskells, Ltd., 62, High St. Leicester.

TRIUMPH, 1908, splendid condition, fast machine, all tools, lamp, horn, valve, pump, etc.; £24.—Astley, Eaton Rd., Coventry.

F.N., 1910 model, 2½ h.p., in perfect condition, run about 3,000 miles, lamp, and all spares included; £30.—Phillips, The Elms, London Rd., Peterborough.

1911 Humber Lightweight, adjustable ignition, complete tool kit, 2 new belts and spare inner tube.—8,624, The Motor Cycle Offices, Coventry.

1911 Humber, 2-speed, coach-built P.M.C. sidecar, accessories, and spares, excellent condition; £45 cash; buying car.—Dr. McKane, Isaac's Hill, Cleethorpes.

1911 Scott, only been 2,157 miles, Jones trip speedometer, Trioto horn, complete set of tools, spares; £50.—Colmore Depot, 35, Colmore Row, Birmingham.

DE DION, 2½ h.p., for sale, splendid condition, accumulator ignition, B. and B., h.b.c., tyres perfect, new leather belt; £9/10.—Wilson, 227, Edward St., Nuneaton.

BY APPEARANCES

there were many poets at the recent Show. We have to announce that there are

NO POETS HERE,

so we cannot oblige in this respect.

We can, however, oblige you with a kee quotation for any exchange and **EARLY DELIVERY**

Exchange Form on request.

LIST OF SECOND-HAND MACHINES ACTUALLY IN STOCK FOR DISPOSAL. ALL GUARANTEED. CASH OR EXCHANGE.

Cash offers considered for any of the under-mentioned machines. We must clear out somewhat for new 1912 models.

BRADBURY, 3½ h.p., vertical engine, spr. forks	£18
PREMIER, 3½ h.p., 1910, twin, very fast	£32
V.S., 5 h.p., magneto, Truffault forks	£25
MINERVA, 4½ h.p., twin, spr. forks, good tyres	£22
REX, 5 h.p., 1910, model de Luxe, two speeds	£42
SCOTT, two speeds, mageto	£28
REX, 1910, 5 h.p., M.O.V., gold medal winner	£35
REX, 1911, 7 h.p., two speeds, excellent order	£21
RUDGE, 1911, 3½ h.p., clutch model	£47
REX, 5 h.p., magneto, very fast	£24
TRIUMPH, 1909, 3½ h.p., standard model	£32
ARIEL, 1910, 3½ h.p., footboards fitted, F.E.	£30
N.S.U., 1908, 5½ h.p., two speeds, perfect	£25
REX, 1911, 5 h.p., de Luxe, brand new. In stock	£34
TRIUMPH, 1908, 3½ h.p., XL/All saddle	£18
REX, 1907, 5 h.p., free engine, spring forks	£34
TRUMP-JAP, 1911, 4 h.p., as new	£35
REX, 5 h.p., 1910, two-speed, M.O.V.	£42
PEUGEOT, 7-9 h.p. Twn, magneto	£26
ARIEL, 2½ h.p., lightweight model	£11
MATCHLESS-J.A.P. 8 h.p., side valves	£37
ANGLIAN, 2½ h.p., good running order	£26
KERRY ABINGTON, 1910, 3½ h.p., clutch	£32
REX, 1911, 7 h.p., tourist model	£37
REX DE LUXE, 1908, 5 h.p., two-speed	£21
F.N., 1½ h.p., magneto, nice lightweight	£13
N.S.U., 3½ h.p., 1910 model, like new	£21
ANTOINE, 5 h.p., footboards, just overhauled	£22
KERRY, 5 h.p., twin, low built	£21
REX, 1910, 5 h.p., de Luxe, M.O.V., as new	£47
KERRY, 3 h.p., vertical engine, spring forks	£21
HUMBER, 3½ h.p., 1909, two-speed	£32
TRIUMPH, 3½ h.p., 1909, footboards	£32
TRIUMPH, 1910, 3½ h.p., plate clutch	£41
TRIUMPH, 1909, two-speed, and sidecar	£25
N.S.U., 3½ h.p., magneto, spring forks	£21
MOTOSACOCHE, 1½ h.p., Bosch magneto	£11
DOUGLAS, 1911, Model E, as new	£11
REX 1912 de Luxe Models in Stock.	
T.A.C., 7 h.p., four-cylinder, three speeds	£41
CALTHORPE, 3½ h.p., 1911 model, as new	£31
N.S.U., 3½ h.p., two speeds, spring forks	£21
PORTLAND, 1911, 3½ h.p. model, two speeds, as new	£41
REX, 1910, 3½ h.p., tourist, magneto	£21

50/- deposit secures—

LLOYDS, 2 h.p.	£10	BARTER, 2½ h.p.	£11
MINERVA, 2 h.p.	£6	BROWN, 2 h.p.	£11
KERRY, 2 h.p.	£9	ARIEL, 2½ h.p.	£11
CUNARD, 2 h.p.	£10	L.C. 3 h.p.	£11
QUADRANT, 1½ h.p.	£8	RIP, 2½ h.p.	£11
TIMES, 2 h.p.	£8	ANTOINE, 2½ h.p.	£11

Balance 5/- weekly.

CARS AND TRICARS.

REX Littles, 1911 models, new	£5
BROWN, 3½ h.p., two speeds, air-cooled	£1
FORD Car, 10 h.p., twin, two speeds	£1
STAR Car, 9 h.p., three speeds	£2
REXETTE, 6 h.p., latest model	£2
REX Triette, 5 h.p., free engine	£2
BEDELIA Car, latest 1911 model, two speeds, magneto, only done 300 miles	£4

SIDECARS, &c.

MONTGOMERY Sidecar, child's seat	£
FORECAR, with tyres, aluminium finish	£
MILLFORD, left side, rigid type	£

1911 REXES. 191

We have a few 1911 REXES, all brand new and guaranteed, to clear at special prices.

All models. Write us for prices. Special exchange allowances.

MAUDE'S MOTOR MART
136 GREAT PORTLAND STREET,
LONDON W.

Telephone 552. Mayfair
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(LISTS POST FREE)

The Halifax Motor Exchange

Largest Rex Dealers,
16, WESTGATE, HALIFAX.

'Phone, 766. Telegrams: "Perfection."

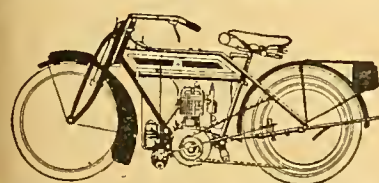
We can offer a few 1911 New and Unused
Machines at Bargain Prices for Spot cash:
or we are prepared to allow £5 to £10 more
than usual for second-hand machines in
exchange.

GUARANTEED IN RUNNING ORDER.	
911 4 h.p. A.S.L., nearly new	£35 0
911 4 h.p. Tourist REX, done 750 miles	£32 10
911 2 1/2 h.p. Two-speed REX Junior	£39 10
911 3 1/2 h.p. REX, clutch model	£37 10
911 5 h.p. Two-speed REX DE LUXE	£47 10
910 4 h.p. REX DE LUXE, brand NEW	47 Gns.
910 3 1/2 h.p. T.T. TRIUMPH, grand machine	£38 10
910 7 h.p. REX DE LUXE, two speeds	£43 0
910 7 h.p. Two REX, HOT STUFF	£37 10
910 5 h.p. Two REX, very fast	£29 10
910 5 h.p. REX DE LUXE, fine sidecar machine	£42 10
910 3 1/2 h.p. REX, very fast, special machine	£27 10
909 Twin REX DE LUXE, two speeds	£34 10
910 REX DE LUXE, Roc clutch, wants tuning up	£16 10
909 3 1/2 h.p. Tourist REX, smart and good	£26 10
908 3 1/2 h.p. Magneto REX, very fast	£24 10
907 3 1/2 h.p. Magneto REX, spring forks	£19 10
910 h.p. Two REX DE LUXE, Roc clutch, sp. forks	£21 10
brand New 3 1/2 h.p. REX, spring forks and pedals	£31 0
brand New Twin Magneto REX	£37 15
brand New 3 1/2 h.p. REX, special finish	£29 10
h.p. 1910 Two-speed Magneto F.N.	£27 10
Magneto TRIUMPH, spring forks, specially low	£25 0
h.p. REX, very good order	£8 10
h.p. REX, very fine condition	£15 10
h.p. Two REX, extra good	£16 10
our-cylinder F.N., magneto, spring forks	£18 10
N. Magneto Lightweight	£16 10
h.p. MINERVA-CHATER-LEA	£14 10
h.p. WOLF, Stevens engine, h.-b. control	£12 10
h.p. Magneto MOTO-REVE	£17 10
h.p. QUADRANT, spring forks, h.-b. control	£12 10
h.p. W.C. Two-speed Runabout	£16 10
h.p. HUMBER, chain drive	£7 0
MOTOSACOCHE, Druif works	£14 10
h.p. ANTOINE, M.O.V., h.-b. control	£14 10

Easy Payments at Special Rates.

Makers' Price, £48. OUR PRICE, 34 Gns.

BRAND NEW 3 1/2 h.p. TOURIST REX.



SPECIFICATION.—84 Bore, 89 stroke, spring forks, very low dropped frame, cant lever seat, ball bearings to engine Shaft, Bosch magneto, handlebar control, foot and hand brakes, 3in. Lycett's Lyso belt, 26 x 2 1/2in. Continental rubber non-skid tyres, footrests, number-plate, tools, tool-bag, stand, and carrier.

5 h.p. TWIN, Makers Price, £51.

OUR PRICE, 36 Guineas.

CASH OFFERS OR EASY PAYMENTS CONSIDERED.

Sold under makers' catalogue guarantee.

4 DOWN and 5/- weekly secures prompt despatch of any of these machines.	
h.p. MINERVA-CHATER-LEA	£14 10
h.p. QUADRANT, V belt, h.-b. control, sp. forks	£12 10
h.p. ANTOINE, M.O.V., good order, reliable	£14 10
lightweight MOTOSACOCHE, spray, runs well	£14 10
h.p. REX, specially good condition	£8 10
h.p. KERRY, spring forks	£10 10
win Magneto MOTO-REVE	£17 10
h.p. WOLF, spray, smart, h.-b. control	£12 10
h.p. Two REX, fine machine	£16 10
h.p. MINERVA, M.O.V., 26in. wheels	£15 10
x 2in. CONTINENTAL and CLIPPER Covers	12 6
x 2in. MICHELIN Heavy Tread Covers	22 6
x 2in. MICHELIN Extra Heavy WIRE	20/-
ew Sidecars	£4 19s. 6d. and 26 6s.
cond-haud Sidecars from	35/-

MOTOR BICYCLES FOR SALE.

4 h.p. Twin Sarolea, new last April, perfect condition, sacrifice, £6/10; twin Bosch magneto, as new, £3/10.—Colton Cycles, Misterton, Gainsborough.

TRIUMPH, 1910, free engine, P. and H. lamp and generator, Tribote horn, exhaust whistle, and usual spares, perfect running order; £37.—Kay, 49, Bridge St., Gainsborough.

TRIUMPH, magneto, 1907, perfect, engine as new, dismantled for examination, take 2 anywhere, accessories; trial; £20.—Bomford, Homeleigh, Coventry Rd., Yardley, Birmingham.

1909 Bradbury, just overhauled, new tyres, new spare belt, lamps, tools, adjustable pulley, exhaust whistle; bargain, £25, or nearest.—Gibbins, Canwell Garage, Sutton Coldfield.

BRADBURY, 1911, new, cash offers wanted; also 1910, 1911 fitments, including inerted levers, cylinder, tank, etc., new condition, £32/10, bargain.—Clayward and Bull, Stratford-on-Avon.

1911 Rover, free engine, Triumph clutch, Dunlop tyres, lamp, generator, and lamp complete kit, 2 months old, excellent condition; £45.—Matlocks, 63, Gladstone Rd., Sparkbrook, Birmingham.

BAT-J.A.P., 1910, 8 h.p., perfect order, used very little this year, speedometer, J.A.P. adjustable pulley, Whittle, grand, new machine; £35 for quick sale.—Particulars, Claude Truman, Elbury Rd., Nottingham.

TRIUMPH, June, 1910 free engine, engine completely overhauled at Triumph works recently, tank repainted, new Lyso belt, new tyre on rear wheel, and new horn, complete; £38.—Box 9,015, The Motor Cycle Offices, Coventry.

NORTHAMPTON.—Burgins.—2 1/2 h.p. Enfield, 1910, good condition, tyres perfect, lamp and horn, £18; brand new 1911 Motosacoche, 2 1/2 h.p., £30; new 1911 Douglas, £35; 1909 Motosacoche, accumulator, £7/10; 1911 3 1/2 h.p. 2-speed Hunner, new Kenophall, new Duo up belt, splendid condition, £38; the above astonishing bargains for cash only no offers, no exchanges, no approval.—St. Edmund Motor Co., Northampton.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

1910 Twin Moto-Reve, in first-class order; £18.—3a, Bridge St., Cambridge.

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B.S.A! B.S.A! B.S.A!—Early deliveries of all models of these celebrated machines; second-hand machines part payment.—A. F. Garnham and Co., sole agents, Ipswich.

3 1/2 h.p. 1908 Rex, magneto, new 1911 B. and B. carburettor, all bearings perfectly sound, tyres and belt nearly new, spring forks, variable pulley, carrier etc.; £17.—Write, B. Watson, 12, Park Terrace, Cambridge.

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Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

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2 1/2 h.p. Douglas, 1911, splendid condition, delivered last April, spare non-skid, inlet valves, springs, etc.; £32.—Box L4, 613, The Motor Cycle Offices, 20, Tudor St., E.C.

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RUUGE, 1912 free engine	"	£55 0
B.S.A., standard model	"	£50 0
B.S.A., free engine	"	£56 10
HUMBER, standard	"	£45 0
HUMBER, two-speed gear	"	£50 0
ZENITH, 3 1/2 h.p.	"	52 Gns
ZENITH, 6 h.p.	"	66 Gns
ZENITH, 8 h.p.	"	68 Gns
PREMIER, standard	"	£47 10
PREMIER, free engine	"	£54 10
PREMIER, two-speed gear	"	£59 0
BAT, 6 h.p.	"	£53 0
BAT, 7 1/2 h.p.	"	£60 0
F.N., 2 1/2 h.p., two-speed gear	"	45 Gns
F.N., 5 1/2 h.p.	"	60 Gns
HOBBART, 2 1/2 h.p.	"	£33 0
HOBBART, 3 1/2 h.p., twin	"	47 Gns
SINGER, 3 1/2 h.p., 1912	"	£48 15
SINGER, 3 1/2 h.p., free engine	"	£55 0
LINGOLN ELK, 3 h.p.	5% extra E.P.	£30 10
LINGOLN ELK, 3 1/2 h.p.	"	£34 0
DOUGLAS, all models	"	"
TRIUMPH, all models	"	"
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TRIUMPH, 1911, almost new, clutch model	£50 0
TRIUMPH, 1911, clutch model, as new	£48 0
ZENITH, 1911, soiled condition only	£48 0
REX, 1 h.p., T.T., twin, 1911 model, splendid order	£26 0
INDIAN, 5 h.p., late 1910, red, all accessories, bargain	£26 0
DOUGLAS, 2 1/2 h.p., 1910, fine order, all accessories	£28 0
MATCHLESS, 6 h.p., very low, T.T. model	£25 0
PREMIER, 3 1/2 h.p., 1910, twin, nice order, all accessories	£23 0
REX 3 1/2 h.p. 1910 good order	£24 0
LINGOLN ELK 1910 3 h.p. Magneto, Spring Forks	£15 0
AFNIK 1 1/2 h.p., running order	£5 0
TRIUMPH 1911 almost new, with accessories	£42 0
DOUGLAS 1911 Model D. all accessories	£23 0

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All have magneto, h.-b. control, Druid forks, toolbag, tools, and inflator.

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5-6 h.p. de Luxe, 1908, two-speed model	£28 0
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5-6 h.p., 1908, two-speed de Luxe, 1909 eng.	£32 0

N.S.U.'s. N.S.U.'s. N.S.U.'s.

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1910 6 h.p., M.O.V., two speeds	£33 0

OTHER MAKES. OTHER MAKES.

1911 Two speed Bradbury, fine	£37 0
1911 Lady's Hobart, Armstrong three speeds	£35 0
3½ h.p. L.M.C., 1910 model	£25 0
3 h.p. Singer, Bosch, V belt drive, B. & B.	£16 0
3 h.p. Quadrant, Bosch, B. & B., spr. forks	£16 0
3½ h.p. Quadrant, h.-b. control, spring forks	£16 0
2½ h.p. Humber, chain drive	£7 0
1½ h.p. Minerva, V belt	£4 10
1½ h.p. Minerva, Bosch magneto, Amac	£22 0

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All fitted with Magneto and Spring Forks.

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Duocar, Bosch magneto	£45 0

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Bowden Triple Handle-bar control levers	3/6
New Screwwinding Lathe, 4in. centres	£6 10
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Portland Sidecar, 26in. wheel	£3 15
Enfield Castor Wheel Sidecar	£5 0
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PITT.—1911 standard Triumph, fine condition; £39.

PITT.—1911 Motosacoche, 24h.p., in grand order; £27/10.

PITT.—Early delivery of Triumphs, Rudges, B.S.A., Alldays, and New Hudson; exchanges entertained; trial runs arranged.—Pitt and Sons, Pordingbridge.

3½ h.p. Rudge, 1911, 320 miles, perfect, tools, spares; offers.—Tuckey, 7, Market Place, Banbury.

1911 Free Engine Premier, splendid condition, all complete; £40.—Moore's Motors, Maidenhead.

TRIUMPH, 1908, excellent condition throughout; £28 or close offer.—Heybourn Motors, Maidenhead.

DOUGLAS, 1911, purchased May; any trial or examination allowed; £30.—No. 9,019, The Motor Cycle Offices, Coventry.

TRIUMPH, 1909, in perfect order, spares, including tyre, all accessories; £27.—Jackson, Ford Hill, Stow-on-the-Wold.

2½ h.p., fine gear; any trial; just spent £7; no faults; £22.—Box L5,036, The Motor Cycle Offices, 20, Tudor St., E.C.

1909 Chater-Lea-De Dion, 2 speeds, sidecar, Cowey, B. and B. lamp, horn; £23.—Mowbray, Clarence Rd., Stuy Stratford.

TRIUMPH, 1908, magnificent machine, tyres excellent, spares; reasonable offer.—Fair, Cheltenham Rd., Montpellier, Bristol.

TRIUMPH Motors, 1912.—Now booking orders for early delivery.—Sole agent for Salisbury, E. J. Longman, 97, Fisherton St.

MOTOSACOCHE, splendid condition, free engine, footrests, all accessories; 15 guineas.—K. Stewart, Clarence Barracks, Portsmouth.

4½ h.p. Twin Minerva, studded tyres, spare cover, tube, adjustable pulley, Garner whistle; guaranteed; £22.—Maidment, Flannel St., Abergavenny.

TORPEDO Motor Cycle, 24h.p., new August; cost 37 guineas, take 27 guineas; perfect condition, only run 500 miles.—Dutton, 69, Oxford St., Southampton.

8 h.p. Bat, 1911, spring frame, grey finish, Albion free engine, Lucas lamp and generator, mudshields; cost over £70, accept £48.—Darley Christ Church, Oxford.

1912 Hazlewood Motors, 3 speeds, free, from stock; 47 guineas; demonstrations. Rudge motors early deliveries; trade supplied.—Balfours, Motor Works, Banbury.

ENFIELD, 1910, 24h.p., lightweight, perfect condition; owner buying car; accept 26 guineas, or nearest offer.—Box L5,038, The Motor Cycle Offices, 20, Tudor St., E.C.

3½ h.p. Humber, 1911 model, 2-speed, foot control, free engine, hand starting, spring forks, footboards. Second-hand; bargain, £32.—S. C/o Rose and Co's Garage, Southsea.

3½ h.p. Premier, 1911, F.E., new August, only run 800 miles, perfect running order, horn, tools, spares; owner going abroad; 40 guineas; no offers.—Strickland, Brasenose, Oxford.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

WILTON Cycle Co., Victoria, S.W.

WILTON.—Clyno and Matchless S.W. agents; delivery from stock, and early 1912.

WILTON.—Bradbury, with 2-speed gear, sidecar, and accessories, quite new; £53.

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WILTON.—Exchanges and instalments arranged.

WILTON.—1910 V.S., 5h.p. twin, as new; only wants seeing; £27/10.

WILTON.—4-cyl. F.N., good order; £22.

WILTON.—1911 2½ h.p. F.N., 2-speed and free engine, as new, all accessories; £36.

WILTON.—Motosacoche, 14h.p., Palmer tyres, good order, accessories; £14.

WILTON Cycle Co., 110, Wilton Rd., Victoria, S.W. Phone: Westminster 5115.

FOR Bargains in second-hand motor cycles, write, The Ketco Motories, Snarnden, Kent.

MOTOR Cycles, 6, from £3; push bikes part payment.—Roberts, 49, Gap Rd., Wimbledon.

1½ h.p. Minerva, very reliable, good inner tubes, etc.; £3/19.—H., 34, Northside, Clapham.

2½ h.p. Zedel, 26 wheels, long bars; £4/15.—94, Burlington Rd., New Malden.

F.N., 4-cyl., h.b.c. magneto, good order; £16.—Symons, 62, Bridport Rd., Thornton Heath.

3½ h.p. Twin Peugeot, Bosch magneto, Truffault forks; £15.—Travers, 147, Victoria St., S.W.

TRIUMPH, late 1909, recently overhauled, very little used; £30.—9, Church Lane, Leytonstone.

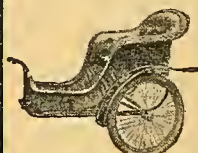
F.N. Motor Cycle, 4-cyl., 5-6h.p., very fast, good condition; £32.—Carter, Head St., Colchester.

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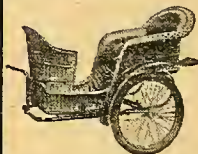
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Tubes, all sizes, guaranteed	9/6
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New Lamp and Generator, plated	12/6
Brand New 4 h.p. N.S.U. Engine and Bosch magneto	£11 11
New 1911 B. & B. Carburettors, h.-b. control 25/-	5/- allowed for old carburettor.

Longuemare, B. & B., F.N., and others from 5/- each.

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THE MOTOR CYCLE

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Subscription Rates: Home, 6s. 6d.; Canada, 8s. 8d.; Foreign, 1rs. per annum.

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ADDRESS: 20, TUDOR STREET, LONDON, E.C.

Proposed Abolition of the Cut-out.

THE proposed abolition of cut-outs is a matter which commands the serious consideration of both riders and makers of motor cycles, and, as a proof that the authorities intend to enquire into the matter thoroughly, we refer readers to the account of an examination of motor cycles by a Local Government Board official which took place last week. There is no cause for immediate alarm, as we understand owners and makers will not be called upon to make alterations at once to existing models. Special regulations will doubtless be issued before very long, and although we have no exact information, it is quite possible they will take the form of a definite area being specified for the final exhaust exits, varying according to the cubical contents of the engine. What we think should not be overlooked in connection with cut-outs is that, although in many instances they cause an engine to be excessively noisy, they are in some cases fitted to enable noise to be reduced, *i.e.*, the silencer is constructed to allow a fairly free passage for the gas, and a cut-out enables the area of the final exhaust exit to be very much reduced. Every motor cyclist knows that, with a cut-out of the kind referred to, he can render his engine so inaudible that the clicking of the valves alone can be heard. Had every rider used a cut-out with discretion, we do not believe there would have been any complaints, but it is the indiscriminate use of the cut-out by a certain section of the motor cycling community which has brought about the present enquiry.

There is only one possible excuse for driving with the cut-out permanently open, and that is when a comparatively low powered machine intended for solo

use is employed to haul a sidecar and passenger.

Another item that should be remembered is that the craving for greater power and speed has resulted in knowledge gained on the racing track being applied to roadster machines. Quick-acting cams, which allow a rapid release of the exhaust at very high temperature, cause much more noise than a slower action of the valves and a medium compression. Theoretically a big silencer should be most effective, but it has been proved that size alone does not reduce sound, and that, on the contrary, it has been known to increase it.

Although a really noisy motor cycle engine can be most objectionable even to the most enthusiastic motor cyclist, we do not consider that a reasonable amount of noise can be a legitimate reason for interference with the rights of motor cyclists, whilst other noises produced by road traffic are endured without complaint. Heavily-laden iron-tired vehicles, running on paved streets drawn by horses or propelled by motors, make a hideous noise both by night and day, but no one seems to agitate for the wheels of such vehicles to be rubber-tired, or for more silent mechanism.

In this case of silence and the use of cut-outs, a few irresponsible riders have attracted public criticism, and the generally well behaved motor cyclist has to thank them for their indiscreet conduct. In our opinion, it would meet the case even now if the authorities were to prosecute riders who made use of the cut-out in towns or in such circumstances as to cause annoyance or inconvenience to other users of the road. When the critical public have got their desideratum—a quiet exhaust—we expect the next complaint will be that quietness itself is dangerous, and that sufficient audible warning of approach is not given.

MUDGUARDING.

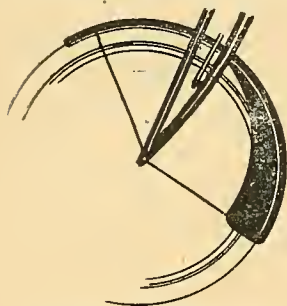
A STUDY OF THE VARIOUS TYPES OF MUDSHIELDS.

NOW is the season of rain and mud, when he who goes forth on a motor cycle needs to be well protected both as to himself and his machine. Consequently, a few notes on mudguarding, made after careful examination of motor cycles at the recent Olympia Show, may not be out of place. The writer does not pretend to have included the name of every firm who manufactures or exhibited neat mudguarding devices, but only to give his impressions of the various types of guards, and in some cases a few instances which he happened to notice while wandering around the Show.

Firstly, it is pleasing to be able to say that mudguarding as a whole has received more attention in connection with 1912 models than formerly. Side extensions or wings of some sort fitted to the front wheel have become almost standard, and many firms are fitting either side flaps to the rear guard or very broad rear guards which afford protection from the mud hurled from the belt and brake rims.

Weak Points of Design.

The subject is one which has not been studied as it deserves to be, for in many instances the front guard side flaps stop short behind the front forks,



A common form of mudguarding in which the forks and brake gear are left exposed. The flap should be extended past the fork.



A better type, employed by Chater Lea, Rex, P.M.C., Douglas, P. & M., A.S.L., Excelsior, and others.

leaving the mud to fly out at this point, and so foul the brake gear, and often the springs of the forks, and more especially the rider. In very exceptional cases was the front guard carried sufficiently far forward to prevent the mud flying forward and blowing back on to the rider. A simple rule which has been found very effective is to extend the guard so far forward that it would comfortably miss a wall should the machine be wheeled against one. With this type of guard it is advisable to have the front part easily detachable to facilitate tyre repairs.

Dispensing with the Magneto Shield.

One may notice with regret the tendency to leave the magneto (when placed in front of the down tube) unprotected. This is probably due to the modern mudproof magneto, but a good magneto shield on the lines of that on the Triumph machines saves a lot of cleaning, and what could be more annoying to the rider who likes to keep his machine spick-and-span than to have to grope about below his magneto and silencer to remove some pounds of semi-baked mud?

Several makers are now fitting footboards to their two and three-speed models, and these in themselves form some protection to the rider's legs, but why not go a little further and fit a light, easily detachable underscreen? This would protect the crank case and pulley, and if extended far enough rearwards would afford some protection to the belt. There seems to be no objection to an underpan, for it cannot slow the machine.

Here I must pause to say a good word for the Scott. This make has splendid front guards, with side flaps extending their full length. Further, it has large sloping side wings which protect the rider from mud thrown by the front wheel, it has quickly detachable sprung footboards, and, to the best of my knowledge, it is the only standard machine to be fitted with an undershield. Is not such a specification tempting to the all-weather rider?



This type of mudflap was used on the Scott machines as early as 1908, and has been standard ever since. It is also to be seen on a few other makes.

Protection for the Rear Wheel.

As I have already mentioned, rear wheel guarding has, on the whole, improved considerably, but sufficient notice has not yet been given to protecting the belt. The best instance of belt guarding was that on the Dot machine shown by the Service Co., and of which a rough sketch is shown herewith. It will be remembered that a somewhat similar guard was used on the T.T. Matchless. A guard extends well inside the belt rim for half its circumference right up to the crank case, below the bottom bracket, while at the bottom this is bent at right angles and extends partly round the engine pulley. This device should almost wholly protect the belt from mud and water, and so considerably lengthen its life and minimise slipping.

While on the subject of transmission guarding, I should like to say a few words about chain protection. The majority of manufacturers of chain-driven

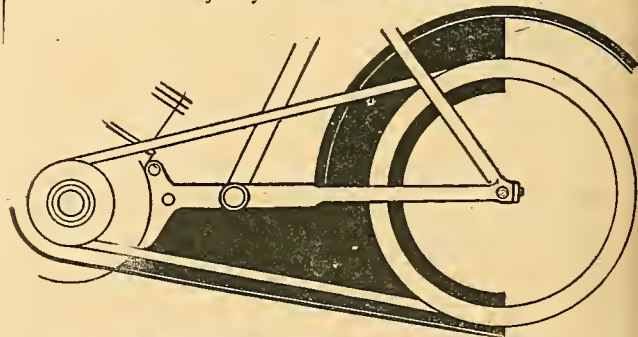
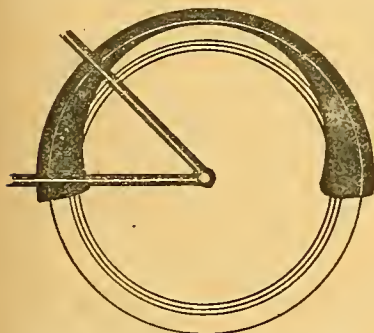


Diagram showing the very thorough mud protector fitted to the Dot.

motor cycles leave the rear chains entirely exposed, or protected only on the outside. (I can only think of one make which has its chains entirely enclosed.) Surely this is a mistake, for a large amount of mud is thrown from the wheel on the inside. To inefficient chain guarding I attribute the fact that chain drive is

Mudguarding.—

making rather slow progress on motor bicycles, for as long as mud and grit reach chains, so long will they stretch and wear the sprockets, necessitating constant adjustment. Cannot some of the brains employed in the motor cycle industry devise a means of enclosing chains and running them in oil, and still leave the rear wheel easily detachable? This has been achieved



Several firms fit flaps to prevent mud being scattered over the pedalling chain and chain stays. In the case of the Arno, flaps again occur at the rear of the guard, as illustrated.

by cycle firms, and I can see no good reason why it should not be carried out successfully on motor cycles. I can almost hear the reader retort, "Oh, but you can't get at the chains quickly"; but I would remind such a one that if the chains ran under these ideal conditions they would be quieter and more efficient, and there would be little likelihood of them requiring attention except at rare intervals. In fact, I doubt if, after the first adjustment which would take place in the works after test runs, the chains would need attention for several thousand miles. This argument is based on experience with chain-driven cars, which, though they use heavier chains, have also heavier strains imposed upon them.

Casings for Toolbags.

A not unimportant feature of the show was the improvement noticeable in the protection of toolbags. Zenith machines are all fitted with a toolbag and tube case at the side of the carrier, protected from mud by a large guard between them and the wheel. The A.J.S. machines carry a leather tool case sliding in a metal drawer at the rear of the carrier; and a few well-known firms, including the Rudge and Triumph, carry pannier toolbags protected on two



The E.L.I. mudshield, a popular and efficient guard for the front wheel.

sides and the ends by metal cases. These methods all prevent the bags from sagging and becoming unsightly, and tend to preserve the leather.

Screening the Engine and Parts.

One of the few real novelties in the Show was the Swan open-framed motor cycle, and this mount is certainly one of the best protected as regards its engine, magneto, and parts, as, with the exception of the cylinder, carburetter, and silencer, the whole power unit is encased.

At first sight one gains the impression of general inaccessibility, but this is not by any means the case, as the magneto and driving chains may be adjusted

from the outside with great ease, and by the removal of three bolts and the necessary connections the engine can be removed from the frame. Long footboards are fitted to the sheet steel side members, and are sloped upwards in front, thus protecting the rider to a considerable degree.

An interesting example of mudguarding was exhibited on the XL'All stand, and was produced by the Moturner Co. The front mudguard extends a very long way forward, and has side flaps almost down to the ground, gradually widening towards the bottom, also large metal leg shields, bent forward at their outer edges so as to form wind scoops, extend from the tank to the front of a pair of long sprung wooden footboards. The rear wheel has deep side flaps, the top portions of which are formed with deep grooves at their lower edges, which grooves lead to a kind of spout at each end to deflect water clear of the belt.

Detachable Mudguarding Devices.

Of course, apart from the special devices used on standard machines, there is a fair selection of these excellent accessories, including the Miller mudshield, Cameron's legshields, and Bluemel's detachable flaps for fitting to existing front mudguards.

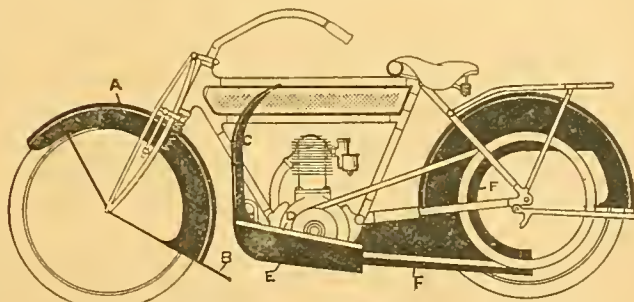


Diagram showing the writer's idea of a properly-guarded belt-driven motor cycle for all-weather riding.

A. Front guard with side flaps (detachable from forks). B. Broad mudflap at bottom. C. Leg shields with side extensions. D. Footboards. E. Under-screen. F. Rear wheel and belt guard (detachable from rear stays).

The E.L.I. mudshield, introduced by Mr. Eli Clarke, forms a most efficient front wheel guard, enclosing as it does a full half of the wheel, and in addition having large flaps at right angles to the wheel to prevent splash. These guards are light and easy to attach to almost any machine.

The four-cylinder T.M.C. is the only machine having such a large guard as a standard fitment.

The large domed guard covering the belt and brake rims on the sidecar model Premiers should effectually keep the mud from the rider and the rain from the belt.

In conclusion, I would like to draw attention to the appended sketch showing my idea of a properly mudguarding machine. (It will be noted that many of the fittings are now used by various firms, while others are carried rather further.) I am quite prepared to admit that its defects are weight and unsightliness, but the genuine "mud-plugger" would be only too glad to put up with these disadvantages for the considerations of extra comfort and cleanliness. I should imagine that it is just the thing for those motor cyclists who contemplate competing in the long-distance winter runs.

H.D.T.



Quickly Detachable Rear Wheels.

I wonder how many visitors to the Show noticed the Puch idea for removing the back wheel. On the near side the rear forks and chain stays were cut in half and screwed together by large nuts; on the off side a single large nut freed the wheel. The idea is worthy of imitation on some machines, where a complex hub mechanism renders the simple "two-nut" or T.T. style of rear wheel impracticable.

There is a marked and praiseworthy tendency to secure complete accessibility of the rear wheel, and as long as we remain content with light driving wheel tyre covers such provision is necessary. During 1911 I was compelled to fit new covers or tubes by the roadside on far too many occasions.

Counter-shaft Drive.

One machine at Olympia I examined with more than usual interest. It was the Douglas single-gear roadster, with combined belt and chain drive. The makers discovered that on their two-speeded model the belt lasted nearly 4,000 miles, as against half that distance on the direct driven pattern. The reason was that the two-speed models effect their ratio reduction by chain and employ a large counter-shaft pulley. Consequently Mr. Douglas has elected to give his single-gear models the benefit of this large pulley during 1912, and the single-gear models are now fitted with a ball-bearing counter-shaft, chain driven off the engine, and driving the back wheel by belt off a pulley of large diameter.

Of course, the belt drive of a $2\frac{3}{4}$ h.p. engine is handicapped by the small diameter pulley required for a $5\frac{1}{2}$ or 6 to 1 gear, and the case is not on all fours with a $3\frac{1}{2}$ h.p. engine, which may do most of its work on a 4 to 1 gear; but it is obvious that the belts of the $3\frac{1}{2}$ h.p. machines would benefit in due proportion from a similar plan. In my opinion the friction of a ball-bearing counter-shaft is negligible.

After twelve months' experience with the combined chain and belt drive on the machines with counter-shaft gears, it is possible that the engine pulley may be replaced by a short chain, running inside an aluminium case, and driving a counter-shaft carrying a large (adjustable) belt pulley.

Weak Rear Carriers.

I was sorry to notice at the Show that so many machines were fitted with rear carriers possessing no real support at their front ends. Many whose acquaintance with the motor cycle industry is comparatively recent appear to imagine that a couple of stays running down to the rear forks or chain-stays on either side take the real burden of the carrier, and that a small bolt or rivet fastening the carrier to the mudguard at its front end is the only auxiliary required.

I have owned three machines with carriers of this type during 1911, and every one of them has given way; in two cases the mudguard broke as well. My experience of carriers is that the real strains act not downward, as one might imagine, but backward. The main energy of the carrier and its load is apparently

devoted to tumbling down astern behind the back wheel, and small bolts and rivets attaching it to the mudguard are a certain source of trouble.

Let me guard myself from the imputation of "flapper-carrying"; my carrier has never supported live weights—I use it for genuine luggage of a light order. It is not too late for the errant firms to run the side members of the carriers right through to the saddle tube tightening bolt, or other strong support, before the period of big deliveries begins.

Bowden Wire Adjustments.

Many firms who make an otherwise almost perfect machine neglect to provide adequate adjustment for the Bowden control wires. The exhaust valve lifter wire is in most cases fitted with an adjuster, consisting of a threaded bracket eye, a threaded barrel, and a lock-nut. This device too often requires a couple of special thin spanners (which seldom figure in the kit); it is not long enough to take up all the slack which develops before the wire breaks, and when the adjusting barrel is screwed far out of the holding eye it wobbles badly, so that the threads presently strip. A strong device with greater range is needed.

The carburetter wires on some machines are destitute of any adjustment at all. My personal feeling is that all these flexible wires should have efficient adjusters. It is a fairly simple job to remove the inner stranded wire, melt off the nipple, cut the wire, and re-solder; but these simple jobs are frequently scamped by the average mechanic or muddled by the average semi-mechanical amateur. A flexible wire, properly fitted, affords ideal and reliable control, and the manufacturers should safeguard themselves from the eccentricities of the bad mechanic (amateur or professional) by providing solid adjustments.



Miss Leda Leslie, of Akron, Ohio, who is an enthusiastic rider of a 4 h.p. Harley-Davidson motor cycle. Miss Leslie, we are told, has owned two single-cylinder 4 h.p. models, and is contemplating purchasing a $6\frac{1}{2}$ h.p. twin of the same make.

What the Press
says about the
Trusty

TRIUMPH

a few passages chosen
at random.

It is gratifying to note the progress of any enterprise into which great foresight and perseverance have been put. Therefore the motor cyclist will experience a feeling of genuine pleasure when he pauses at the stand of the Triumph Cycle Co., Ltd., of Coventry. This company, in the pioneer days of the motor cycle, were farseeing enough to realise the vast future that there was in this machine. Having this faith in the future they allowed nothing to daunt them. One difficulty after another was overcome. Gradually, by dint of ceaseless effort, they built up the wonderfully efficient machine which is to be seen on their stand to-day.

Daily Mail, Nov. 21st, 1911.

Thanks to the pertinacity and enthusiasm of a few firms with a personal belief in the future of the motor bicycle, the new line was not entirely dropped, as it looked very like being, to the foreigner, and in this matter one must not forget the debt of gratitude which the industry owes to the Triumph Company, which, almost alone amongst the leaders of the cycle trade, stuck grimly to its task, and gave the lead which has put England clearly at the head of the motor cycle movement.

Morning Leader, Nov. 23rd, 1911.

The Triumph Motor Bicycle is acknowledged to be without a superior, whether of British or of foreign manufacture, and the company's stand will be a centre of attraction during the week.

Glasgow Herald, Nov. 20th, 1911.

The Triumph's long record of success, and widespread popularity have secured for it a very prominent position as a standard type, which has served as a model for countless imitators.

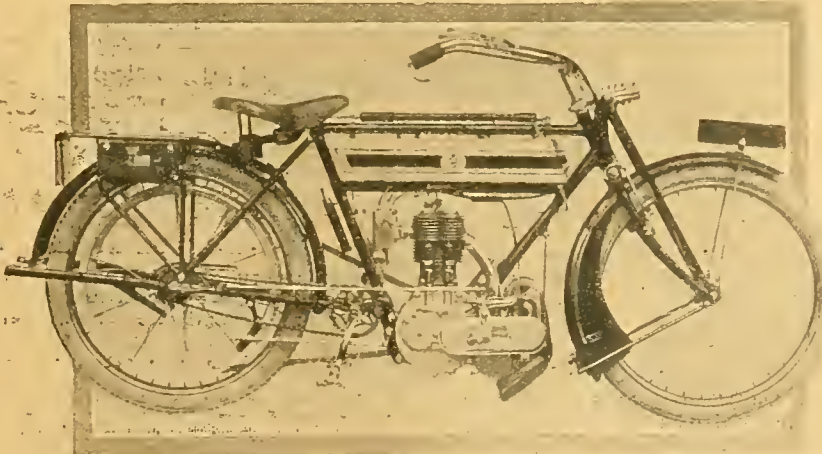
Daily Chronicle, Nov., 20th 1911.

The pioneers of the motor cycle movement are determined to keep the trusty Triumph in the very forefront. With everybody connected with the concern enthusiastic riders, it is natural that the famous machine should retain its place as the most practical of motor bicycles. Jealous of their great reputation—a reputation which has been an asset to the industry as a whole—no detail is adopted unless it is proved beyond doubt that the utility of the machine is enhanced without detracting the slightest from its reliability.

Glasgow Citizen, Nov. 22nd, 1911.

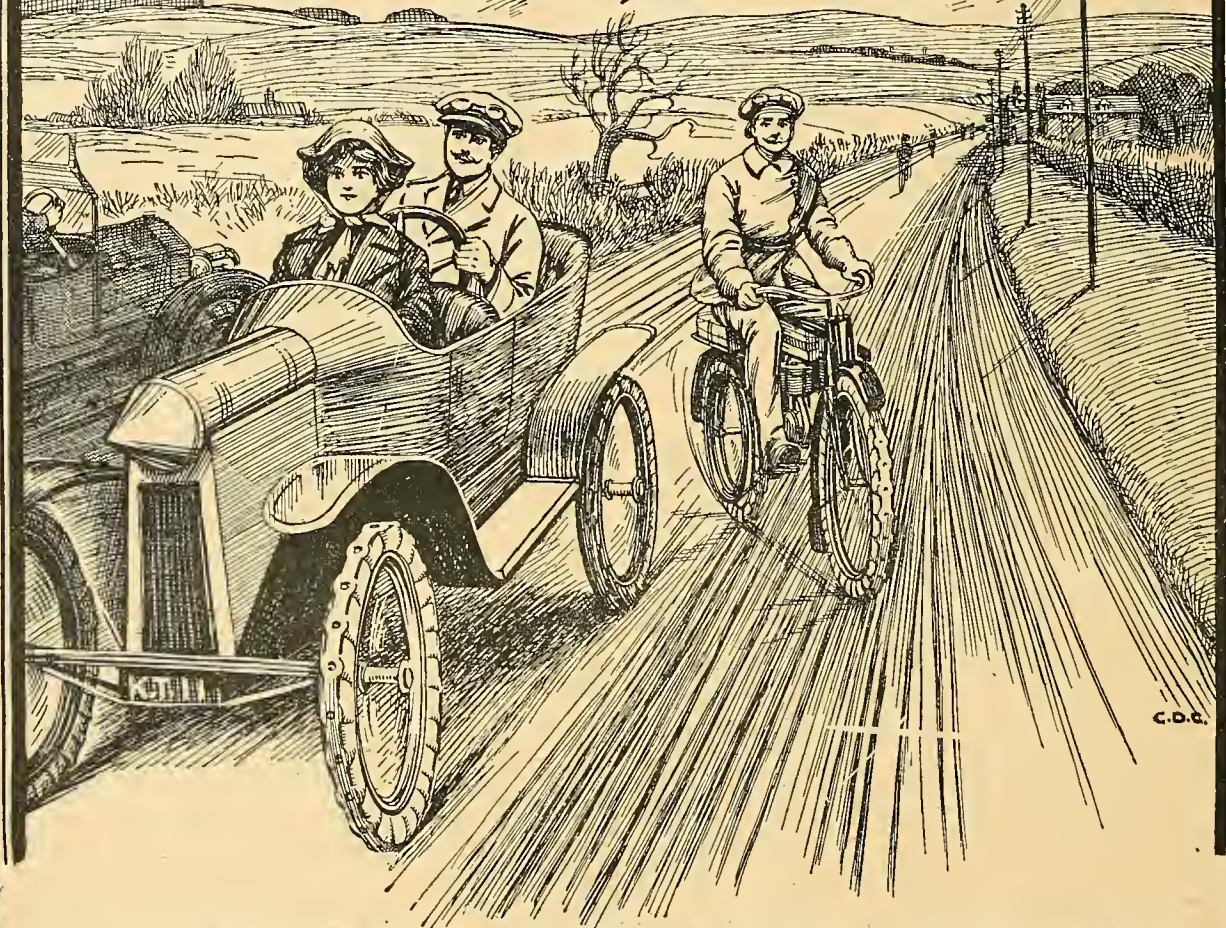
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Motor Cycle Competitions in all Parts.



Eric Tyler (T.T. Triumph).



H. Kiddle (2 h.p. Humber).

LAST week's mail brought us news of a number of motor cycle competitions in different parts of the world, the results of which are appended.

Australian Record Broken.

The Victorian M.C.C. held a fifty miles road race near Melbourne on the 1st October, when some very fast speeds were recorded. The winner proved to be Eric Tyler, riding a T.T. Triumph, who covered the distance in record time (57m. 45s.)

Racing on the Sands in N.Z.

Racing on the sea beach was commenced in New Zealand. In a five miles motor cycle handicap on Brighton Beach, the winner proved to be H. Kiddle, who, riding a 2 h.p. Humber lightweight, averaged a speed of 35 m.p.h. on heavy sand.

South African Hill-climb

The Rand Motor Cycle Club held a hill-climb on Mountain View, near Johannesburg, on October 22nd last. Three classes



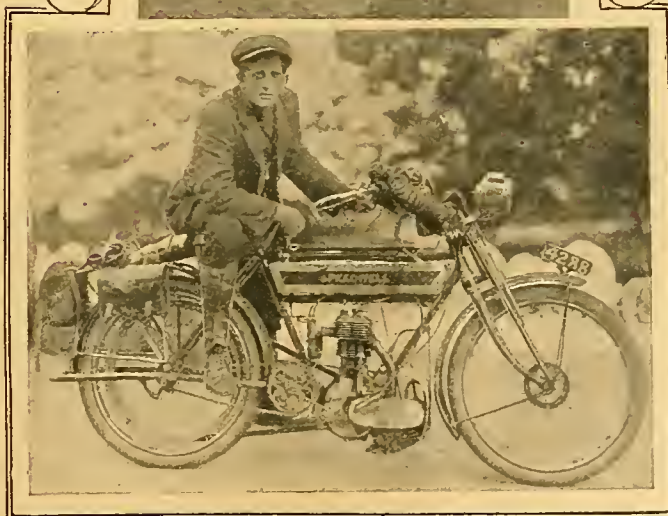
were included in the programme, the results of which were: All Classes of Motor Cycles—First on formula, P. Flook (2 h.p. Humber); fastest time, O. Metzger (Bradbury), 65 $\frac{1}{5}$ s. Standard Class—First on formula, P. Flook (2 h.p. Humber). Racing Class—First on formula and fastest time (61 $\frac{1}{5}$ s.), Van der Merwe (Triumph).

Hill-climb in Natal.

The Natal M.C.C. held a hill-climbing contest on the same day on Jacob's Ladder at South Coast Junction. F. W. Brook (3 $\frac{1}{2}$ h.p. Triumph) won on formula, W. Mail (3 $\frac{1}{2}$ h.p. Ariel) accomplishing fastest time.

Sydney to Melbourne.

A record ride between the above towns has been made by J. A. Farr, riding a 3 $\frac{1}{2}$ h.p. Kerry-Abingdon, who covered the distance in 48 hours. He was delayed for seven hours by lamp failure near Wangaratta and for four hours at railway gates trying to find someone who could open them.



P. Flook (2 h.p. Humber) in the Rand M.C.C. Hill-climb.
J. A. Farr and his 3 $\frac{1}{2}$ h.p. Kerry-Abingdon.

Two's Company

By B. H. Davies

Among the Passenger Models at the Show

NOT since the autumn of 1904 has an English show presented such a wealth of motor cycle passenger vehicles. Over forty different variably-g geared tricars were staged at the Agricultural Hall in 1904, and most of them lost their makers a deal of money. Naturally, compared with modern productions, they were somewhat crude in design, destitute of proper springing, expensive to buy, and costly to run; even their engines were in most instances troublesome, chiefly due to the whimsies of their ignition. The 1911 Show contained a far larger assortment of staunch, cheap, and reliable machines, most of which should prove exceedingly satisfactory in use.

The passenger exhibits fall into three main classes, viz.:

1. Sidecars, either permanently attached to motor bicycles or capable of attachment and detachment.
2. Three-wheeled runabouts with two wheels astern.
3. Three-wheeled runabouts with one wheel astern.

It is impossible for me to deal with each individual exhibit in detail, and my aim will rather be to assist comparative novices to make a wise selection.

Accessibility of the Rear Wheel.

The main trouble with the single driving wheel astern type (of which I can claim a large and varied

experience) is likely to occur with the back tyre. A 5 h.p. or 8 h.p. machine of this type requires an immensely strong driving wheel and tyre. One common defect may be tested by eye—the accessibility of the wheel. Punctures in this wheel are inevitable, and are likely to be numerous. It is vital to happy touring that the tube of this wheel shall be instantaneously accessible to both *repair* and *replacement*. In the years when I garnered most of my experience with this type of passenger mount, patches such as the Holdtite and Patchquick had not been invented, and a hand-applied patch in those days promptly curled or melted off. To-day a patch will stand on such wheel, but often the tube will be torn or ripped or burst when a nail enters during a sprint, and if it is a two-hour job to get a new tube in place that machine should be black-listed.

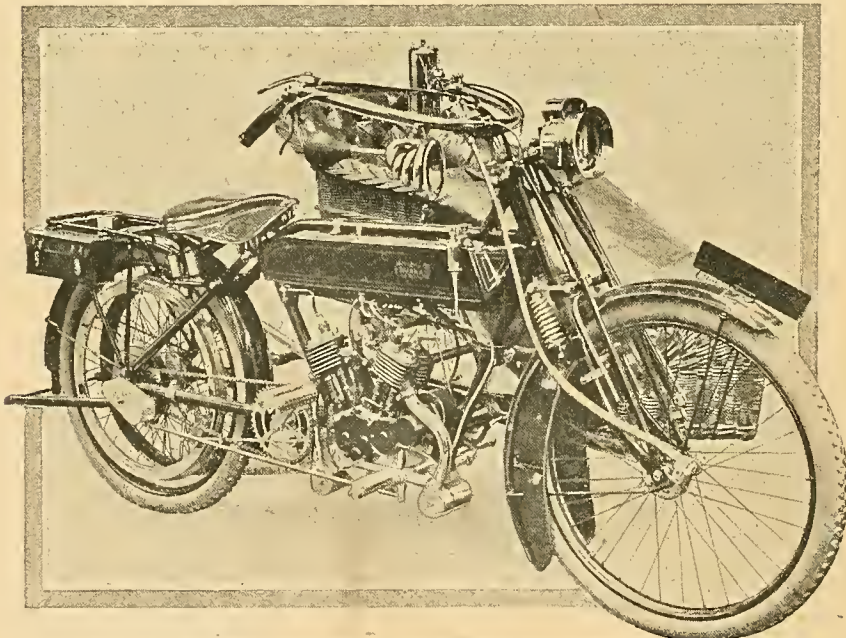
The second point requires a road test with a deflated tyre. Will the machine steer on a flat driving tyre? My experience is that very few single rear drivers will answer the helm when the back tyre deflates suddenly, if the rear wheel is sprung.

In 1906 I bought a tri-car of this type which is still running. In its five years' work it has upset or left the road on more than one occasion, simply through derangement of the steering due to a deflated back tyre. Another similar machine with longer and flatter springs can be kept on the road by determined effort and a pair of strong wrists.

I wonder if any maker understands why a deflated back tyre renders this type of mount so hard to steer, and is able to counteract it? If so, let him publish his conclusions. I have asked many makers to give me a demonstration, and so far nobody has accepted my challenge. Were I buying another machine of this type, I should insist on a trial run with an ancient deflated cover on the driving wheel.

Rocking Propensities of Fore-carriages.

Thirdly, it is well to rock the fore-carriage violently with one's hand as the machine lies at rest. I remember a maker who brought out a tri-car of this type in 1906, and he invited me to try it with the remark, "It's not like motor cycling; it's more like sailing." And he was perfectly right; the side sway was enough to make me seasick. Several machines at Olympia were capable



The new twin-cylinder Hobart and sidecar. This machine has a Millennium two-speed hub gear the operating mechanism of which is encased.

Two's Company.—

of being rocked considerably. Those machines which have amply proved their worth in long distance competitions are the machines one is safest with.

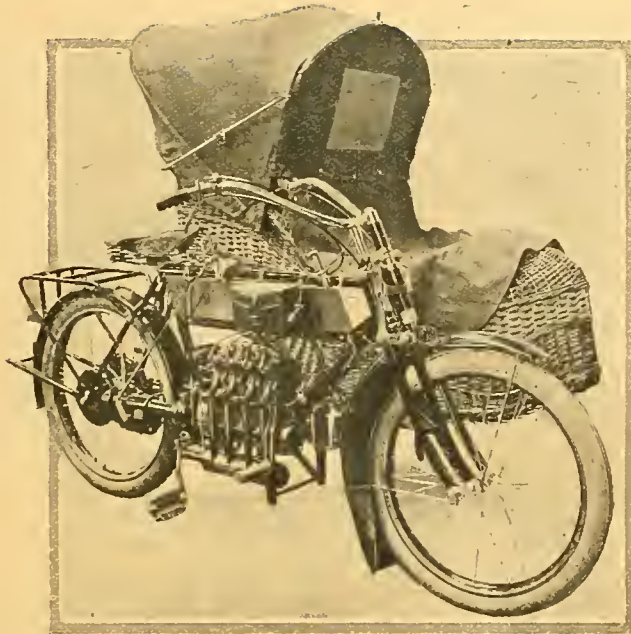
One make of machine I saw had a rear spindle nearly two feet in length threaded through a hub barely eight inches across; at one extremity of this lengthy spindle a chain wheel was mounted, at the other a brake drum. I imagine the strain on its bearings would be considerable.

Turning to the two-wheel astern type, there are points to be watched here. A long wheelbase is desirable if upsets round corners and on steep cambers are to be avoided. Moreover, the weight must be concentrated well inside the wheelbase. Otherwise the riding sensation will be like that of the obsolete cobby De Dion tricycles. These had passenger, tanks, and engine hung on top of the back axle, and away out in front bounced a lively little steering wheel, with scarcely an ounce of weight to keep it down. Only by leaning on the handle-bar could such design be steered at all on rough roads, and the constant vibration on the best of surfaces was exceedingly trying. Such an outfit might almost tip over backwards when ascending a gradient like the Trough of Sutton Bank; and I noticed one or two outfits conspicuous for this fault at Olympia.

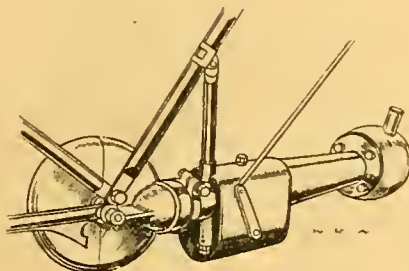
They need a lot of weight forward, and all the load should fall inside the wheelbase, while the seats should be very low, to keep the centre of gravity near the ground. A high machine with a narrow track spells danger, more especially at corners.

The Sidecar Pre-eminent.

Turning to sidecars, we saw a much more uniform and well-developed exhibit. The sidecar boom is undoubtedly due to the provision of so many reliable variable gears. I shall not deal



Two-speed four-cylinder F.N. and sidecar, fitted with hood and storm apron.



The two-speed gear on the 1912 four-cylinder F.N. is hung around the propeller-shaft casing as shown.

with the vexed question of the right type of motor bicycle for hauling a sidecar. Suffice it to say that the expert or the potterer in a level district may rest content with a single-gear $3\frac{1}{2}$ h.p. outfit, with or without free engine.

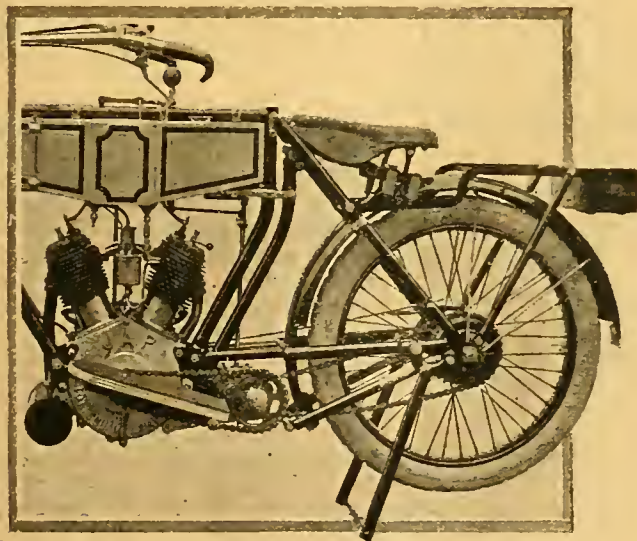
The man who is not a born tinkerer, whether he lives in stiff country or an easy region, requires a change-speeder. The smaller the engine, the more speeds it should have. My friends who ride $3\frac{1}{2}$ h.p. two-speeded passenger outfits all say they yearn for an intermediate gear; the long grinds on bottom

gear up slopes that are too steep for the top gear are their *bête noire*.

The tourist who wishes to go where the mountains and the scenery are requires a powerful twin-cylinder multi-speeder. Sidecars are becoming magnificent. I heard ladies exclaim at the comfortable torpedo bodies, with scuttle dash, wind screen, side doors, and springs and shackles at every point of attachment. Personally, I prefer a long, lithe wicker torpedo with a waterproof apron to the boxed-in type; although I admit the comfort of the former type. I should funk an accident with passenger practically fastened in. It is startling to see a sidecar labelled £20, but it seemed to find buyers galore. At any rate, it was high time that the short, squat, unsprung, low-backed basket sidecar died; it used to jerk one's inside into a mash, and print its woven pattern on one's anatomy.

Quickly Detachable Joints.

Mechanically, the improvements are no less evident. The attaching joints are excellently designed for quick work, and proof against involuntary detachment. In the best makes the axles are made from steel stampings, and my readers are warned



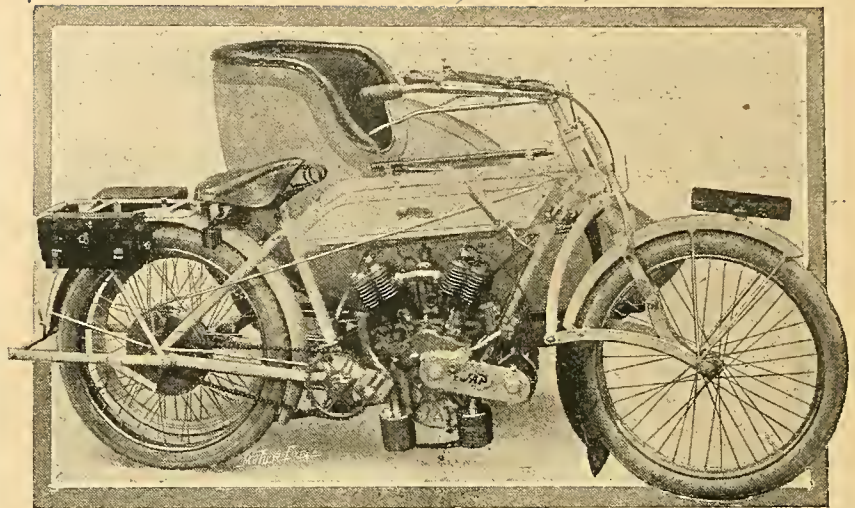
8 h.p. Bat power plant, showing chain transmission and counter-shaft two-speed gear box.

Two's Company.—

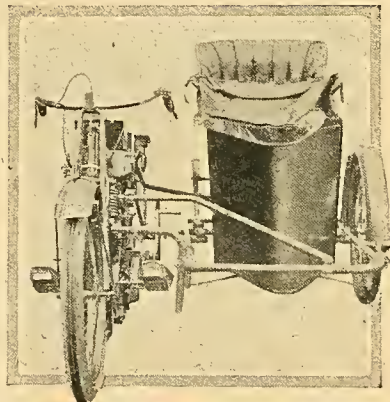
against the jerry-built patterns. Stands are provided, springs of correct design and luxurious insulation are fitted at every point of suspension, luggage grids and petrol can carriers have been neatly incorporated, and so on. 1912 will be a bigger sidecar year than 1911, and that is saying a good deal. The passenger demand will cancel the reductions made from the 5 h.p. and $3\frac{1}{2}$ h.p. market by the growing popularity of the medium weights, and the sidecar demand will keep the variable gear manufacturers truly busy until the day comes when every motor bicycle, for whatever purpose it is used, carries a variable gear of some kind. Numerous quadricycles of more taking design than the average three-wheeler were debarred from exhibition by the terms made between the owners of Olympia and the promoters of the Show, but I hope to see them included another year. Of course, there must be a weight limit, otherwise we should have big cars masquerading as "light four-wheelers."

Overloading a $3\frac{1}{2}$ h.p.

In connection with the sidecar demand, I think I need only utter one word of warning. An impulsive acquaintance of mine met me at a sidecar stand, and I sympathetically studied his beaming face as he placed a detailed order for an up-to-date coach-built sidecar. It was to have a



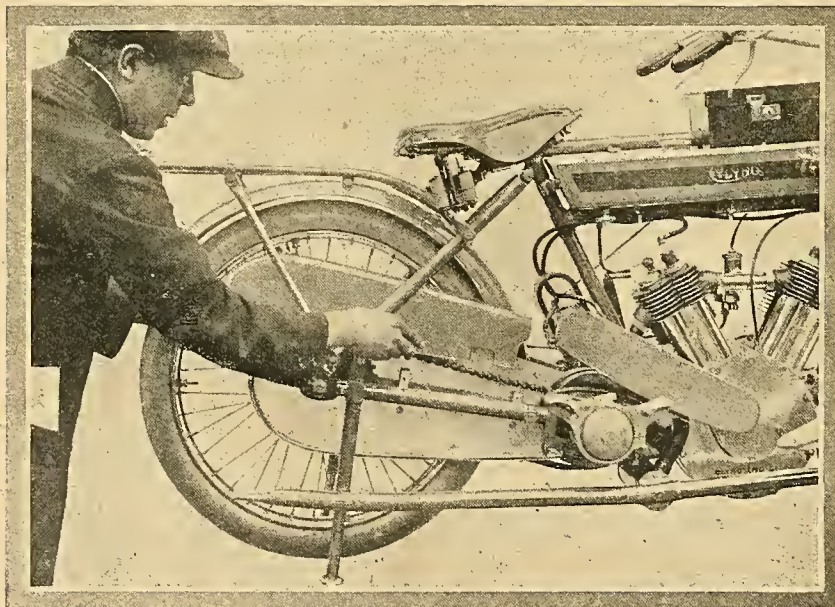
The new twin-cylinder V.S.-Jap, with Dunkley sidecar.



Front view of the Clyno and sidecar, showing the "Dreadnought" shaped front of the sidecar.

torpedo wooden body with side door, glass wind screen, Cape cart hood, baggage grid, well to hold four gallons of petrol, pockets, cushions, mats galore, and a bracket for a huge F.R.S. head light—a most lordly specification, methought.

When all the details had been booked by the gratified exhibitor, we linked arms, and wandered away. It occurred to me to ask what machine was to have the privilege of pulling this lordly limousine on one wheel, and he began to expatiate on the beauties of a well-known $3\frac{1}{2}$ h.p. model with two-speed gear. I fully agreed with his panegyric on that very first-rate motor bicycle, but suggested that he might as well ask a lady's park hack to drag a pan-technicon van. These heavy sidecars should not be unequally yoked with $3\frac{1}{2}$ h.p. tourist cycles; they are meant for 8 h.p. twins and similar leviathans. When a rider reflects on the weight of the wooden body, and the resistance of screen and hood to the air, not to speak of the petrol and luggage, it would take him all his time to coax his outfit up Hindhead in the rain. In connection with the $3\frac{1}{2}$ h.p. machine he has ordered, he would enjoy a far pleasanter season with a light canoe body of wicker or cane, destitute of more refined protection against bad weather than can be provided by a good roll-up storm apron. It should be remembered that wind resistance is a far more serious item with a sidecar than with a solo machine. Anyhow, some lucky girls are going to have a good time next year.



Method of removing the detachable chain cases on the 1912 model two-speed Clyno. Observe the exhaust pipe extending to rear of machine.



Letters To the Editor

The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tufel Street, E.C., and should be accompanied by the writer's full name and address.

Road Dangers at Night.

[6102].—I notice that another motorist, a taxicab driver, has been killed near Nottingham, by running into cattle driven on the road after dark. The jury added a rider that cattle should not be driven on the road after dark without warning lamps being carried by the drovers. When are we going to get proper protection for road users after dark? This was agitated for a few years ago by the Coventry and Warwickshire Motor Club in the form of a petition to the Warwickshire County Council.

ERIC W. WALFORD.

Silence and Silencers.

[6103].—We have read with considerable interest the correspondence and articles which have appeared in recent issues on the question of silencers, and we quite endorse your contention that a perfectly efficient silencer will not only cause no back pressure, but will actually have an opposite effect, and will assist in the removal of the used gas from the cylinder. This fact was demonstrated during these important silencer trials conducted by the Automobile Club de France, at which our "Clair" silencer gained the highest award, the gold medal. It was stated that the "Clair" silencer tends to create a vacuum.

Your remark regarding the continuous escape of the gas being desirable is also true, and can easily be demonstrated by holding one's hand near the outlet of our silencer.

On the subject of long exhaust pipes we might mention that we have recently fitted several of our type 4b silencers to 7-9 h.p. J.A.P. engines in various frames, the exhaust pipe being carried to the rear of the machine and the silencer attached to the end. The results obtained have really been excellent.

J. C. LYELL AND CO., LTD.

The Wear of Big-end Bearings.

[6104].—I saw a twin-cylinder engine of 8 h.p. in the big end of which a ball had burst whilst running. It smashed up and ground to pieces five or six other balls in the race, smashed up all to pieces its outer and inner races, damaged the races and balls of the other connecting rod, broke several pieces off the bottom of the piston, through allowing it to come down too far and hit top of crank case, and so put out of action a brand new engine. Has any other reader had a similar experience? It seems likely that when one or two balls at the top of the race have to take up the full force of the explosion, if one does happen to break, it is going to play havoc, and it cannot be replaced locally in the same way as a gunmetal bush.

G.A.P.

[6105].—I quite agree with Mr. J. H. Sinclair [6073] as to the good wearing properties of hardened steel to hardened steel, with any oil between. I once knew an old high machine with ordinary front wheel bearings. As the machine got out of date, not having ball bearings, it was used as a letting-out back, and when last I saw it the bearings were as rigid as when new. There was no "take up," whereas during that time gun-metal bearings were very badly.

Another point as to oiling bearings in a modern motor cycle. I think this could be easily got over by the feed-pipe from the oil pump being placed behind the cylinder, instead of in front, so that the oil is squirted directly on to that part meeting the rapidly rising crank pin.

W. H. ROWE.

Lamps and Winter Riding.

[6106].—In your issue of November 16th, I notice a letter from Mr. Francis C. Turner [6045] dealing with the question of lamps. His suggestion of a small handful of cotton waste on the carbide for the purpose of obtaining a steady light is excellent, but I feel that a word of warning should be given as to his second suggestion. He advises the addition of two ounces of peroxide of hydrogen to one quart of soft water as a liquid for the generator. Peroxide of hydrogen almost invariably contains acid, which would undoubtedly have a very bad effect upon the metal of the generator. The light given off would, in all probability, be improved, but the life of the generator would be considerably shortened.

HAROLD BRODRICK.

Adjustable Tappet Rods.

[6107].—I send a sketch of an adjustable tappet. I have often wondered why this fitting is not more universal, particularly in the case of racing machines. Several times I have read in the account of an attempt on record that the competitor was forced to retire owing to his valve lengthening. This means either fitting a new valve, or a job which takes some time to manage, and which is especially awkward with a very hot engine.

The suggested adjustable tappet dispenses with this, as it can be adjusted in less than two minutes. The sketch is practically self-explanatory. A is the stem of the tappet. On the first inch or so of this a thread is cut, and a milled lock nut B is screwed on. The tappet head C is drilled through to within about $\frac{1}{16}$ in. of the top, and is tapped to fit the thread on the tappet A, and locked by B. Any adjustment needed is made by simply slacking the lock nut B, and by screwing the head C up or down as may be required.

D.K.

[Various forms of adjustment for the tappet rods have been fitted by different makers for some years. No firm has so far used a locking device which does not require the use of tools, and we doubt if a finger tight lock nut would remain secure for long.—Ed.]

Overheating.

[6108].—With regard to letter No. 6042 in *The Motor Cycle* of 9th ult., re incorrect mixtures, R.R. states that with an open exhaust he saw blue flames issuing from the engine with a certain setting of the air lever of the carburetter. I have a $1\frac{1}{2}$ h.p. lightweight F.N. to which I fitted a cut-out close up to the top of the exhaust pipe, and which I use for the main purpose of watching for this blue flame. My experience has been that when tuning up this machine at night, the machine is doing its best when a long blue flame is seen with the cut-out open, more extra air turning the flame to yellow and diminishing the speed, whilst opening up the throttle full without giving more air gave a brick-red flame. I have, therefore, worked on the theory that this blue flame was a sign of complete practical combustion, for I fail to see how with an engine running at 2,500 revolutions per minute or more, you could possibly

expect each charge to have completely burnt itself out in the short space of time before the exhaust valve opens.

How far my practice has been successful may be judged when I say that in the hottest week of the summer I rode this machine from Maldon, Essex, to Torquay with only once giving pedal assistance at the end of a long hill at Chideock, just before getting into Devonshire, and never once stopping through overheating. I should be glad to know if I am wrong in working on this theory; if so, what should be seen with an open cut-out at night that would give better results from a small machine such as mine.

H. L. MITCHELL.

Proposed Abolition of Cut-outs.

[6109].—I have been following up the correspondence in your paper regarding silencers and cut-outs, and notice in a recent issue that cut-outs are very likely to be prohibited by the L.G.B.

Is this not a very mean and jealous step to take? Let us consider other road traffic; for instance, the lumbering motor lorries with huge iron wheels—the very thought of them with their awful noise makes one shudder.

No, jealous people do not consider this an annoyance. I live in a main road with nothing but motor traffic passing by from morn till night, and whilst in bed my head is often shaken violently on the pillow by the vibrations caused by these vehicles of torture.

How different it is to hear the pop-pop of the motor cycle.

When the Local Government Board has put down noise made by heavier traffic, then, and not till then, will it be correct in interfering with the smaller traffic, such as motor cycles.

ARTHUR R. CHOLDCROFT.

[6110].—With reference to the above, I think that such a measure instead of having a good effect would have only a bad one. Will not the great majority of riders simply drill out their silencers if no cut-outs are fitted, and make their machines more noisy than ever? I do not see how a small silencer can be made really quiet without causing a certain amount of back pressure. Also I consider it much safer to drive with the cut-out open in narrow twisty lanes. At the present time there are a number of really quiet machines, but if cut-outs are abolished, I am afraid that they will not remain so. My own machine is a 6 h.p. Matchless which is extraordinarily quiet; there is very little back pressure, but all the same, I like to use the cut-out in the open country and when I come to a bad hill. I never use the cut-out in towns, but outside the engine is bound to keep cooler and to run better with it open. With a cut-out one does not mind a little back pressure, and can have a really quiet machine. No, I consider that what is wanted is not the wholesale condemnation of cut-outs, but their use in the right place.

E. B. HALL.

Single-cylinder Machines and Sidecars.

[6111].—I was very much interested in "H.P.B.'s" letter [No. 6055]. It practically amounts to a challenge to any owners of $3\frac{1}{2}$ h.p. machines and sidecars to climb the hill from Dartmeet, or rather to go from Tavistock to Ashburton. From Ashburton to Tavistock is perhaps the stiffer journey of the two, but let the other be done first.

Should the challenge be accepted, I hope notice thereof will be given in *The Motor Cycle*. I think that motor cyclists who live in South Devon would like to witness the attempt. I use the word "attempt," because local riders, who own only $3\frac{1}{2}$ h.p. machines, rather pride themselves on climbing these hills *solo*.

I am not sure that the Six Days' Trials could not be held in Devonshire, as I think that local riders could probably pick out several very "useful" hills indeed. With a little encouragement I think they would try. T1111.

* [6112].—I should be pleased if you would permit me to have a say in the single-cylinder sidecar machine question. I am quite sure that with modern motors it is more a question of the abilities of the driver. I know lots of single-cylinder machines that are taking sidecars about the hilly Peak or Derbyshire district—without any l.p.a. too.

Mr. Gibson is quite right with his claims for the Bradbury, as I know a gentleman who has done thousands of miles this year, mostly in Derbyshire, with a single-

geared Bradbury and sidecar. I know he can take all the main road hills—including the famous Mam Tor—without any trouble or assistance. A suitable gear is one of the main things, and a great many riders over-gear, making the risk of overheating much greater than by dropping the gear another point or two.

Writing of gears, why do the manufacturers of two-speed gears make such a big drop from the high to the low gear? Is it to allow for friction? The P. and M. is one of the best gears I know, but the big drop in gear ratio makes the machine (with sidecar) very slow on hills. I think for hilly roads the ratio of 6 and 9 to 1 would make this machine a lot faster than with the usual gears of 5 and 9 to 1. I consider the variable gear the ideal to aim for, but there is a small fortune waiting for some enterprising manufacturer who will market a simple bracket gear (to fit existing machines) with chain to gear and belt to rear wheel with large adjustable pulley on counter-shaft. The gears could then, by adjusting the pulley, be fixed at what was required. I have the money waiting for a gear on these—or easily fitted variable gear—lines, as I consider it a great saving both in petrol and wear of engine to coast or raise the gear down our hills, often four or five miles long.

SINGLE.

[A bracket gear on the lines suggested was exhibited by the Bowden Wire Co. at Olympia.—Ed.]

Hints on Dismantling the N.S.U. Gear.

[6113].—My experiences with this gear may interest and emphasise the necessity of the warning of "Don't" to those who would allow anyone but the makers to dismantle it. When I bought my 6 h.p. twin with heavy sidecar the agent told me not to oil the gear as it was engine fed. It transpired later that this was not the case, the engine-shaft not being hollow but solid. However, I obeyed directions, and rode about 3,000 miles without a drop of oil, save that put in by the makers. Then the trouble began, the low gear and neutral finally failing to work. I took it for repair to two leading garages in a big town. The first mechanic couldn't take it to pieces at all, but said "he would do it first thing in the morning." In the morning he said it was all right, the trouble being that the *leather* (if you please) of the clutch had become dry and shiny. He had, however, oiled it well, and it would now run. Needless to say it did not. Mechanic No. 2 did manage to dismantle it, discovering, of course, no leather, but the fact that it was epicyclic. Some parts were broken, and these were telegraphed for. But oh! the hammer and punch work of these mechanics who have not the proper tools! After this I whipped out the gear and took it to the N.S.U. Co. The remarks on local mechanics were interesting. Justifiable, too, for amongst other things mechanic No. 2 had omitted to put in an important washer, not knowing where it ought to go.

Two conclusions: (1.) The N.S.U. gear, kept well oiled and untampered with, cannot be beaten. (2.) Avoid mechanics who use hammers. U.S.N.

State of the Exeter Road.

[6114].—Now that the preparations for the M.C.C. Exeter winter run are being made, it may interest intending competitors to know that the road after Barford Corner, about three miles beyond Wilton, was, this autumn, in a condition that would suggest the need for greatest attention to tyres, repair outfits, spare tubes, and working lamps. For several miles the surface was entirely covered with loose broken flints in large fragments with quite sharp cutting edges. Towards Shaftesbury it improved, but near Barford Corner it was the most destructive surface I have ridden on in many hundred miles, and even in broad daylight there was no escape. The treads of my tyres were covered with a flagree incised pattern during these few miles. That they were not pierced was, I believe, solely due to the fact that I was riding the best and heaviest covers I could get—only by special order though—on a lightweight machine. I have never yet understood why lightweight makers do not fit at least 24in. rims, which would leave the choice of top quality tyres unrestricted. When I selected my machine I chose one that gave me a possible 24in. tyre, although in all other points I should have decided on one that allowed nothing beyond 14in.

ROWLAND BRIANT.

THE CHAIN DRIVEN

Indian

Motocycle

"THE EVOLUTION OF TRANSMISSION."

We cannot pass without comment the article by "Ixion" under the above heading in last week's issue of "The Motor Cycle."

"Ixion" says:—

"..... After many years of devoted allegiance I have at last lost my faith in the belt drive as the one and only motor cycle form of transmission for time and eternity."

and further,—

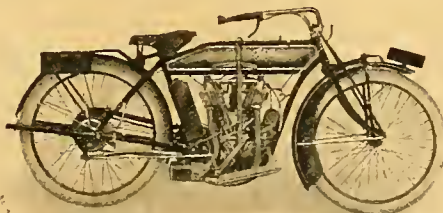
"..... Who would buy a push-bicycle with a transmission that needed attention, perhaps, every 500 miles in dry weather, that sometimes completely failed to drive the rear wheel in wet weather. Anybody who competed in either the Scottish or Harrogate Six Day Trials this season will recall the frenzied adjustments at the foot of every bad hill, adjustments often repeated two or three times in as many miles when the roads were awash; and even the least experienced spectators commented freely on the *festoons of spare belts* with which the handlebars were swathed. Surely we are only waiting for the chain drive to be perfected to adopt it as standard."

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INDIAN MOTOCYCLE.

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 —through the A.C.U. Six Days' Trials for the last FIVE YEARS.—

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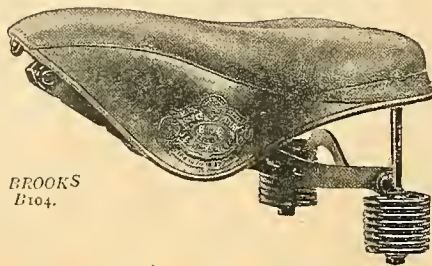


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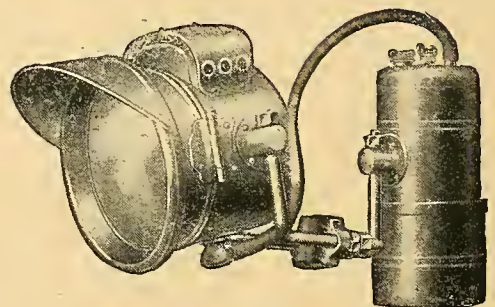
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R.H.S.

Will the Ultra-lightweight Return?

[6115].—I note in Mr. Roy Walker's letter (No. 6080) of the 23rd November, he states that in his opinion the best really small engines in the old days were the "Clément-Garrard." If this is so, where are they now, and why are the small early Motosacoches still running and giving the same satisfaction as they did when new? There are thousands of these little engines running in different parts of the world.

Mr. Roy Walker also thinks that motor cycle riding on the Continent is confined to short distances in towns; this is so, and it will eventually be so in this country as it is with pedal cycles, and I do not think Mr. Walker himself can dispute this idea.

OSBORNE L. DE LISSA.

[It is only fair to those who were associated with the Clément-Garrard Co.,—some of whom are still in the industry, to point out that the Clément-Garrard engines were only discontinued when the firm responsible for marketing them in this country retired from the motor cycle business.—Ed.]

[6116].—I have been interested in the correspondence between Mr. Roy Walker and Mr. De Lissa. I can understand, from Mr. Walker's muscular build, that he can perform the daily feat of lifting a so-called lightweight of about 140 lbs. weight up and down flights of steps, but we are not all of Mr. Walker's build, and there are motor cyclists to whom this daily feat would be harmful and even dangerous. Few managers of motor cycle works seem to realise that there are a large number of gentle folk who want a lightweight machine, not only for its handiness, but also to avoid the unpleasantness of being classed with the individuals whose one idea is to travel well over the legal limit.

H. BEADNELL, M.R.C.S.

Space at the Show.

[6117].—A good deal has been written and discussed by the public respecting the general tendency of large firms to form "trusts." In your leading article last week you said that exhibitors at Olympia were all satisfied. I should like to point out that the attitude of the authorities in connection with this Show is rapidly tending to turn it into a ring controlled by the larger manufacturers. Long before the exhibition took place, it was generally known that the whole of the spaces were booked, and I understand that even members of the Manufacturers' Union, not to mention rank outsiders who possibly had some new inventions or designs that they desired to place before the public could not possibly obtain any space, yet on the opening day what did we see? A few large firms in the main body of the hall, with huge stands, and in addition to these they have nearly the whole of the two side aisles devoted to their offices, thus debarring many newer and smaller firms from exploiting their ideas.

If this is to be a feature of future motor cycle shows, I think it will be better to remodel the old Stanley Show, and start it again with its old policy of being open to all comers.

AN INTENDING EXHIBITOR.

Belts and Bad Weather.

[6118].—With reference to Mr. E. W. Choldercroft's letter [6087] relating to my trouble with a leather belt at Luton Hoo, Mr. Choldercroft is rather hasty in using this example as a reply to the Service Co.'s letter [6000] without some explanation. It is very unfair to use an isolated case as an argument on general grounds. Though I failed at Luton Hoo in the passenger class, I have gained no fewer than fifty-three firsts this year, being placed no less than eighty-four times. I mention this to show that it is unfair to quote a solitary instance.

My wins have included defeats of shaft and chain-driven machines, so nothing can be argued from that, also under much worse conditions than at Luton Hoo. As Mr. Choldercroft was an interested spectator at Luton Hoo, he must well remember a heavy shower just before the commencement of the passenger class, which deluged the track.

Agreeing with him that a leather belt is better than rubber in wet weather, I hastily (perhaps foolishly, as the rubber could not have been worse) fitted a Service leather

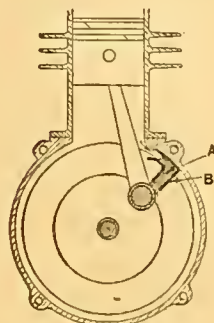
belt in lieu of the rubber, forgetting the former had not been stretched sufficiently, especially for such a powerful engine. I had not even time to have a short spin for the belt to bed itself in the pulleys, consequently, at the first explosion, to my disgust, I had practically a free engine even on the down gradient at the start, which surely was readily discerned by all who were there.

The Service belt is excellent, but, like all leather belts, must be properly fitted, and it was owing to sheer carelessness on my part, added to hurried adjustments, that I experienced any trouble.

F. W. BARNES.

Lubrication of the Crank Pin.

[6119].—Being interested in the efficient lubrication of the big end bearings of motor cycle engines, I offer the following as a practical solution. At each revolution of the flywheels the oil holes in the connecting rod big end would receive a thoroughly efficient supply of lubricant in the following manner:



Illustrating letter
No. 6119.

perfectly.

As will be seen from the sketch, the idea is to fix to one half of the crank case—inside, or right in the centre—a strong tube to clear the insides of the wheels, the tube to be slotted on the top to allow oil to drain into it. The tube to contain wicks divided at the end and projecting about half an inch, to catch the crank pin during revolution and so leave a full supply of oil where required. The idea was put into practice on an old 1½ h.p. in the old days, and worked

H. WRESSELL.

Touring in South-west Wales.

[6120].—It may interest you and the writer of letter 6091, "BD 50," to know that I was just recently over the road he refers to on my 3½ h.p. two-speed Hummer, and well I know the horrible condition it is in, far worse than any stretch of road we had in this year's Yorkshire Six Days' Trial.

The road "BD 50" refers to is over part of the Black Mountains, and there are several roads like it in Wales.

The Newport side of Fishguard hill has a gradient of 1 in 4 at the steepest part, which my machine took comfortably on low gear.

With reference to "BD's" remarks on allowing competitors to cool their engines, I think this is only fair if the rider has been able to make up the time, and if he wishes to complete the trial it is only natural for him to "nurse" his engine as much as possible.

A. C. ROBBINS.

Carbon Deposits.

[6121].—With reference to my request in letter 6052 for half a dozen readers to send me samples of the deposits from their cylinders so that I could ascertain by analysis if the deposits contained a large proportion of road matter, the following is an analysis of carbon deposit sent me by a reader using the *nom de plume* "Archibald."

THE ANALYSIS.

Volatile oils and carbonaceous matter	... = 83.10%
Residual ash	... = 16.90%
Composition of ash:	
Silica	... 6.90%
Ferric oxide	... .53%
Alumina	... 3.06%
Lime	... 5.40%
Magnesia	... 1.01%
	16.90%

The composition of the ash shows that it contained a large proportion of road matter.

Perhaps "Archibald" will explain what roads he used while deposits were collecting.

W. ELDER

Silence and Silencers.

[6122].—Being a regular reader of your paper, I am interested in letter 6099, signed S. W. Turner. Some two or three years ago I was under the same impression that it was next to impossible to prevent an engine overheating if the cut-out were not frequently used. At that time I rode a $3\frac{1}{2}$ h.p. Minerva, from which I got some very loud explosions through the silencer, finally bursting it. Then I purchased a new silencer from one of your advertisers. This I found was very efficient, so much so that I found my machine ran better with cut-out closed. This was no imagination, as many times did I test it on my pet hill, first with cut-out closed and then with it open. I always found it climb better with it closed. I do not know the name of the silencer, but it had aluminium balls between the two chambers.

"Ixon's" "Evolution of Transmission" is very interesting, and I think the time is not far distant when the belt will be defunct.

J. WEST.

[The silencer referred to was known as the Aldington.—Ed.]

Adjustable Jets.

[6123].—I am enclosing sketch (not to scale) of an adjustable jet I have adapted to my 1911 lightweight B. and B. carburetter. It is quite simple to make. Proceed as follows: Take out cleaning screw, and drill out the hole about $\frac{3}{16}$ in. diameter so that it just comes through the jet, which must be screwed tightly in its place. The hole in the jet must now be reamed out with a taper reamer. A taper plug is now made to fit and ground in. This plug is drilled up a little way, and four very small holes are drilled through round the circumference at intervals of 90°. These holes can be drilled to suit different engines. I drilled them .028 in., .029 in., .030 in., and .031 in. diameter. To keep the plug in good contact, and prevent leakage, I soldered on to the carburetter part of a tyre valve, inserted a small spring, screwed on the valve cap, and afterwards a handle to turn the plug, marking the positions of the holes outside.

This arrangement greatly facilitates starting, as the hole in the jet is large, and a good supply of petrol is in the jet before starting, no matter which size hole is in use. In my own case, one push of the pedal does the needful.

J. C. WHITELEY.

A Plea for the Cut-out.

[6124].—I should like to say that I heartily agree with the writer of letter No. 6099. In fact, "then's my sentiments" entirely. My lightweight twin will hum along very pleasantly with the throttle just open and the spark advanced, making very little noise even with the cut-out in use, much less noise, in fact, than the average $3\frac{1}{2}$ h.p. single, with cut-out closed. Then I can, like Mr. Turner, close down to absolute silence, so far as engine explosions are concerned, when meeting horses, or in towns. Of course, I get a sharp rattle on full throttle, but that is seldom required.

Another point is that a continued use of the silencer, which is fitted below the footrests, makes it unpleasantly warm for the right foot in the summer time. There is a certain class of rider who will always make himself objectionable in some way or another, viz., the class that was known as "Cads on castors" in the old cycling days.

Peace, peace, oh let us have peace!

Don't open your cut-outs too long,

When you go for a ride up the steep mountain side
In the beautiful valley of Bhong.

THE RAJAH.

Competitions in 1912.

[6125].—In last week's issue you state that the Herts County A.C. have booked eleven dates for their 1912 competitions, and that other clubs must take a back seat. May I point out that the Westmorland M.C.C. have applied for, and been granted, two permits for an open hill-climb and open speed trial, the former to have ten classes, the second about six. We are thinking of having an open reliability trial. Besides these open events we have thirteen club competitions of various kinds, and could have booked the dates of these competitions before the Olympia meeting, but were unaware that it was necessary. So if the W.M.C.C. have to take a back seat it cannot be very far back, if at all. May I add in conclusion that there are other clubs in the North with as large a programme as ours.

C. B. ROBINSON,

Hon. Sec. Westmorland M.C.C.

[Our correspondent has missed the point of our paragraph.

The meeting at Olympia was to arrange dates for important open events in order to avoid clashing. It was not intended to include ordinary club events in the programme; that was why we drew attention to the reserving by the Herts County A.C. of eleven different dates to themselves.—Ed.]

Hill-climbing.

[6126].—In reply to Mr. Railton's letter [No. 6066], I may say that I know the hill at Swythamley Park, between Leek and Danebridge, very well, being a native of the district. I rather fancy, though, that it is not quite so bad as 1 in 4 at the hairpin bend. I should say myself it was 1 in 7. My $3\frac{1}{2}$ h.p. Bradbury has a fixed gear of 6 $\frac{1}{2}$ to 1.

If Mr. Railton would try the climb from Wincle to Allgreave, past the chapel and up to "The Flash," he could then get on to the Macclesfield-Buxton road, and down to within two miles of Macclesfield; then by turning to the right he would be in Rainow, whence he could explore Kettlethulme.

I may say that I have not gone the whole round without failure. I have been many times, and had many failures, and I am out for information respecting a single-gear machine which, as Mr. Railton remarks, might have to "give up the ghost."

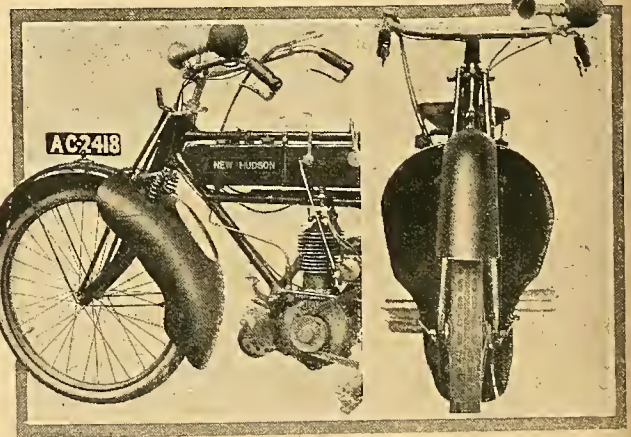
A. BURGESS.

Will the makers of the Spartan leather belt for motor cycles kindly communicate with the editor?

SUMMARY OF CORRESPONDENCE.

T. J. Williamson writes in strong praise of the treatment he has received from J. Pedley and Son, Ltd., Birmingham.

A. E. Smith, 1, Grand Parade, West Croydon, writes that he accomplished the same climb up Netherhall Gardens, with a $3\frac{1}{2}$ h.p. P. and M. and three passengers (weight 35 stones 4 lbs.), as was described in our issue of the 16th October.



AN ALL-WEATHER MUDSHIELD.

A special form of front mud ward made by the Auto Aero Co., Coventry. The guard is provided with a series of louvers which, whilst allowing air to pass to cool the engine, prevent the passage of mud and dust.

WONDERFUL WORK IN NOVEMBER!

A series of thrilling performances on

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TRADE MARK

MOTOR-CYCLE TYRES.

At Brooklands track, on 21st November, W. L. T. Rhys, on a $3\frac{1}{2}$ h.p. "RUDGE," fitted with

DUNLOP MOTOR-CYCLE TYRES

captured four World's Records for any size of engine, beating American times to a "frazzle." In five hours Rhys rode 268 miles 154 yards, and in six hours 322 miles, 603 yards.

Same day, same track, same tyres,

DUNLOPS

J. R. Haswell, riding a $3\frac{1}{2}$ h.p. "TRIUMPH," broke one British and four world's records—

124 MILES IN TWO HOURS

184 MILES IN THREE HOURS—

239 MILES IN FOUR HOURS.

THE TRIPLE-STUDDED DUNLOP is the speediest and safest motor-cycle tyre for all purposes and for all seasons.

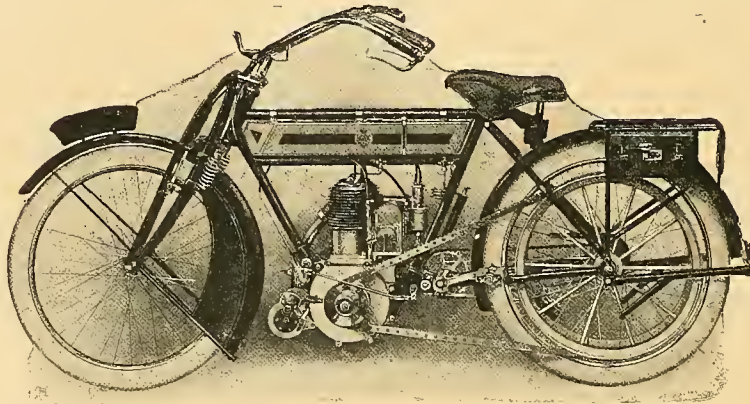
Post Free: 1911 Dunlop Motor-cycle Tyre Booklet.

THE DUNLOP PNEUMATIC TYRE CO., LTD., ASTON CROSS, BIRMINGHAM; ALMA ST., COVENTRY.

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ROVERS

3½ h.p. Rover Motor Cycle.



Price, Fixed Engine Pattern	- - - - -	£49 - 0 - 0 net.
„ with Triumph Free Engine Clutch	-	55 - 5 - 0 „
„ with Armstrong-Triplex Three-speed Gear		59 - 10 - 0 „

W. N., Ross-on-Wye, writes—

“The machine continues to give great satisfaction. I have done up to the present about 3,000 miles (a good deal of it with sidecar and passenger), but have never yet unpacked the toolroll on the road or made any adjustment other than the pulley or belt.

I shall be pleased to give my experience to any enquirer. The machine I use in all weathers in my business and find she is very safe on grease, in fact I have never yet had a side-slip or let her over.

She runs smoothly and silently, and has never required any adjustment during the 6-7 months I have used her.”

Catalogues and full particulars free on application.

THE ROVER CO., LTD.,

COVENTRY.



SOMETHING more definite than the hand pump for the lubrication of motor bicycle engines is no novelty. It has not only been discussed in our columns more than once, but at least one maker has embodied the mechanically-operated pump in his lubricating system. This, of course, refers to the past. So far as the near future is concerned, it seems obvious that more general attention is to be given to really serious attempts to depart from the rather haphazard system which has been prevalent up to now. The specimens of mechanical lubrication shown at the recent Show at Olympia are more than sufficient to indicate this, and it may be interesting to consider the systems in use on motor cars.

Various Types of Mechanical Feeds.

It should be borne in mind that the motor car has gone through almost exactly the same transitional stages in regard to lubrication that it appears the motor bicycle will do. First of all, there was the hand pump, then the drip feed, and, lastly, the various types of mechanical lubrication now prevalent. These may be grouped under three main headings:

1. Pump and trough, with all the oil carried in the base chamber.
2. Constant level, in which most of the oil is carried outside the crank chamber, but is pumped in and out of it so that a constant level is maintained.
3. Internal forced lubrication, by which oil is forced through a hollow crankshaft to the bearings.

Pump and Trough.

This is, by far, the most widely used system on cars to-day. There are a number of detail variations, but the principle is practically the same in all. Under each big end bearing of the connecting rods a trough or gutter is placed, and this is kept filled to overflowing by either a gear pump or a plunger pump or pumps. Into the oil in the gutter a little pick-up finger or scoop on the big end bearing dips and throws it up to all parts of the engine from the gudgeon pin downward. In many engines with this trough lubrication, there are also catchpits for the main bearings, which are also kept filled to overflowing by the oil pump. The crank chamber is enlarged to carry anything up to a gallon of oil, according to the size of the engine, and a good many engines will run a thousand miles on a gallon or less. This system is perfectly satisfactory for well-designed car engines which run at moderate speeds.

Constant Level.

This is really a modification of the trough system, but the oil is not carried in the crank chamber, *i.e.*, no more is carried in the crank chamber than is necessary for keeping oil up to the level of the big ends. It is not only pumped in from the tank, but is also pumped out, and in some cases the oil pipes run to the main bearings, so that the oil is forced into them and then drops into the crank chamber. As soon as it rises above the proper level there, it is

pumped back to the oil tank. There is little between this and the previous system, though in many respects it is rather more suitable for high speed engines.

Internal Forced Lubrication.

The title in this case almost explains the system. The crankshaft is drilled, and oil is forced right through it to the main bearings and to the big ends, while in a few cases the connecting rods are drilled too or have light copper pipes running up them, so that the gudgeon pins also enjoy forced lubrication. There are many difficulties in carrying it out really well on a motor car, as, owing to the number of bearings and the length of the crankshaft, it is very difficult to arrange for anything like an equal supply to each of the many bearings. In most cases all the oil is carried in a sump in the crank chamber.

The Filtering Arrangements.

With all three of these systems a great deal of their success depends upon the filtering arrangements, as, when oil is circulated time after time round the engine, it follows that any grit, particles of metal, or other foreign matter in it should neither be forced nor fed into the bearings, but should be trapped by a filter. While this is essentially so in the case of the trough and constant level, it is still more necessary with internal forced feed, as it follows that, when oil is poured over the bearings, the grit will not in most cases go into them, but, when the oil is forced to them, grit and everything else it contains are forced between the revolving surfaces, and for this reason some car makers are opposed to the internally forced lubrication; they believe rather in the outside feeding trough or its modifications. Undoubtedly, so long as oil only is fed to the bearings, the internal forced lubrication is incontestably best, and, except for filtering difficulties, it is very much easier to carry out on a motor bicycle than on a motor car, simply and solely because the number of bearings is so much less, and it is therefore quite easy to adequately lubricate them all.

Cool and Hot Oil.

One point, however, that should not be overlooked in connection with hand pump lubrication is that every time a pumpful is injected, say at a critical moment on a steep hill, the lubricant enters the crank case in a fresh and comparatively cool state, and though in a few seconds it must become of the same viscosity as what was already in the crank case, the application of a fresh charge of cool oil will often spell success in climbing the hill. In the case of forced feed by mechanical rotary pump, the whole of the oil in the sump must pass through the engine in considerably less than a minute, so that it is always in a very liquid hot state. Car engines employing forced feed lubrication are often provided with radiator fins on the crank base to assist in keeping the crank case as cool as possible, so enabling the oil to retain its full lubricating properties.

CURRENT

CHAT

TIME TO LIGHT LAMPS.

Dec. 7th	...	4.50 p.m.
" 9th	...	4.49 p.m.
" 11th	...	4.49 p.m.
" 13th	...	4.49 p.m.

A.C.U. Annual Dinner.

The annual dinner of the Union will be held at the Waldorf Hotel, Aldwych, W.C., on Saturday, January 20th next. Ladies are invited.

A.C.U. 1912 Handbook.

The A.C.U. handbook for 1912 is now in course of preparation, and the committee will be glad to have the names and addresses of any hotels or repairers that can be recommended by members.

Proposed Club at Wigan.

A preliminary meeting has been held and a number of motor cyclists have decided to form a club. A general meeting will take place on the 12th inst. at the Ship Hotel, Wigan. The hon. sec. *pro tem.* is Mr. J. Dawber, Standishgate, Wigan, who will supply information to prospective members.

Taking Time by the Forelock.

With admirable promptitude the Westmorland M.C.C. has issued the preliminary details of its open hill-climb next Easter Monday. The contest will be held on Brigsteer Brow, four miles west of Kendal, which is said to be a far better selection than Shap Fell used last Easter. Ten classes are included on the programme, including one for quadcars and runabouts.

Tourist Trophy Races.

The A.C.U. General Committee has accepted the recommendation of the Competitions Committee, and has fixed the engine sizes for next year's Tourist Trophy as follows: Junior race for any type of engine having a cubic capacity not exceeding 350 c.c. Senior race for any type of engine having a cubic capacity not exceeding 500 c.c. June or September are the months chosen for the race, which, subject to the necessary permission being obtained, will again be held in the Isle of Man.

Road Dangers at Night.

Another fatal accident occurred at Radcliffe, near Nottingham, on the 28th ult., due to cattle being driven on the road without a warning light. A taxicab suddenly came upon a man in charge of six beasts. The driver of the cab had to stop suddenly, over-turned the vehicle, and was pinned underneath. The jury returned a verdict of "accidentally killed," adding a rider that "persons driving cattle on the highway after dark should carry a light by way of warning." Let us hope that this sensible rider will cause the authorities to introduce some fresh legislation compelling the use of warning lights by drovers.



The All-night Rides.

Competitors in the various winter reliability runs this Christmastide are urged to run their machines as silently as possible, especially during the night, when passing through villages and towns. We may also point out that steps are being taken by the Motor Cycling Club to detect any unnecessary noise that may be made by the machine of any participant.

Red Warning Barriers.

Since the collision with a barrier sustained by H. T. Lloyd, of the Triumph works, whilst tuning up for record at Brooklands, the authorities are painting the barriers red. Hitherto they have been painted white, and consequently did not show up on the concrete track. By the way, Lloyd is back in Coventry and out and about again.

The Triumph Two-speed Model.

One day last week we received a visit at our Coventry offices from Miss B. Langston, who is well known to our readers as an enthusiastic sidecar driver. She had come all the way from Edinburgh to see the Show, and on her way back she and the Rev. P. W. Bischoff had called at Coventry to try the new Triumph two-speeder, reference to a trial of which, it will be remembered, has already appeared in *The Motor Cycle*. It was a pouring wet day, and only very keen riders would have turned out in such weather, but, of course, it was all the better for testing purposes. In spite of the wet and the short belt drive, they informed us they did not experience the slightest belt slip, even when taking Stoneleigh hill "all out" on the low gear. On the other hand, they found it not easy to pick up from low to high gear, owing to the big difference between the two ratios. Miss Langston herself was very emphatic in stating that she personally preferred driving their own well-tried T.T. roadster model, even with sidecar, but we could not get her to give her reasons.

SPECIAL FEATURES.

WINTER MUDGUARDING.

TWO'S COMPANY:

A CRITICISM OF 1912 PASSENGER MACHINES.

MECHANICAL LUBRICATION.

Suggested Club for Wimbledon.

All motor cyclists living in or near Wimbledon are invited to write to Mr. E. P. Lyon, 31, Queen's Road, Wimbledon, with a view to holding a meeting to discuss the formation of a local club.

Proposed New Club for Liverpool.

It has been suggested by several Liverpool motor cyclists, that there is now plenty of room for another club in Liverpool. Will other Liverpool readers who are of the same opinion kindly communicate with Mr. C. E. Eastwood, 42, Clifford Road, Seacombe, Cheshire.

French Hill-climb.

Several entries have been received for the hill-climb organised by the A.C.C. de France and down for December 17th. Among others are the Mototri-Contal, a tri-car already fairly well known to our readers. La Ponette, described and illustrated last week, is also among the makes of machines entered.

Motor Cycle Taxation.

We have received complaints lately from several readers that they have been asked by the Local Taxation Licensing Authorities to pay a 10s. 6d. extra tax for a sidecar. We are authorised by the legal adviser to the A.C.U. to state that he will gladly take up any test case fought to settle this point and defend the applicant free of charge. Letters on the subject should be addressed, Legal, c.o. the Editor, *The Motor Cycle*, 20, Tudor Street, E.C.

Kick-starting Devices.

The term "kick starter," which was a name first given by *The Motor Cycle* to the Scott device when that machine was introduced, has been generally accepted for all types of foot-starters, but in reality some are not "kick" starters. A rearward push—really a kick—is required with the Scott, Douglas, Clyno, Bradbury, and others, but a push forward motion is necessary on the Indian, James, and P. and M., so that "foot-starter" is a better term for the latter class of engine starter, and is correct for all types.

Proposed Club for Brighton and District.

We hear from Mr. H. Winton, London House, Lancing, that he has been approached by a number of enthusiastic motor cyclists with a view to the formation of a club for the neighbourhood—in fact, if possible, a Sussex M.C.C., to provide facilities for hill-climbs, reliability trials, etc. All riders (both sexes) who are interested should write to Mr. Winton for particulars.

HAVING DECIDED

very special second-hand machines. ALL have been overhauled and the condition in most cases is as new.

1911 F.E. TRIUMPH, many spares £42
 1911 Tourist REX, cost 43 guineas: 37 gns.
 1911 Standard BRADLEY, unscratched £40
 1911 F.E. RUDGE, like new £42
 1911 F.E. SINGER, exceptionally good £42
 1911 Tourist BAT-J.A.P., 3½ h.p. £38
 1910 Speed King REX, 5 h.p., fast £36
 1911 2 h.p. HUMBER, only soiled £33
 1911 Standard BRADBURY, shop-soiled £44
 1911 Twin WANDERER, brand new .. £37
 1910 Lightweight N.S.U. £18
 1911 WANDERER, single-cylinder,
 brand new £32
 1909 MOTO-REVE, excellent condition £19
 1910 1½ h.p. WANDERER, beautiful
 order £24
 1910 Standard TRIUMPH, lamp, tools,
 etc. £28
 1911 DOUGLAS Model E, 2-speed, free
 engine £40

1910 V.S., 2-speed, free engine, semi-
 castor wheel sidecar to match, speed-
 ometer, etc., etc. £46
 1910 SCOTT, speedometer, tools, very fine £42
 1910 5 h.p. INDIAN, 1911 clutch, perfect £41
 1910 ROYAL ENFIELD, like new £26
 1909 P. and M., just overhauled £37
 1910 Twin WANDERER, spring frame.. £26
 1910 5 h.p. Tourist REX, almost new .. £37
 1910 Standard TRIUMPH, thorough
 order £34
 1910 DOUGLAS, all accessories and tools £25
 1910 F.N. Lightweight, 2 speeds, free
 engine £25
 5 h.p. BAT-J.A.P., magneto, Bat sidecar £27
 1911 Standard BRADBURY, as new £37 10
 1909 BRADBURY, with 1911 cylinder
 and piston, 2-speed gear £34

1910 SCOTT, with 1911 improvements.. £39
 1911 REX DE LUXE, 5 h.p., and Mills-
 Fulford 1911 spring wheel sidecar, a
 fine combination £45
 1911 NORTON T.T., Cap carburetter .. £40
 1911 2-speed 7 h.p. INDIAN, with side-
 car, accessories, and spares £60
 1911 2-speed 7 h.p. INDIAN, fine and fast £43
 1911 MOTOSACOCHE, a little beauty.. £33
 1910 CHATER-LEA-J.A.P., 1910 B. and
 B., good £17
 1910 WOLF Lightweight, almost new .. £14
 1910 (late) SCOTT, excellent order £37
 1909 Tourist REX, Triumph carburetter £24
 1908 REX DE LUXE, 5 h.p. Bosch,
 2 speeds, free engine, spring forks.. £20
 1910 REX DE LUXE, steel-studded tyre £35
 Several Accumulator Machines at Clearance
 Prices.

THE

SERVICE CO., LTD.,

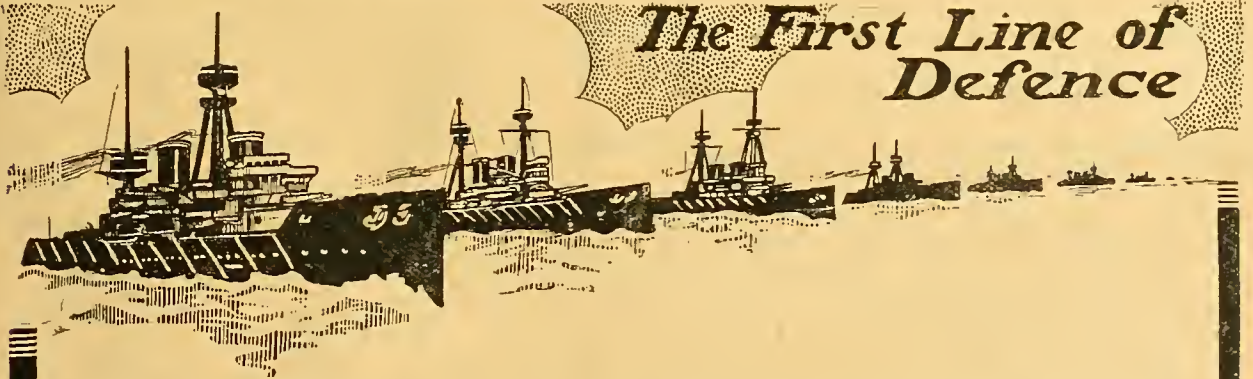
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The RELIABLE FIRM

The First Line of Defence



against tyre inefficiency is to fit "Clincher" Dreadnoughts. Strong, Reliable, and Resilient, whilst the specially designed tread render them the finest non-skids on the market. We will gladly forward you our latest Catalogue, which gives full particulars and prices, on receipt of a postcard.

North British Rubber Co., Ltd.,
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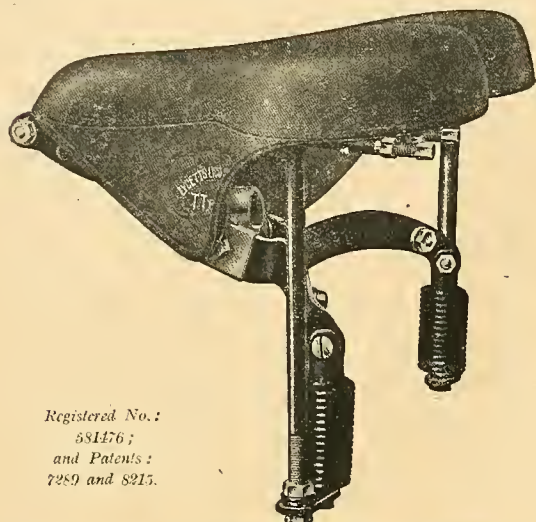
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 Gerrard 8579.

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 London."

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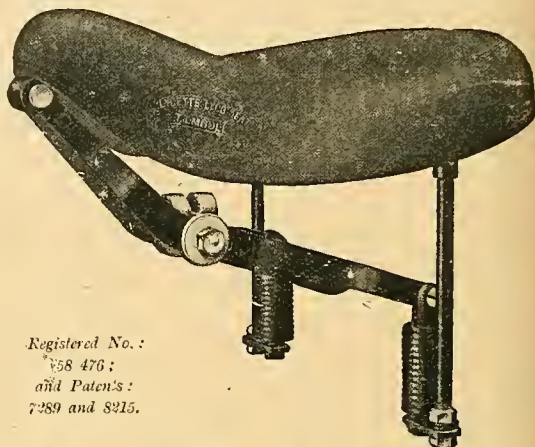
2 DREADNOUGHT MOTOR CYCLE TYRES

The most comfortable Saddles in the world—because the only ones designed on Scientific Principles.



Registered No.:
581476;
and Patents:
7289 and 8215.

“LYC0” No. 1—The Seat-Pillar Model.



Registered No.:
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and Patents:
7289 and 8215.

“LYC0” No. 3—The Pan-Seat Model.

“Echoes of The SHOW”—

—All visitors to Olympia will remember these outstanding units of

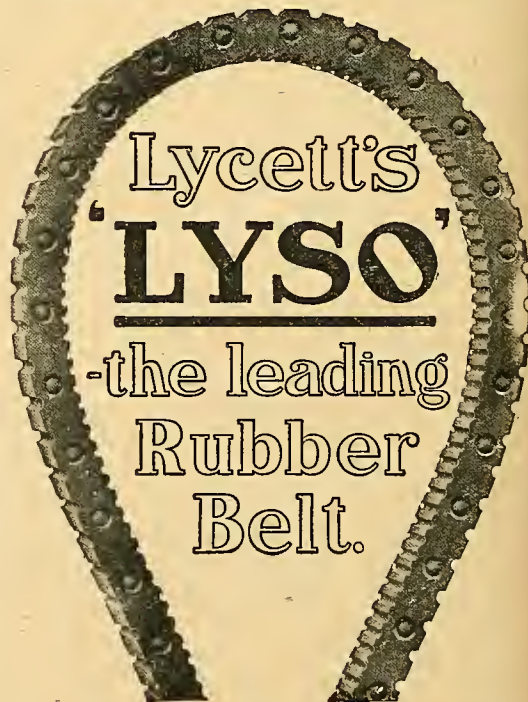
“The Good 1912 LYCETT Lines”

and the wealth of interesting and valuable items for cyclists and motor cyclists exhibited at our stand there.

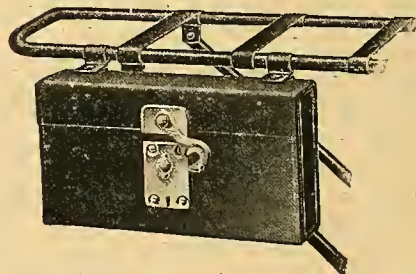
—All who did not visit us should now write for “The Saddle Book,” and if you are a motor cyclist, or thinking about becoming one, don’t fail to ask for our Special Art Folder “Worth Looking Into”—it doesn’t belie its title, and it contains interesting details invaluable to our motor cycling friends.

—“LYCETT’S LINES” are obtainable of all Agents, Garages, etc., or direct.

**LYCETT’S, “The Saddlery,”
Bromley St., BIRMINGHAM.**



The Belt used by all the record-breakers.



LYCETT’S New Tool-Bag. with patent hook fastening and patent lock.

The 1912 Fixture List.

September 7th is the date of the Streatham and District M.C.C. open hill-climb, not September 1st as printed last week.

Cinematograph Show at Olympia.

The Committee of the Cycle and Motor Trades Benevolent Fund reports that a net profit of £31 11s. was made on the cinematograph performances during the Motor Cycle Show at Olympia.

Brooklands Tennis Courts.

New tennis courts have been laid at Brooklands adjoining the paddock. To celebrate the opening of the courts last Saturday, a number of leading players gave a series of exhibition matches.

The Wonderfully Efficient Single Cylinder.

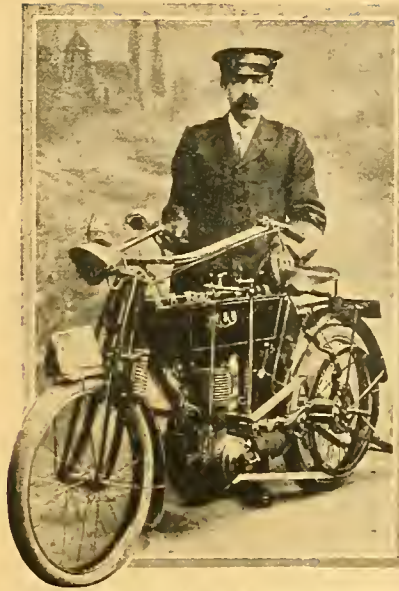
No less than twelve of the fifteen records credited in Class D to engines of 750 c.c. capacity have been captured by riders of 500 c.c. single-cylinder machines. In Class E for 1,000 c.c. engines, single-cylinder $3\frac{1}{2}$ h.p. machines claim ten records.

The Bradford Club's Trial Abandoned.

The proposed Bradford M.C.C. winter trial to Barnet is not likely to materialise after all. The committee have arrived at the conclusion that the North-country man having a great affinity for his Christmas dinner would not feel in such form as to set out on a cold twenty-four hours' ride. Even the attractions of the North Road are not to be compared with the home circle on Christmas Day.

The Exeter Run.

Quite a number of new names were before the M.C.C. Committee last Monday evening for election as members in order that they might take part in the winter run to Exeter. Mr. E. B. Dickson, the trials hon. sec., journeyed over the route last week-end in order to make final arrangements for the convenience of the competitors. This year Mr. Dickson will ride his new 8 h.p. Bat-Jap in the trial.



S. W. Woolford, of the Southampton and District Motor Club, who has been the holder of the Oakley Cup for the last three years. He now becomes the owner of the trophy.

FUTURE EVENTS

- Dec. 9.—M.C.C. Annual Dinner at the Café Monico.
 " 26-27.—M.C.C. Winter Reliability Run to Exeter and back.
 " 27.—Dublin and District M.C.C. Open Reliability Trial to Waterford and back.
 " 30.—North West London M.C.C. Twelve Hours' Winter Reliability Trial.

A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.

A Continuous Winter Trial.

The Birmingham Club's "all-weather" riders continued the third autumn reliability trial last Saturday, two of the three starters again accomplishing non-stop runs. These two riders will contest the fourth round next Saturday.

French Road Racing.

The Paris-Havre road race, which was organised by the Motor Cycle Club de France, and stopped by the police on November 26th at the moment the competitors were about to set out from St. Germain, has resulted in a course being selected in the neighbourhood of Paris. On Sunday last twelve motor cyclists started for Melun, but, owing to heavy rain and bad roads, two only went round the circuit, which was reported to be in fairly good condition considering the time of year. The only thing now remaining is to secure the permission of the Prefect of the Department of Seine and Marne, in which the course is situated. If the necessary sanction be obtained, the race will take place next Sunday, twenty-eight entries having been secured up to Tuesday last, and further entries will be accepted up till to-morrow (Friday).

North-west London Club's Annual Dinner.

About eighty members and friends attended the annual dinner and distribution of prizes at the Richelieu Palace Hotel on Saturday evening last. Mr. Victor Hart (president) was in the chair, and Mrs. Hart gave away the prizes amid great enthusiasm, particularly when Mr. F. A. Rose went up to receive the Circuit du Rhone cup and gold medal which he won at the International contest between the N.-W.L. and Lyons clubs in August last. Mr. Rose will be leaving England on the 10th inst. for Sydney, where he has decided to settle down, so he will be unable to defend his title to this trophy or the Thomas Challenge Cup, of which he is also the holder. Among the speakers were Messrs. V. Hart, F. Straight, J. W. Thomas, A. J. Dreydel, and C. A. Stern.



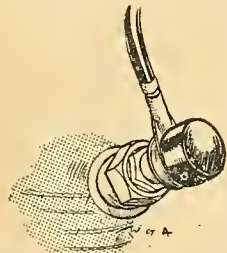
Saturday's M.C.U.I. (Ulster Centre) Winter Run from Belfast to Derry. Competitors awaiting the signal to start from Fortwilliam Park, Belfast.

T.M.C. DEVELOPMENTS.

THE 1912 7 h.p. T.M.C. motor bicycle will, when ready for the road, be a striking contrast to the 1911 T.A.C. The engine has been entirely reconstructed and is a revolution in motor cycle design. The engine is water-cooled and has four separate cylinders 60 x 75 mm., the circulation is by pump, and the radiator, carried forward of the power unit, of the gilled tube type. The flat-faced valves are half the diameter of the cylinder bore, and, therefore, are of ample size. The valves are arranged side by side, and the tappets are adjustable.

The crankshaft is a fine piece of work, and is supported in three long white metal bearings, and over each bearing there is a well in which the oil collects. The crank case is provided with divisions to allow of a sufficiently high level of oil in which the connecting rods may dip when the machine is ascending or descending a steep hill.

The oil feeds by gravity through a sight-feed lubricator to the crank case, and any excess is returned to the reservoir by means of a pump. The carburetter is carried on the off-side of the engine, and the inlet pipe passes between the two inside cylinders and leads to the cast aluminium branch bolted up to the inlet ports. We understand that the carburetter to be employed

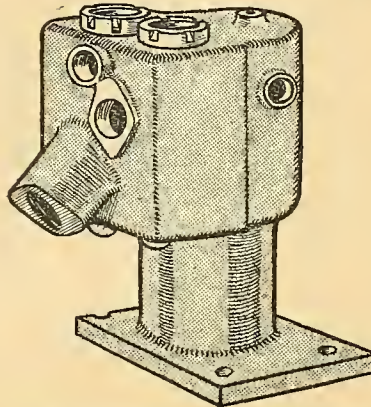


Sparking plug terminal on the F.N. introduced to obviate short circuiting.

will be the new Stewart-Precision described and illustrated in our last issue. The flywheel is of much larger dimensions than formerly, and embodied with it is a leather-to-metal cone clutch of the latest type with spring buffers under the leather to allow the drive to be taken up sweetly.

Car Practice 1 throughout.

The ball bearing three-speed gear box has been made larger, and has been improved in detail, and on the top the



The new water cooled cylinder of the 1912 T.M.C., which, as will be seen, has mechanically operated inlet valves.

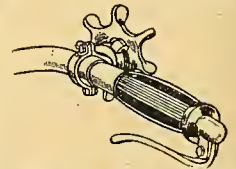
smallest size four-cylinder car type Bosch magneto is carried in the usual strap fastening. The gear box inspection lid is therefore at the side. From gear box to rear wheel the final drive is by cardan-shaft and bevel. The bevel gear is independent of the rear wheel, and can be removed from it without disturbing

the rear wheel adjustment. The makers tell us it has been substituted for the worm on account of it being less wasteful of power.

The frame has been altered for the 1912 model, and the down tube, bottom tubes, and saddle tubes are duplicated. This forms a rigid support for the engine, and the two bottom tubes being detachable allow the engine, gear box, and magneto to be easily removed from the frame. The crank case clearance is 7 1/2 in., which should especially appeal to colonial riders.

As regards general appearance the new T.M.C. has not been greatly altered. The driver's seat has been tilted back slightly to afford a more comfortable position, the same excellent rear suspension on laminated springs has been retained, but the front forks will be the Druid. The stand will be carried beneath the saddle tube.

The machine, which was not completed on the occasion of our visit, is the first of a new batch, and it has some months of hard testing to endure before its successors will be placed on the market. Future models will have the camshaft driven by a silent chain. Special lugs are supplied for the attachment of a sidecar, and the frame has been strengthened with this object. Being water-cooled, the machine should be reliable, fool-proof, and capable of maintaining its power for long periods, and is, in consequence, eminently suitable for passenger work.

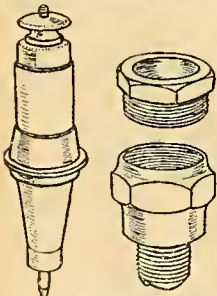


The thumb wheel controlling the jockey pulley on the Moto-sacchoe.

Sphinx Specialities and a New Overall.

New Detachable Sparking Plug.

A particularly interesting sparking plug was shown on the Sphinx Co.'s stand at Olympia. The principal feature is that the porcelain insulator is readily detachable for cleaning purposes without necessarily removing the body of the plug from the engine. As shown in the accompanying sketch, the porcelain is provided in its centre with a brass collar,



New Sphinx detachable sparking plug.

which is mechanically spun on its base into a groove formed in the porcelain itself. The joint so formed is perfectly gas-tight. The joint between the insulator and body of the plug is a metal-to-metal one, the gland nut being internally coned and seating upon the conical brass ring, and forcing a collar thereon to seat in the

plug body. This new plug is designed to stand very hard usage on high compression engines, and accordingly the central electrode is of very generous proportions.

Insulated Terminal Cap.

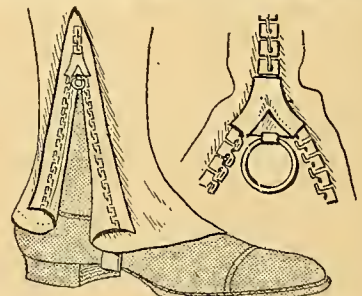
Another article which attracted our attention was the Sphinx sparking plug terminal cap, consisting of a metal tube covered with a rubber insulator, and split to form a spring clip. Underneath the ordinary terminal nut is placed a small collar, shown separately in the sketch, and into this ring springs a projection punched out of the split tube above mentioned.

Insulated quickly detachable terminal.

At the end is a spike with a thread cut on it, which is pushed into the centre of the high tension cable, so making a good joint and electrical contact at the same time.

Quick Detachable Overalls.

Who has not yearned for an overall legging that can be rapidly removed? The accompanying illustration of the Autoclos overall shows the new fastening fitted to the lower part. By pulling down



The Autoclos overall fastening which is being sold by the Service Company.

the ring shown in the enlarged drawing, the two edges of the legging are drawn together. They are undone by merely pulling the edges apart by hand, starting from the foot.

Mr. Arthur Candler, late Secretary M.C.C.

WHEN the news became public of Mr. Candler's resignation from the secretaryship of the M.C.C., and that a testimonial was being got up on his behalf, we arranged an interview with him at the earliest opportunity.

"Were you a founder member?" was our first shot.

"No," he responded. "The club started in 1901, and I did not join till 1903. There was not much doing in the M.C.C. in its early existence."

"And what were you doing meanwhile?"

I? Oh! I had got the fever even in those early days, and was even then looking round and trying things—weird little articles they were, Singers with engines in the back wheel, and that sort of thing—and I finished up with buying a 'one and something' Quadrant—one of the early reliable motor bicycles."

"And what sort of vehicles were the M.C.C. members using in 1901?"

"De Dion tricycles and similar mounts, while a few front-driven Werners and Singers were creeping in."

"1903 seems a long way back," we said. "Let us see, G. E. Roberts was secretary and Ernest Arnott was captain?"

"Yes," replied Mr. Candler. "Roberts was about to give up his post, Arnott also his. Then Horace Reeves became secretary. Only a few days after I joined I was elected to the committee."

Originator of the London-Edinburgh Run.

"Did you hold any official post that year?"

"No, but what I did was to encourage the founding of a special sub-committee to start the London to Edinburgh run, of which I had dreamed for months, and I hoped would soon be realised. Members were not very keen on it then, and once I remember they nearly—very nearly, but not quite—carried a resolution that the run should be divided into two sections—6 a.m. to 6 p.m. the first day, London to York; 6 a.m. to 6 p.m. the next day, York to Edinburgh. This I thought would not be nearly such a good advertisement for the motor cycle, and I stuck out against the resolution and won the day."

"What was the membership of the club when you became secretary in 1904?"

"About 100, and now it is nearly 400."

"Yes," we ventured, "the club has gone from strength to strength under your guidance, and you ought to be proud of your achievements."

"It is good of you to say so," the interviewed one modestly replied. "The membership is not so bad, considering we have abolished the reduced subscription for country members. You see people used to pay their 10s. 6d. entrance for the Edinburgh run and then vanished. They were no good to the club."

"Did you take any active part in the other club competitions beside the London to Edinburgh run?"

"Yes, I had a good deal to do with the Land's End and Exeter competitions."

"And their success," we ventured, "shows the effect of your influence."

Mr. Candler was modestly silent.

"I'll tell you one thing," he said, "and that is I have set my face sternly against Sunday competitions. I do not think it looks well for motor cyclists to ride about with numbers on their backs on the day of

rest, and though some of the younger members are keen on Sunday events I will have none of them."

"Perhaps," we suggested, "you can do something to influence your members to ride silent machines?"

"That I will gladly do. We have done all we could in the past, but we will do more. It is most important, especially during night competitions."

Seven Years' Great Work.

"We must offer our congratulations on your splendid work for the club," we said.

"Many thanks," replied our victim. "You join your kind words to many others I have received. My resignation a month ago as honorary secretary came quite as a surprise, and many kind people expressed their regrets. Seven years at this post has been a long time. Many spare hours have I spent over the work, and, without speaking egotistically, I may tell you I have tried to treat the post as if it had been a salaried one. It has not been all smooth going. Five years ago we went through a troublous time."

"Yes," we interrupted, "you did, and you pulled the club through splendidly; however, we will not prolong your agony, but wish you success in the new work you are undertaking."

Mr. Candler has taken a life-long interest in sport of all kinds, and it is to look after a social and sporting club for employes in the Bank of England, where he holds an appointment, that Mr. Candler has left his post in the M.C.C.



Mr. Arthur Candler, the retiring secretary of the Motor Cycling Club.

M.C.C. WINTER RUN TO EXETER.

Entries for the Motor Cycling Club's second annual twenty-four hours run to Exeter and back are already assuming large proportions. The list to date is as follows:

L. A. Baddeley (7 Indian and sc.)	Roy Walker (2½ New Hudson)
W. Cooper (3½ Bradbury)	B. Alan Hill (3½ Rudge and sc.)
H. E. Hull (7 Indian and sc.)	A. R. Abbott
W. H. Wells (7 Indian and sc.)	R. Owen Wells (3½ Bradbury and sc.)
Hugh Gibson (3½ Bradbury)	W. F. Guiver (3½ Rudge)
J. W. Woodhouse (3½ Grandex-Precision)	E. G. W. Hughes (8 Chater-Lea and sc.)
Stanley Webb (3½ Bradbury)	W. Pratt (3½ P. and M.)
H. Karlake (3½ Rover)	H. Foote (8 Bat)
P. M. Bentley (3½ Triumph)	W. H. Elce (3½ Rudge)
R. O. Clark (5 Indian)	C. Q. Roberts (3½ Rover)
Geo. Brough (6 Brough runabout)	T. M. G. Chapman (3½ Arno)
W. H. Eggington (6 Zenith and sc.)	A. P. Dickinson (3½ Triumph)
W. A. Sale (7 Indian)	E. C. Mather (5-6 F.N.)
W. T. W. Wartnaby (3½ W.D.)	C. Patteson (6 Zenith and sc.)
V. Olsson (6 Trump-Jap)	H. Patteson (3½ Triumph)
	V. Wilberforce (2½ Douglas)

C. W. Fox (3½ Rudge)	A. L. Ommaney (3½ Rudge)
E. B. Dickson (8 Bat)	J. Chater Lea (Chater-Lea)
G. T. Gray (3½ Rudge)	H. G. Bell (F.N.)
F. Russell Cooke (3½ Rudge)	Eli Clarke (2½ Douglas)
W. P. Tippet (—)	

MIDLAND WINTER TRIAL.

Last week Mr. Cecil Peers suggested in these columns an open winter reliability trial starting from the Midlands. The Birmingham M.C.C. last week-end decided to hold an open reliability trial on Wednesday, December 27th, under the new A.C.U. open trial rules and supplementary regulations. The route will be to York and back, *via* Nottingham, Mansfield, Doncaster, and Tadcaster. Entry fee for non-members, 10s. 6d.; for members, 7s. 6d. Gold medals will be awarded to those competitors who are not more than one minute early or late on their schedule times at each control. Silver medals will be awarded to competitors not more than four minutes late or early at each control. Times will be taken from riders' own watches, which will be enclosed in sealed cases. There will be time checks at Nottingham, Doncaster, and York on the outward and homeward journeys. Entries close on the 16th inst. at ordinary fees, 20th inst. at double fees. Entry forms may be obtained from Mr. R. Vernon C. Brook, hon. sec., Oakdene, Cambridge Road, King's Heath, Birmingham.

CLUB NEWS.

Mid Bucks M.C.C.

The first annual dinner was held at the King's Head Hotel, Aylesbury, on the 30th ult. Thirty-three members have joined the club since its inception in June. A trophy is being subscribed for, and the prospect is very hopeful.

Nottingham and District M.C.C.

In connection with the above club a whisk drive was held at headquarters, the Welbeck Hotel, on Friday last. A good number were present, and a very pleasant evening was spent. The annual dinner and presentation of prizes will take place on the 16th inst.

Liverpool A.C.C.

The annual dinner will take place at headquarters, the Bee Hotel, St. John's Lane, Liverpool, on Monday, December 11th, at 7 p.m. Tickets, 3s. each, may be obtained from the assistant secretary, Mr. C. Hobbs, 9, Huskisson Street, Liverpool. The chair will be taken by Mr. Percy Butler, and an excellent musical programme has been arranged. The assistant honorary secretary, Mr. C. Hobbs, 9, Huskisson Street, Liverpool, will be glad if club secretaries would send him, as early as possible, their names and addresses, also the names and addresses of secretaries of clubs in their districts, as he has on behalf of the above club an important communication to make to them.

Manchester M.C.

The annual dinner and distribution of prizes was held at headquarters, the Albion Hotel, Piccadilly, Manchester, on Friday evening, the 1st inst. The distribution of prizes won during the year followed. There had been six competitions in all during the season as well as a very successful gymkhana in September (for which prizes were then presented on the ground), and the chief successful competitors were: Messrs. E. V. Stevens, W. Heaton, C. E. Kettle, S. W. Phillpott, H. J. Scales, Hugh Gibson, J. A. Bottoms, H. Bottoms, Percy Butler, A. J. Moorhouse, F. Sirett, F. Taylor, jun., Percy Platt, J. Eastwood, W. Houghton, R. Birkett, G. H. Wilson, D. Sykes, J. Anderson, Harry Reed, and J. L. Timperley. There were a few toasts, such as "Our Guests" and "The Club." The Chief Constables of Manchester and Salford had been invited, but were both unable to attend the dinner, though Captain Godfrey (Chief of Salford) put in an appearance later. Other guests present were T. W. Grace, Esq. (President Manchester Automobile Club), F. W. Hatton (Automobile Association and M.U.), and representatives of the local press. The artistes and entertainers were all excellent, and included Outhbert Allan, Olly Oakley, Ernest Hastings, and A. Ainsworth. A comedietta was also presented and hugely enjoyed. The evening was brought to a successful termination by a dance.

Sutton Coldfield A.C.

The annual reliability trials will be held on December 16th and 17th. The start will be made on December 16th from the corner of Anchorage Road and Lichfield Road at 2.30 p.m.; December 17th, Parson and Clark Hotel (Chester Road), at 10 a.m. prompt. Competitors will be started in pairs at one minute intervals. Route: December 16th—Club standard course (Lichfield and Tamworth), to be covered three times. Tea at Royal Hotel after second round. Times will be taken each round at Castle Hotel, Tamworth, and corner of Anchorage Road and Lichfield Road. December 17th—The route will be to Ashbourne, *via* King's Bromley and Sudbury, where lunch will be taken at Green Man Hotel, returning to headquarters for the finish. At some point between Lichfield and Ashbourne there will be a secret check, which will only be used in case of a tie between any of the competitors. Speed, 20 m.p.h. Marks for the "Muratti-Ariston" trophy will be awarded in this competition. Prizes: 1st, "Sutton" challenge cup and gold medal (cup to be won three times); 2nd, gold medal, kindly presented by the Triumph Cycle Co.; bronze medals to all those making non-stop runs and finishing to time. A prize for the best performance of a novice will be awarded provided three or more enter.

Motor Cycle Union of Ireland (Ulster Centre).

The Ulster Centre of this Union held the first of its winter reliability runs on Saturday, the 2nd inst. Previous to the event the weather was most unfavourable, and this told greatly against the entry. The course was Belfast to Derry, a distance of seventy miles. There were several checking stations *en route*, and marks were allowed for competitors riding to schedule. Deductions were made from the same for mechanical stops, punctures, side slips, and several other causes, and consequently the result cannot be announced until the figures are fully verified by the committee. The following started in the midst of a heavy drizzle of rain, which continued during the entire journey: J. Stewart (3½ Triumph), L. MacLaine (3½ Triumph), J. Lavery (3½ Triumph), J. J. Kennedy (3½ L.M.C.), J. R. Thompson (3½ B.S.A.), W. F. Adams (3½ B.S.A.), R. M'Lardy (3½ Triumph), Gordon Simpson (3½ Triumph), and C. R. Martin (3½ Triumph).

The results of the series of quarterly trials have now been officially declared, and out of the twenty-one riders who took part three only qualified for gold medals, viz.: J. Stewart (3½ Triumph), 99.52%; B. S. Capper (3½ Triumph), 97.68%; C. W. Grogan (3½ Triumph), 97.62%. Silver medals were won by W. J. Chambers (3½ B.S.A.), 94.39%, and L. MacLaine (3½ Triumph), 93.33%. The following were the winners of different trials: 1, J. Stewart (3½ Triumph); 2, C. W. Grogan (3½ Triumph); 3, L. MacLaine (3½ Triumph); 4, W. J. Chambers (3½ B.S.A.).

THE . .

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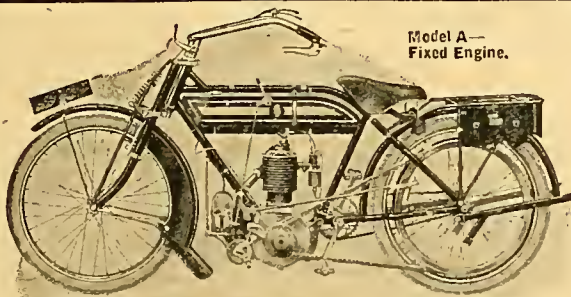
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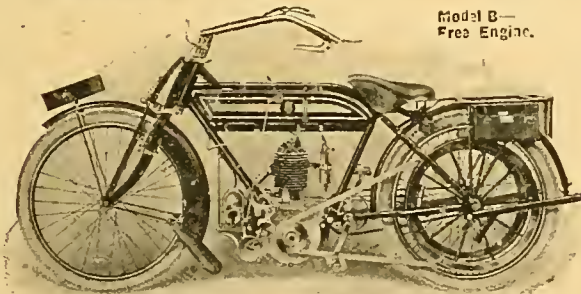
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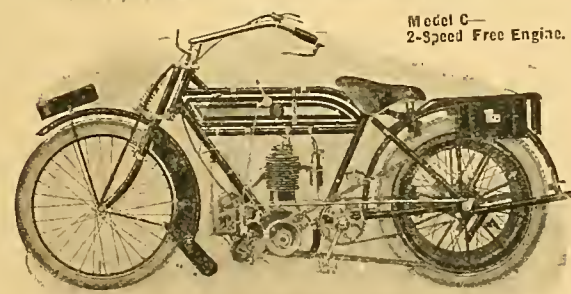
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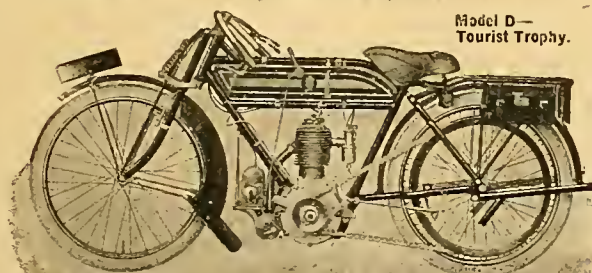
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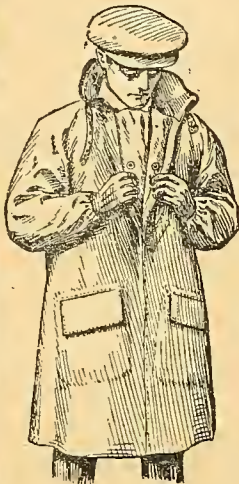


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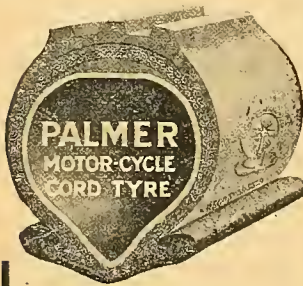
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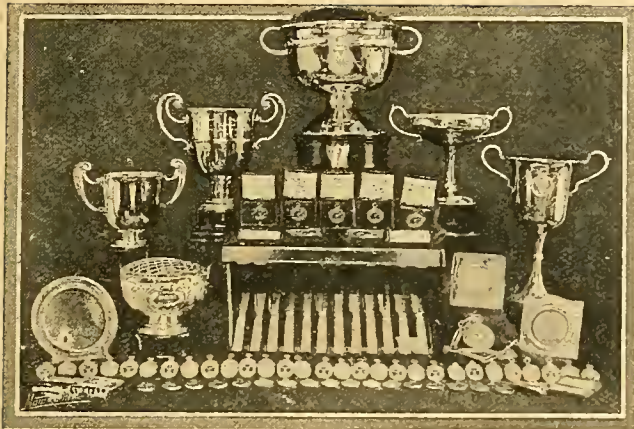
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Some of the cups and prizes awarded to winners of various competitions organised by the Dublin and District M.C.C. this year.

Wolverhampton M.C.C.

The first annual smoking concert and presentation of prizes will take place at headquarters on Monday, December 11th, at 8 p.m.

Ayr and District M.C.

The fourth annual dinner was held at the Ayr Arms Hotel on the 28th ultimo, and was followed by the presentation of prizes. The president's silver cup was won this year by G. Cocker, with an aggregate of 576 out of a possible 600. J. Gilchrist and G. Clark totalled 544 and 473 respectively.

Western District M.C. (London).

A most successful supper was held on Wednesday of last week. The events of the evening included the annual prize distribution and a most enjoyable musical programme. The banjo duets led by Mr. Butler were much appreciated. All thanks are due to Mr. M. Tweedie for his energetic efforts in connection with this event.

North Middlesex M.C.C.

Applications for membership will now be received, subscriptions to date, as from February 28th next. Special insurance rates have been obtained for the benefit of members, and those interested are invited to apply for full particulars to the hon. secretary, Mr. D. Grey Blakey, "Heathfield," (Great North Road, Highgate, N. The first club dance takes place to-morrow (Friday) evening at headquarters, the Olde Gatehouse, Highgate; evening or fancy dress.

Newcastle and District M.C.

A well-attended whist drive took place in the Club House, 3, Saville Place, Newcastle-upon-Tyne, on Thursday of last week. Supper was served during the course of the evening in the reading room.

Dublin and District M.C.C.

The annual dinner of the above club was held on Saturday last, when Dr. Burke Kennedy, the vice-president, presided over a gathering of eighty members and friends. The club has had a most successful season, and the cups and prizes which were distributed during the evening numbered upwards of eighty. Some interesting and witty speeches were delivered, notably by J. C. Percy and T. W. Murphy, representing the "Motor Press," and by F. A. Wallen, representing the "Trade," and these, together with a lengthy musical programme, prolonged the evening to a late hour. A suggestion that the club should organise a motor cycle gymkhana at one of the skating rinks was well received.

Southampton and District M.C.

The annual dinner took place on the 29th ult. at Scullard's Hotel, after which the prizes won during the season were presented, Messrs. S. W. Woolford, S. Docking, C. Prince, S. I. Rodgers, W. Tuffin, and H. P. Young being the recipients. The evening closed with a musical entertainment.

Bristol M.C.C.

A new club was formed on Wednesday, November 29th, in Bristol with the above title, at a most enthusiastic and crowded meeting at the Royal Talbot Hotel. This club has been formed purely for the development of motor cycling only, and a large programme is in store for next year in the shape of open hill-climbs, long and short distance trials for medals and cups, inter-club runs, and fixtures of a social character. The officers elected were as follows: Chairman, Dr. Llewellyn, captain, Mr. F. C. Wasley; hon. treasurer, Mr. J. B. Kellar; hon. sec., Mr. Philip Grout. Headquarters are at the Queen's Hotel, Clifton, and the next meeting will be held on Tuesday, December 12th, at 8.30 p.m. The hon. secretary's address is Warmley, near Bristol.

Birmingham M.C.C.

Only three of the four survivors in the autumn reliability trial put in an appearance on Saturday last, viz., R. W. Duke (3½ Zenith), R. H. Edwards (3½ Triumph), and V. Busby (3½ two-speed Humber). The course was Birmingham, Stratford, Sunrising Hill, Round Tower, and back *via* Stratford and Alcester. Busby failed on Sunrising. Duke and Edwards made non-stops. H. G. Dixon was in London and could not turn out in consequence. The fourth round starts from the Fountain, Hagley Road, at 3 p.m., Saturday.

The ninth annual dinner will be held at headquarters on January 5th.

R. W. Duke
(Zenith),
R. H. Edwards;
(Triumph),
and V. Busby
(Humber)

about to start on
the third round of
the Birmingham
M.C.C. Autumn
Reliability Trial
last Saturday.
The cental figure
is Mr. R. V. C.
Brook, the ener-
getic hon. sec.



PROPOSED ABOLITION OF CUT-OUTS.

INSPECTION BY THE LOCAL GOVERNMENT BOARD.

READERS will remember that we recently announced that the Local Government Board had decided to formulate regulations which would prohibit the use of cut-outs on all motor vehicles. The Board has conferred with the motor organisations on the subject, and in connection with cut-outs on motor cycles a representative from Whitehall visited Coventry last week and had demonstrated to him the difference in sound produced by the exhaust issuing from silencers with cut-out open and closed.

Mr. Thomas C. Ekin, who was the L.G.B. representative, visited Rudge-Whitworth, Ltd., and a party consisting of one of the directors, the works manager, and six motor cyclists mounted on machines fitted with different silencers went with Mr. Ekin along the Warwickshire lanes. The L.G.B. representative was keenly interested in the machines used for the demonstration, and asked many questions. One was with regard to the cubical contents of the silencer. He said he wished to know if size of the silencer made very much difference to the noise, and if the Board were to specify a silencer of a certain cubical content whether it would overcome the difficulty and render machines quieter. He was informed that actual size was not so important as the design of the timing gear and the contour of the cams. This was instanced in the case of one of the Rudge machines, which was fitted with quick-lifting cams to an otherwise standard engine and silencer. The exhaust from this engine was very much louder than the other five machines employed for the demonstration.

The machines tested were: (1) A standard 1912 model. (2) A standard with silencer 1 in. larger in diameter, made by placing the standard silencer inside a case, the interstices being filled in with sand; this was fairly quiet. (3) A machine fitted with an engine with

quick-lifting cams. (4) A T.T. model with long exhaust pipe extending to the rear with pepper box end. (5) A T.T. with conical-shaped horizontal silencer; this was quiet but caused back pressure. (6) A 1911 standard machine.

Mr. Ekin, who thanked the Rudge-Whitworth Co. for their courtesy, pointed out that the Board did not desire to do anything which would hamper a new and growing industry, and that whatever restrictions were placed upon the use of cut-outs or the size and type of silencer to be employed, the makers would probably have twelve months in which to make their preparations. Mr. Ekin also visited the Triumph Cycle Co.'s works and saw and heard Triumph engines running with the exhaust cut-outs open and closed. Several machines were brought into the yard and run on the stand for the benefit of the L.G.B. inspector. On the road it was noticed that, whereas a machine fitted with an ordinary silencer could be heard approaching at quite a considerable distance and was practically quiet immediately it had passed, machines provided with a long exhaust pipe terminating at the rear of the machine were practically inaudible until they had passed the spectators, when the sound of the exhaust was very much accentuated. The visit of the L.G.B. to Coventry shows that, although the Board has the matter under careful consideration, it does not contemplate imposing harsh restrictions without making every enquiry.

When the attention of the Board is drawn to a matter of this kind, exhaustive tests have to be made before arriving at any decision, but we certainly think those who have been responsible for the agitation against the noise of motors might easily have found other forms of traffic to complain of, which not only make much more noise, but are also more dangerous.



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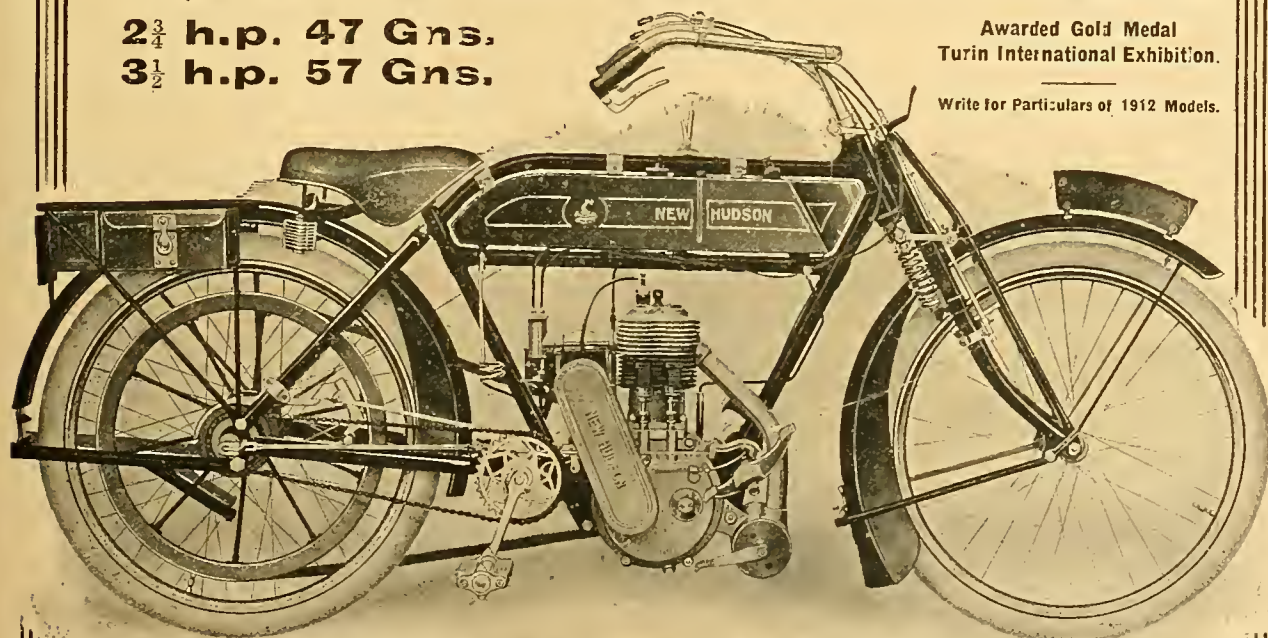
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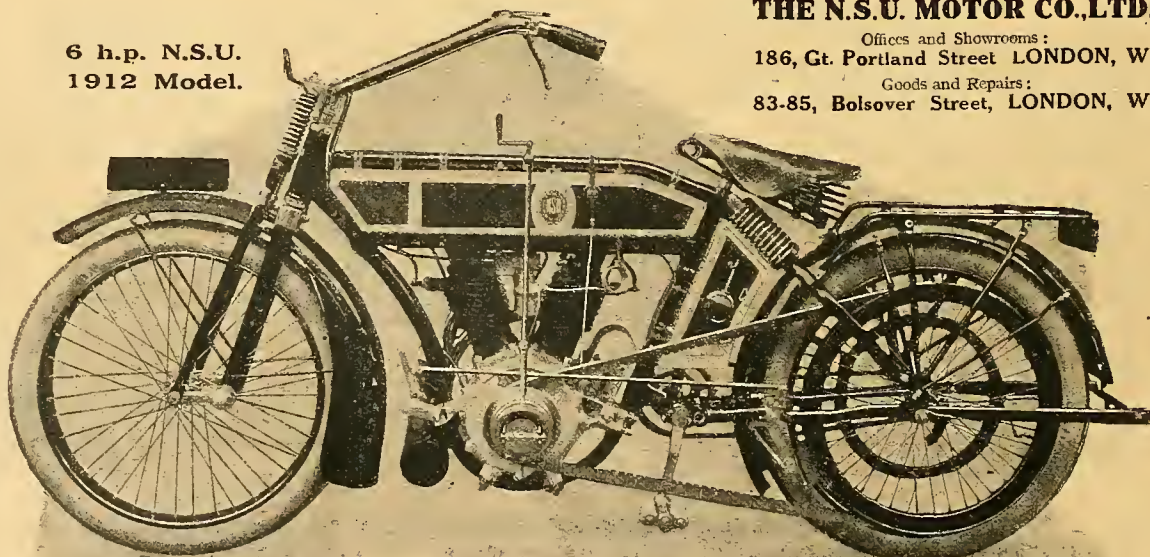
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Cost of Running a Motor Cycle.

Further Replies to a Reader's Query.

Sir,—I have read with much interest various opinions and experiences of the cost of running a motor cycle, and wonder if anyone can show a lower rate of expenditure than the following:

The machine, which is a 4 h.p. twin, was new in 1907, and all it has cost me for running expenses, taxes, licences, etc., totals well under £10. This has amazed many of my friends, who have at first declined to believe me, but I have soon proved to them that, with care, the sport can be made to suit any pocket which can be stretched to cover the first cost of a machine.

VIATOR.

Sir,—It may interest the writer of letter 6015 to know that my 3½ h.p. 1911 Premier has entailed no expense beyond the necessary cost of petrol and oil. I have just returned from South Wales, having ridden in very stormy weather. As regards the mechanism, the tour was without incident, the machine working with clockwork regularity. I have only been held up by one trouble, namely, a slipping rubber belt due to wet weather, and have yet to learn what a puncture is. It is true that I have only ridden the machine about 1,000 miles during the last three months, but these facts amply prove how reliable and inexpensive in upkeep is the modern motor cycle.

I. C. HARRISON.

Sir,—Mr. Walmsley's letter is absurd. To begin with he takes depreciation at ½d. per mile. Does he consider that after running a motor cycle 5,000 miles it is worth ten pounds less? Why, I bought a second-hand Triumph one year and ran it for over 4,000 miles, and finally sold it at a profit. Then he puts petrol, oil, and licences at ½d. per mile. My Triumph certainly does not cost this, and I do not pay my licences by the mile. He makes a tyre last half as long for half the distance with a sidecar. This is absolutely absurd, as a sidecar makes very little difference in the running cost. I have proved this by experience.

SINGLE CYLINDER.

Sir,—A fair number of my friends, some of whom ride 3½ singles, have often said to me, "Isn't your heavy weight (a four-cylinder F.N.) very expensive to run?" and they have been much surprised to hear that the cost amounts to very little more than one of the 3½ h.p. touring cycles. In case it may be of interest to some of your readers, I send you below what it has cost me to ride my F.N. for the last six months, inclusive of insurance and depreciation.

41 gals. petrol at 1s. ½d. ...	£2 2 9
2½ gals. oil (Price's C) at 4s. 6d. ...	0 11 3
Re-covering back tyre ...	0 15 0
Three sets of new inlet springs ...	0 1 0
Insurance ...	2 4 6
Depreciation ...	5 0 0

Total £10 14 6

I have covered a little over 3,400 miles, which brings cost out at 3.02 farthings per mile.

FOUR CYLINDER.

Sir,—There are a large number of would-be motor cyclists who are hesitating about the purchase of a machine for next year, because they lack the knowledge as to what the pastime will cost them and what return they can get for their money. The experience of riders in this connection should prove a help and, perhaps, an encouragement to such.

I have kept a careful record of expenses and mileage for the past six months, which are shown below, and I trust that you may find some use for them.

	Cost
	£ s. d. per mile.
Petrol consumed (31 gals. at 1s. 3d.) ...	1 18 9 ... 0.11
Oil ...	0 15 6 ... 0.04
Tyres and tubes ...	5 3 5 ... 0.3
Total expenses (excluding capital outlay, but including insurance) ...	15 17 7 ... 0.94

The machine giving the above results is a 1911 3½ h.p. two-speed Humber. The mileage to date is, for the six months, 4,000 miles, showing an average of 130 miles per gallon of petrol.

The Lyso belt supplied with the machine has done approximately 2,500 miles, and will do a further 500 before it gives out. A leather Service Co.'s belt has done duty in wet weather and at other times, and has 1,500 miles to its credit; and a Dunlop has accounted for the remainder of the mileage. The Service belt, by the way, was purchased in February, 1910, for use with a Douglas machine, and though it is only 3in. it has run with every satisfaction on the Humber, and has altogether run for something like 5,000 miles.

The Humber is fitted with a B. and B. carburettor, No. 32 jet, to which has been attached a 3in. copper tube, extending backwards from the extra air port, and to this may be attributed the low petrol consumption.

I am a chartered accountant by profession, and have used my machine for business and pleasure purposes, and the above figures will show that a motor cycle in the hands of one who is not an expert mechanic is not likely to prove an expensive luxury, provided reasonable care and commonsense are used in its treatment.

A.C.A.

Sir,—At the end of last year I initiated a discussion on the cost of running a motor cycle, and quite a number of your readers followed on. Most of them challenged the expenditure of 1.17d. per mile as abnormal, and tried to show that their motor cycling cost them only a fraction of this. The nonsense written in some of these letters was disappointing, but at the time I was too busy to analyse them and reply. Now, however, you reopen the matter, and in your issue of November 23rd five letters are published which give the costs as .81d., 2.38d., 1.3d., 1.25d., and 1.73d. respectively. These correspondents are nearer the mark, but, I submit, none of the results published are so fair as my own, and for these reasons, namely, my twelve months' mileage of about 10,000 with an overhaul of the machine at the end, permitted account of renewal of tyres and other parts subject to wear being included, and in the expenses were included all those items which belong to the running of a motor cycle. For example, one does not buy special overalls if one does not ride a motor cycle, nor does one buy a shed unless it is to put something in it. Therefore, the clothing is an item of motor cycling expense, and an annual charge must be allowed for the use of the shed.

To show further that my expenditure of 1.17d. per mile was an average one, I have reckoned up the cost for the second twelve months, making the same charges for depreciation, etc., and the result is practically identical. I am not going to fill your space with details; the simple fact is significant enough.

Some of the correspondents who have written on this subject have considered the cost of oil and petrol only, but these are very small items amongst the necessary expenses. Others who have only run a few thousand miles and have had no tyre renewals make no allowance for these, and publish results of wonderful running at ½d. and ¼d. per mile, but if a tyre gives out in the next ten miles after their experiences are published, and a cost of 50s. to 60s. is incurred, what is the effect on their average?

It is a mistaken policy to induce people to believe that motor cycling can be indulged in for practically nothing; it causes many to buy who cannot really afford it, and it is far better that they should know the truth beforehand. If present costs are excessive, let manufacturers set themselves to eliminate the cause. No good can come from shutting our eyes to obvious facts. At present, unfortunately, the tendency is to increase costs. Certain machines in 1912 will be £8 to £10 dearer than they were in 1909, and a further disappointing fact is the reluctance of the makers to increase their output to meet the demand. Some firms showing at Olympia had the effrontery to declare that they were full up with orders for 1912 and could not deliver. We poor riders want to know why these firms showed at Olympia at all, and why they make such a shout of 1912 improvements.

GEO. PIRIE.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Registration Numbers.

? About four years ago I registered a motor cycle in Surrey, and sold it in the same year. I have not had one since. Can I use the same numbers on a new machine I am now getting?—W.H.R.
You will have to have special permission from the authorities to use these numbers on your new machine, and will have to pay the full registration fees.

Willesden to Stamford.

? Will you be kind enough to give me the best routes from Willesden to Stamford, Lincs., what sort of roads and distances, and if possible an alternative route for the return?—W.H.W.
Your route will be as follows: Hendon, Barnet 11½, Hatfield 20½, Hitchin 34½, Biggleswade 45½, Eaton Socon 55, Norman Cross 76½, Stamford 90. Return via Stamford, Kettering, Higham Ferrers, Bedford, Luton, St. Albans, Edgware, and Willesden. The road is good beyond Barnet. The distances given are from London.

Tricar or Sidecar.

? I require either a motor bicycle and sidecar, or a tricar, second-hand, for myself and wife; also I want the cheapest as regards running. (1.) I notice second-hand tricars are very cheap and out of fashion. What is the drawback to them? Are they more expensive to run? (2.) If I can get a good second-hand accumulator bicycle, I thought of fitting a Helleken dry battery. Would this work as well as a magneto, and as cheaply in the long run? Is it a fact that one of these dry batteries will run a bicycle 1,500 miles? (3.) Could I recharge the dry battery when it became exhausted?—W.B.

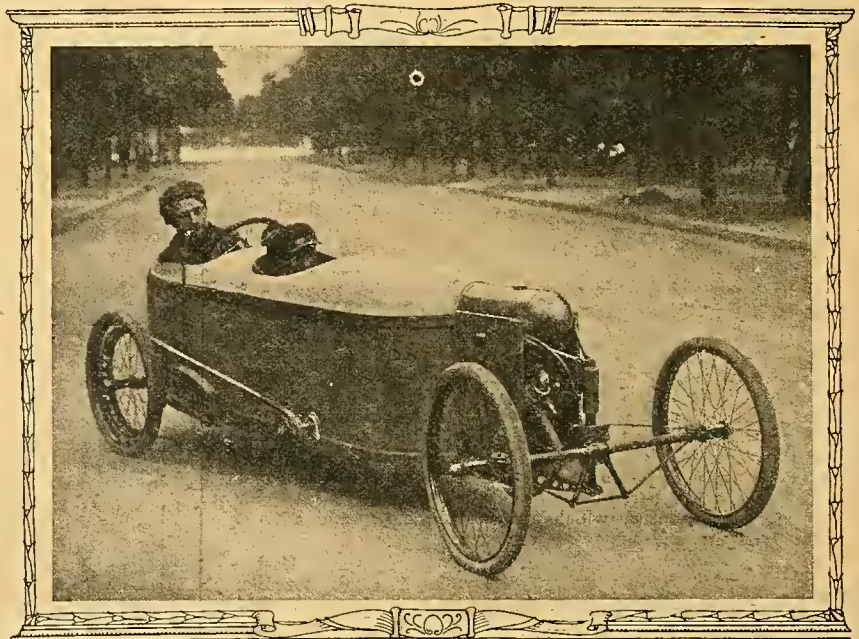
(1.) The tricar is out of fashion on account of the tandem seating and inaccessibility of the back wheel, and it is difficult to produce these machines as cheaply as a motor bicycle and sidecar; also, when not sprung, they are not comfortable on bad roads. There is not much difference in the cost of running, but the sidecar will probably be the cheaper. (2.) Nothing works so well as a magneto, which causes no expense beyond the first cost. Yes, one of these batteries will last 1,500 miles, provided that the coil is an economical one. (3.) It cannot be recharged, and is, therefore, of no further use.

Knocking and Lubrication.

? Can you kindly give me some help in the following? (1.) Squeaking from somewhere, most probably from the engine. I have tried to remedy it with oil, but that has had no effect. (2.) Being a novice, I wish to ask what is the best way to detect when the engine is knocking, and also the best remedy for it? (3.) What do you advise as to lubricating the engine? When lubricating my engine I either put too much or too little, and often cause misfiring. Is it too much oil that causes the gumming of the piston, and is there any way to prevent it? (4.) Can I find a way to stop the rattling noise of the cycle? It rattles a good bit when I go uphill, and also it shakes the lamp so much that I am afraid the lamp will break off.—T.C.L.

(1.) If you can make absolutely certain that there is no bearing or working part dry, you will probably find that the trouble is due to the hiss of the air

through the release valve or carburetter air intake. This often sounds like a mechanical squeak. (2.) There is absolutely no difficulty in telling when the engine is knocking. The knocking sound is sometimes varied by a metallic clink, which is unmistakable. Slightly retarding the spark and slightly closing the air will stop it as a rule. If not, take the cylinder off and clean it and the piston head. (3.) You had better oil your engine fairly frequently, about half a pumpful every six miles. All pistons are likely to gum in cold weather, but the use of a thinner oil, and the injection of paraffin or petrol, will help to prevent it. (4.) The only way you can stop the rattling noise is to tighten up nuts that are loose. The noise may also be caused by the valve tappets, in which case the trouble is irreparable, or can only be mitigated by adjusting the tappets up to the bottom of the valve stems, if the tappets are adjustable. The minimum clearance should be about the thickness of a visiting card.



Latest model Bedelia torpedo two-seater out for a trial in the Bois de Boulogne, Paris. These light four-wheelers are increasing in popularity and attract a small crowd of interested onlookers wherever they stop.

A Motor Cycle for New Zealand.

? I should be pleased if you could inform me of the condition of roads in New Zealand for motor cycling, and whether it would be any good taking a motor cycle for use in the North end of the South Island?—C.K.W.

We should say it would be decidedly of use to you to take a motor cycle to New Zealand. The roads are not so good as those over here, but they are quite negotiable, and there are a fair number of motor cyclists in that country.

Rust and Enamel.

? I wish to ask your opinion about a paint or enamel for motor cycle frame. The enamel has chipped off in several places, and rust seems to be attacking the metal very rapidly. I have used "Velure" on a machine once before, but after a while spots of rust began to appear through it. It seems to be very hard to combat rust when once it gets started. I would be very thankful indeed for any suggestion you may have to offer.—G.D.

We do not think it is the enamel which is affecting the metal—Velure enamel is excellent—but the fact that it is chipped exposes the metal to the weather, or, most probably, the rust was there before the enamel was put on; in that case it always finds its way through. Really, the only satisfactory way to enamel the frame is to stove it properly as a manufacturer does.

A Red Hot Exhaust Valve.

? I shall be much obliged if you will kindly advise me about my motor cycle. The engine is a $3\frac{1}{2}$ h.p. 1906 or 1907 Kerry, with overhead a.o.i.v., and twice since I bought it (about a month ago) the inlet valve has blown out. The second time this occurred I looked down and saw the exhaust valve head was red hot. So far as I remember, I was going about 20 m.p.h., with the gas about one-third open and the air full on, and I fancy I switched off just previously, as I was passing some children, and opening out again may have caused an extra violent explosion. The exhaust valve opened about $\frac{3}{8}$ in., which I have since increased to $\frac{1}{2}$ in. by taking up play; it is rather pocketed. The exhaust pipe leads from the front of the cylinder to the silencer under the crank bracket. The carburettor is a 1910 B. and B. with a 32 jet. (1.) Do you think the jet is too large, or (2.) do you think it would be advisable to send the machine to a good firm of motor cycle engineers so that the parts may be thoroughly put in order? It throws oil badly, and the belt rim and back wheel want truing up. (3.) Would a shorter exhaust pipe make any difference?—C.R.

The symptoms described in your letter are usually produced by incomplete combustion; this is caused by an incorrect mixture. You might try using a slightly smaller jet, and also take care to see that your exhaust valve spring is suffi-

ciently strong. Possibly you are driving with the ignition too far retarded—that will certainly cause overheating of the exhaust pipe and valve. No, a shorter exhaust pipe would not make any difference. It would be worth while having it completely overhauled.

EXPERIENCES WANTED.

"A.C.B." (Bristol). $3\frac{1}{2}$ h.p. Lincoln Elk with sidecar.

"J.F.W." (Kingston-on-Thames). Scott two-stroke, also with sidecar.

"F.W." (Sheffield). 7 h.p. T.M.C., with and without sidecar.

"R.W.M." (Blackburn). Kempshall tyres and Dunlop belts.

"C.R.S." (New Zealand). 1911 $3\frac{1}{2}$ h.p. Brown, particularly as regards hill-climbing and sidecar work.

"A.F.S." (Bromley). Douglas, single-gear and two-speed models, with regard to hill-climbing, wear, carbonising, and valves. Also Kempshall tyres.

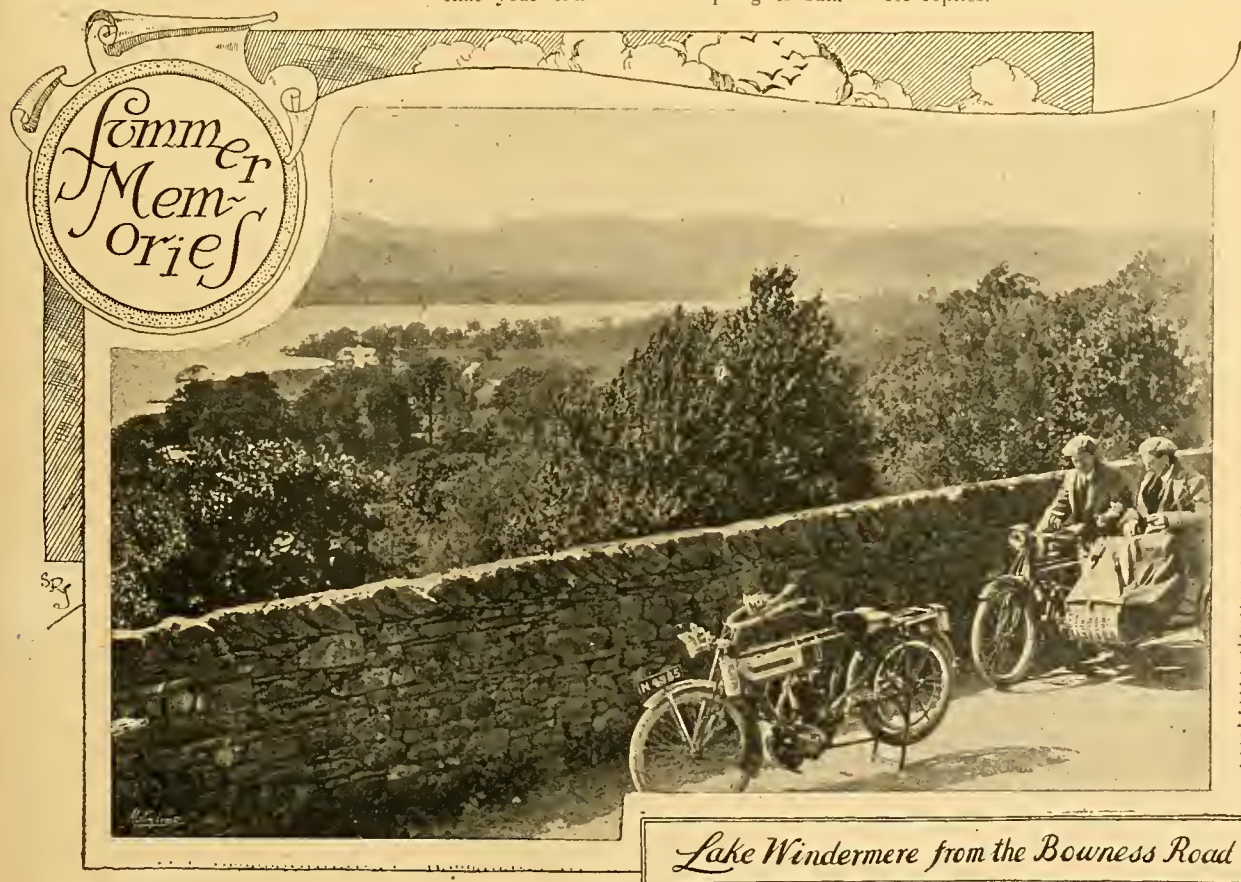
"G.N." (Warboys). Jones and Cowey speedometers fitted to Triumph.

"A.H." (London, W.). Two-seated Morgan runabout for touring purposes.

"R.E." (Bristol). $3\frac{1}{2}$ h.p. Humber and rigid sidecar. Safety of sidecar connections, danger from fire and collision.

"H.A." (Lincoln). $3\frac{1}{2}$ h.p. Zenith, ease of starting solo and sidecar.

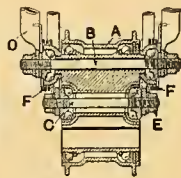
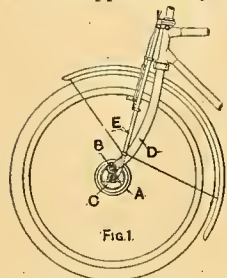
Readers who wish for answers to their communications or desire readers' experiences, are reminded that a stamped and addressed envelope must be enclosed for replies.



Lake Windermere from the Bowness Road

An Anti-vibratory Hub.

The object of this invention is to provide a resilient mounting for either the front or the rear wheel, in which all possibility of shake and side play is eliminated. The hub shell A is of large diameter, and has arranged within it two spindles B C, of which B is bolted to the fixed fork D, and C similarly attached to the supplementary fork E. Balls are



interposed between the various bearing surfaces, and it will be seen that the wheel is free to play around the eccentric spindle B, mousetrap springs F providing the necessary restraining influence. Furthermore, as the connection between the fixed spindle B and the movable one C comprises a single rigid web, no independent movement can take place.—G. Douglas Leechman, No. 22,149, 1910.

A Gradually Variable Hub Gear.

Arranged within the hub A are two free-wheel clutches B, the outer rings of which are provided with spur teeth C. Engaging the teeth C are corresponding teeth D, on rocking members E, of which there are two in the construction illustrated, though more may be employed if desired. The rocking members E are



journalled in a fixed carrier F, and are oscillated therein by the action of a rotating driving cam G, acting through rollers H. The cam G is always rotated by the engine, and is moved farther or less far into operation with the rollers by means of a quick thread device J. The following is the operation of the gear: Assuming the cam G to be rotating, and completely withdrawn from engagement with the rollers H, no motion is transmitted. When, however, the cam is advanced into engagement with the rollers oscillation of

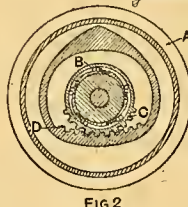
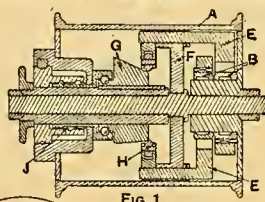


Fig. 3

Tyre Longevity.

Mr. Ernest L. Bates, of Newcastle, writes that he has used a 26x2½ in. Midland studded cover on the front wheel of his Scott for 4,049 miles, mostly with a sidecar attached. He considers it good for another 2,000 miles.

Garage for a Hundred Motor Cycles.

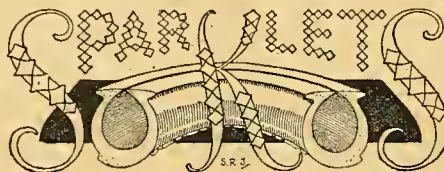
Mr. D. R. Clarke, New Century Garage, St. Albans, who is one of the first repairers to be appointed officially by the A.C.U. informs us that he has had a garage built to accommodate one hundred motor cycles.

The Motor Cycle in North Borneo.

Writing from North Borneo, Mr. R. K. Hardwick says that he has had his 1911 model Kerry-Abingdon in daily use, and although roads are not very much in evidence in that part of the country, and those in being are of a very rough nature, the K.A. has behaved magnificently, and given no trouble.

A Tyre Cover Lining.

To save damaged covers from being scrapped, the Acre Rubber Co., Ltd., High Street, Bloomsbury, W.C., have introduced a device known as the "Kuver-shield." It is a detachable endless lining made of the best Egyptian cloth, thoroughly impregnated with rubber, and manufactured in various lengths and widths. It is made and moulded on the same lines as a tyre cover. It is slipped inside the cover, and when the tube is blown up practically forms an integral part of the tyre.



Trade Items.

Mr. Sidney A. Horstmann, 1, St. George's Place, Bath, is now the manufacturer of the F.N. two-speed gear for the four-cylinder models.

London Matchless Agency.

Messrs. S. A. M. Witham and T. A. Carter, trading as the London Matchless Motor Cycle Agency, are shortly opening temporary premises at 184, Great Portland Street, W. Mr. Witham's name is familiar to habitués of the B.M.C.R.C. meetings, while Mr. Carter was formerly assistant manager to Messrs. Collier and Sons, Ltd. The firm will carry on business as sole agents for the well-known Matchless motor bicycles and J.A.P. engines and spares. Business will also be done in accessories, while exchanges will be effected. A private limited company is being formed to control this new business.

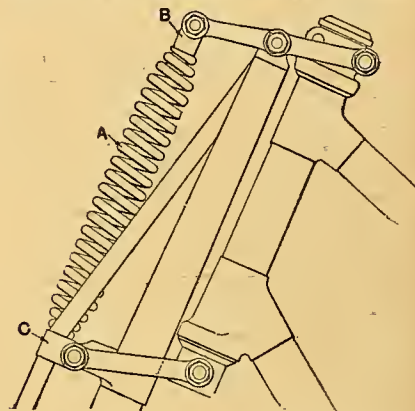
A Rapid Decarboniser.

Mr. Percy Butler, 3, St. Peter's Square, Manchester, has been appointed manager in the North of England for "Cylclean," the Internal Combustion Engine Cleaning Co., Ltd. Demonstrations will be

the members E takes place, the motion being transmitted in one direction through the spur teeth C and D to the free-wheel clutch members B, and thus rotating the hub shell. Variation of the amount of engagement of the cam G with the rollers H varies the degree of oscillation of the members E, and, consequently, the amount of motion of the one-way clutch, thus providing a gear which is of gradually variable ratio.—T. G. Jackson, No. 30,103, 1910.

The Enfield Spring Fork.

In the latest type of fork fitted to the Enfield machines a single spring A, secured to the upper and lower links



BC is employed instead of the duplicate springs previously fitted. This method removes the spring further from mud thrown up by the wheel.—Enfield Cycle Co., Ltd., and F. W. Smith, No. 25,522, 1910.

given in all the northern centres at an early date, and readers who are interested should send their names to Mr. Butler. "Cylclean" is a method of eliminating carbon deposit from the piston head and cylinder of an engine by oxygen. Practically any sized cylinder can be cleaned in a few minutes without disturbing it.

Catalogues Received.

The Premier Cycle Co.'s catalogue for 1912 is to hand, and is a most interesting little book. It includes full specifications of the several models of motor cycles made by the company and copious illustrations of parts and fittings. Those who "want to see the wheels go round" will find the diagrams of the engines, both single and twin, of special interest. The variable gears used by the company are also fully described.

The catalogue of Mr. Arthur R. Price, St. Paul's Square, Birmingham, contains descriptions of "Vevo" specialties, among which we may mention inflators, connections, ordinary and armoured, belt hooks, grease, and petrol injectors, tyre valves, and parts.

Winter Clothing.

Messrs. John Piggott, Ltd., 117, Cheap-side, E.C., have introduced a new winter jacket made of frieze with detachable leather lining and wind cuffs. This coat has a "multi-collar," which folds in three forms, with the lapels folded back, with the lapels buttoned over, forming a Prussian collar, and with the collar turned up and with a flap buttoned over thoroughly protecting the rider's neck.

A.S.L.

MOTOR CYCLE

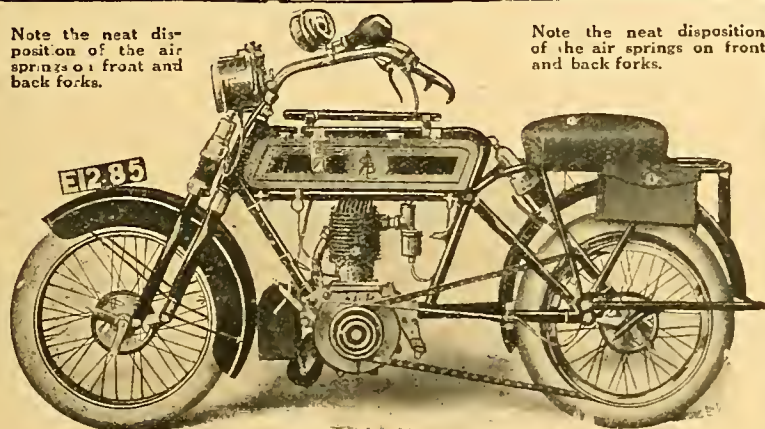
Read "The Motor Cycle"
expert's opinion of the "A.S.L."
(Nov. 16/11).

"It is certainly the best sprung motor cycle we have ever ridden. We were surprised at the absence of road shocks. Although we intentionally found all the worst bumps in the road, we suffered no unpleasant jars. The action of the air springs should go far towards prolonging the life of the engine and frame fittings, etc."

Comment is superfluous.

'Riding
on Air'

Note the neat disposition of the air springs on front and back forks.



Note the neat disposition of the air springs on front and back forks.

3½ h.p. Single-cylinder.

"RIDING ON AIR"

WORKS—
Corporation St., Stafford.
HEAD OFFICE—
3, Great Winchester St.,
London, E.C.

Telegrams—"Infrequent, Lon. Lon."
Telephone—1435 London Wall.

SHOWROOMS—
G. N. HIGGS, 31,
Vauxhall Bridge Rd. S.W.

Telephone—
1215 Victoria.

'Riding
on Air'

**MADE FOR
QUALITY
REGARDLESS
OF EXPENSE
— YET THE
PRICE IS
MODERATE.**



You will often be urged to buy a motor cycle on the strength of some one claim to favour—some one point that distracts attention from faults in design or construction. Although the "Bat" has an enviable reputation as being the most comfortable motor cycle in the world, the famous Spring Frame is only one of its good and unique features. Every other feature is equally efficient, the Two-Speed Gear Box, the Expanding Clutch, the Improved Spring Forks, the Strengthened Frame, the Automatic Lubrication, the protected Magneto, the BAT-J.A.P. Engine, etc., etc.

CATALOGUE FREE FROM
THE BAT MOTOR MANUFACTURING CO.,
PENGE, LONDON, S.E.



S. & H.

In answering these advertisements it is desirable to mention "The Motor Cycle."

B29

Overwhelming String of WORLD'S RECORDS

on

WAKEFIELD 'CASTROL'

At Brooklands, November 21st, W. L. T. Rhys, on a 3½ h.p. "Rudge," broke the 250 miles, 300 miles, the 5 hours', and the 6 hours' Records.

J. T. Bashall, on a "BAT" and sidecar, set up the Hour Sidecar Record, using the same world-renowned lubricant.

C. C. WAKEFIELD & CO.,
27, CANNON STREET, E.C.

C.D.C.

FIT THE U.H. MAGNETO

and say good bye to ignition troubles
You will never know what motor
cycling really can be like until you
do.

Equally good on new and old
machines.

GUARANTEED 12 MONTHS.

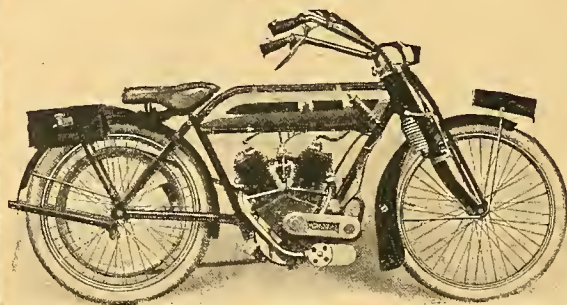
Send for booklet, it's free on request.

**S. WOLF & CO., 115, Southwark St.,
LONDON, S.E.**

Tele: "Widerstand, London." Phone: 5172 Central.

C.D.C.

DEVOID OF TROUBLE — MOTORS. —



6 and 8 h.p. Models.

The Finest Machine
in the World for

Design, Workmanship, & Finish.

8 h.p. TWIN J.A.P.	55 Guineas.
6 h.p. TWIN J.A.P.	54 "
4 h.p. SINGLE J.A.P.	45 "
4½ h.p. SINGLE PRECISION	43 "
3½ h.p. SINGLE PRECISION	45 "

Any of the above Models fitted with the V.S. Two-speed
Gear and Free Engine at an extra cost of 10 Guineas on
above prices.

Orders can now be booked for early delivery in 1912.

MANUFACTURERS AND PATENTEES—

H. Reed & Co., Deansgate, Manchester.

P.C. will fetch Lists.

DOWN TO THE LAST DROP

"RUSOLINE"

MOTOR OIL LUBRICATES.

We are gratified at the numerous requests
we have had for our little booklet, entitled
"Motor Lubrication," which we will mail as
soon as we get a fresh supply. Meantime,

TEST "RUSOLINE."

Manufactured under the supervision of

W. RUSSELL

(Late of Price's Patent Candle Co. Ltd.),

London,

BY

RUSSELL BROS., National Oil Wks., BIRMINGHAM.

HUB LUBRICANT

TRY
A
TIN.

has been specially prepared for hubs and other ball bearings on the motor cycle. It is quite easily applied, and it stops in and keeps wet and grit out.

HUB LUBRICANT

besides being particularly suitable for hubs, is equally adapted and recommended for motor cycle two-speed gear boxes such as the Douglas and Bowden.

TRY
A
TIN.

HUB LUBRICANT

ensures cool, clean, and free running with the least amount of leakage. There is not a great deal of energy to spare even on the modern motor cycle, and inefficiently lubricated gear wheels running at high speed will absorb a serious proportion.

Write for H. L. literature to—

PRICE'S PATENT CANDLE CO. LTD.,
BATTERSEA, LONDON, S.W.

Hub Lubricant—post free— $\frac{1}{2}$ lb. tins, 9d.; 1 lb. tins, 1/-



"Send and SEE."

—Seeing is believing!

—Send for a section of "The PEDLEY 3-rib NON-SKID TYRE De Luxe" and test it—note its phenomenal toughness of para rubber—its abnormally thick walls and strong foundation—its unique tread and accurately moulded design—then you'll see where the extra value of the PEDLEY comes in!

—Or—ask your Agent to show you a PEDLEY cover, for the actual cover enables you to learn its other merits, particularly its enormous strength and obvious wear-resisting qualities.

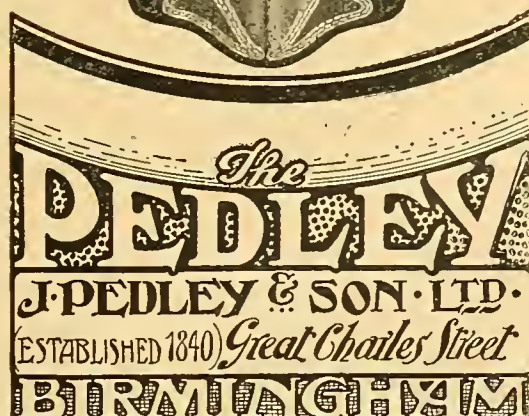
—We'll send along a cover for your inspection if desired.

—If you've not ever tried riding on a "PEDLEY" TYRE before, do so now. You'll never regret the investment.

'PEDLEY' 3-rib non-skid

COVERS (26 x 2 $\frac{1}{2}$ in.), Beaded Edge ... 48/- each.

Inner Tubes, 10/3; or Extra Heavy ditto, 12/- each



MEMO TO ALL OWNERS OF MOTOR CYCLES

Put in a first-rate plug,
and you will appreciate the difference.

There is no plug to touch the



Go to the nearest cycle dealer and ask for a Lodge Plug, Motor Cycle type. It is supplied in a red box. The green boxes contain the car plugs. The price is

4/-

and each plug is supplied with Steel Gauge, Copper-Asbestos Washer, and 'Push-on' terminal in addition to ordinary milled terminal nut.

If any difficulty in obtaining, write to the makers—

LODGE BROS. & CO.,
Dept. E., New St.,
BIRMINGHAM,

who will supply on receipt of remittance, post free, by return of post.



In answering these advertisements it is desirable to mention "The Motor Cycle."



**Crowned
by its own
Successes !**

For many seasons our bands have been recognised as the entirely dependable

Motor Cycle Detachable Bands.

The prices are moderate, and the lasting qualities are unique. May we send you full particulars ?

Roberts Belts are as good as their Bands
—further recommendation is unnecessary.
Illustrated particulars free on request.

THE ROBERTS MOTOR TYRE CO.,
Gripwell Works, St. Mary's Row, BIRMINGHAM.

MATCHLESS

"The Passenger Machine"

That takes you out and brings you home again with the speed of an Express Train, and the quietness of a £1,000 car.

**6 Weeks' Delivery from
date of Order Guaranteed.**

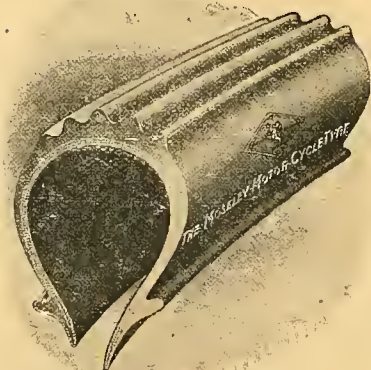
**ALL Spare Parts in
Stock for Engine, Gear, and
Machine.**

REPAIRS. EXCHANGES.

— "The Only Authorised AGENTS"—

The LONDON MATCHLESS MOTOR CYCLE AGENCY
184, Great Portland Street, LONDON, W.

MOSELEY GROOVED



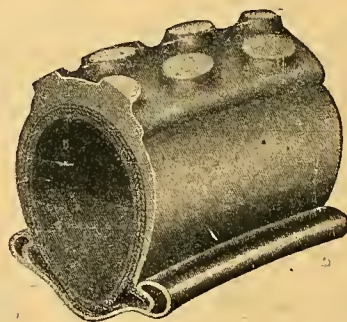
Extra strong beads, 3-ply heavy canvas
36/- per cover, 26 x 2½ beaded.

FROM ALL AGENTS.

Catalogue free from the makers—

DAVID MOSELEY & SONS, LTD.,
Ardwick, MANCHESTER.

FOX



40/- Rubber-stud Covers.

A few Shop-soiled to clear at

22/6 each.

NET CASH WITH ORDER. APPROVAL.

Not damaged or old stock. They carry same guarantee as ordinary new goods.

ORDER AT ONCE OR YOU WILL LOSE A GREAT BARGAIN.

FOX (Dept. D.), 30, John Bright Street, BIRMINGHAM.

"READ and INWARDLY DIGEST."

1912 MODELS

awaiting your acceptance in MORE-CAMBE on CASH, EXCHANGE, or DEFERRED Terms:

SCOTT, 2-speed	Offers
P. & M.'s, 2-speed models	Offers
MORGAN RUNABOUTS	Offers
MATCHLESS, 8 h.p., 2-speed	List price
BAT-J.A.P., 8 h.p., 2-speed	List price
ZENITH, 6 h.p., 2-speed	£70 7
ZENITH, 3½ h.p., 2-speed	£55 13
BRAIDBURY, chain drive, 2-speed	£58 10
BRAIDBURY, belt drive, 2-speed	£55 0
BRAIDBURY, ordinary model	£48 10
BRAIDBURY, free engine model	£54 10
PREMIER, 3½ h.p., sidecar machine	List price
CLYNO, 5-6 h.p., 2-speed	£68 5
CLYNO, 4-speed	£73 5
HUMBER, 3½ h.p., 2-speed	£52 10
HUMBER Lightweight	£37 0
HUMBER Lightweight, 3-speed	£10 10s. extra
HUMBER Lightweight, T.T. model	£42 0
HUMBER Lightweight, Lady's model	£40 0
HOBERT, Lady's model	List price
A.C. TRIARS	List price
HUMBER, 3½ h.p., pedal motor cycle	£47 10
HUMBER, 2 h.p., lightweight, single	£37 0
DOUGLAS, "C" model	£41 0
DOUGLAS, "H" model	£47 0
DOUGLAS, "I" model	£47 0
DOUGLAS, "K" model	£50 0
DOUGLAS "L" model, lady's	£52 0

NEW & SECOND-HAND MODELS.

SCOTT, 1911, brand new	£60 0
PHOLON & MOORE, 1911, brand new	£60 0
ROYAL ENFIELD, chain drive, 1911, new	£40 0
REX DE LUXE, 5 h.p., as new, 1911 model	£50 0
PHOLON & MOORE, 1910, extra good	£50 0
CRESCENT CAK, as new; cost £95	£80 0
MOTO-REVE, twin, new	£28 10
MOTO-REVE, single, as new	£22 0
J.A.P.-BAT, 4 h.p., 1911, as new	£35 0
INDIAN (green), 5-6 h.p., 1910	£35 0
N.S.U., 1910, 2-speed gear	£35 0
PHOLON & MOORE, 1910, good order	£45 0
HUMBER, 2-speed gear, 1910, fine order	£38 0
MATCHLESS, 2-speed gear, 1911	£55 0
HUMBER (lightweight), 3-sp. gear, as new	£39 0
ROYAL ENFIELD, 1910, good order	£28 10
J.A.P.-CHATER-LEA, 10 h.p., racer	£36 0
REX, 1910 SPEED KING, as new	£39 0
ZENITH, 1909, 5-6 h.p.	£32 10
J.A.P.-CHATER-LEA, F.E., 8 h.p.	£36 0
BRAIDBURY, 1910, fine order	£36 0
BROWN, 3½ h.p., F.E.	£27 10
TRIUMPH, 1911, new	£48 15
J.A.P.-CHATER-LEA, 5-6 h.p.	£22 10
F.N. Two-speed Lightweight	£27 10
TRIUMPH, 1909	£32 10
BROWN, 5 h.p., twin	£35 0
INDIAN, Red, 1910	£40 0
INDIAN, Green, 1910	£37 0
TRIUMPH, 1911, F.E., new	£55 0
SINGER, 2 h.p.	£13 10
NORTON, 5 h.p., two-speed	£49 0
TRIUMPH, 1910	£35 0
MINERVA, 3½ h.p.	£17 10
MINERVA, 3½ h.p., two-speed	£35 0
GRITZNER, F.E.	£18 0
REX, 3½ h.p., good order	£25 0
REX, 3½ h.p., nice line	£27 10
SINGER, 1911, Lightweight	£30 0
HUMBER, two-speed, 1910	£38 10
REX DE LUXE, 5 h.p.	£39 0
ROYAL ENFIELD, 1910	£27 10
SINGER, 3½ h.p.	£19 10
N.S.U., 3½ h.p.	£18 0
QUADRANT, 4 h.p.	£18 0
CLYDE, 2½ h.p.	£13 10
F.N., 1½ h.p., good order	£13 10
QUADRANT, 3½ h.p.	£16 0
MOTO-REVE, twin, 1911	£30 0
N.S.U. 3 h.p.	£15 0
Lady's SINGER, 1911, as new	£29 10
MOTO-REVE, 1910	£22 10
HERALD, 4½ h.p. Stephen	£22 0
SIMMS, 1½ h.p.	£12 0
HUMBER, 3½ h.p., belt-driven	£18 0

MINERVA-J.A.P., F.E.	£25 0
BRADBURY, 3½ h.p., 1910	£36 0
MOTO-REVE, single-cylinder, 1910	£22 10
BRAITHWAITE, 3½ h.p., two-speed	£27 0
SCOTT, 1911, as new	£50 0
F.N. Four-cylinder, 4½ h.p.	£25 0
BRAITHWAITE, 4 h.p.	£17 0
REX SPEED KING, 5 h.p.	£40 0
REX, 3½ h.p., good puller	£20 0
DOUGLAS, 1911	£33 0

HEAPS MORE ON WEEKLY LIST.

ACCUMULATOR MODELS.

From £3 down and 5/- per week.

ARIEL, 2½ h.p., Michelin and Dunlop tyres	£11 0
F.N., 2½ h.p., good puller	£10 0
F.N., 1½ h.p., nice order	£10 0
REX, 3½ h.p., enamelled French grey	£12 0
HUMBER, 2½ h.p., useful mount	£9 0
HUMBER, 3½ h.p., decent machine	£12 0
HUMBER, 2½ h.p., ready for the road	£10 0
HUMBER, 3½ h.p., splendid condition	£17 0
FAFNIR, 3½ h.p., general condition good	£12 0

We have now arranged to have weekly specification lists, and shall be pleased to send you one. By the by, have you got our Accessory List? If not, send at once! The canary is well.

ACCESSORIES.

ARTICLE.	Sale Price.
Long Hand'e-bars	4 7½
Triumph Pattern Ditto	4 11
Separate Generator Lamps	11 11
Special Bracket Ditto	19 11
S.H. Leather Coats	12 11
S.H. Leather Suits complete	15 11
Waterproof Umbrella Coats	5 5½
Oilskin Breeches	2 7½
New Large Motor Cycle Saddles	7 11½
New Inner Tubes, all sizes	4 7½
New Cowey Speedometers	£3 15
New Jones Speedometers	£2 15
New Covers	from 11 11½ to 16 11
New Pannier Bags	from 2 11½ to 5 11
Swan-neck Seat-pillars	2 7
Strang Black Enamelled Carriers	3 11
E.I.C. Plugs, 2/6 size	- 11
Parker's Self-contained Lamps	15 5½
Sidecar Aprons, wool-lined	6 5½
Spec. Twist Harns	3 11
Triumph Pattern Horns	4 5½
Tube and Bolt Cases	5 5½
Rubber Belts, 7½ x 4 in.	5 5½
1911 B. & B. Carburettors, H.B.C.	22 6
S.H. Trembler Coils	6 7½
S.H. Non-trembler Coils	6 5½
S.H. Nab Seat-pillars	6 11
Garner Whistles	11 11
Tan Gauntlet Gloves, lined	4 5½
Tan Gauntlet Gloves, unlined	4 11
New Butted Tubes, all sizes	10 11
Leather Gauntlet Gloves	2 10
Mudguards, enamelled, 3½ in. and 4 in.	3 5½
H.B. Watch and Holder	3 10½
Special Ditto	4 7½
Waterproof Leggings	4 7½
Waterproof Leggings, with fronts	7 11½ & 9 11
Waterproof Suits	11 11
Dunlop Suits	27 6
Hellisen's Dry Cells	4 6 and 6 6
Triumph Compression Domes	1 11
New Generators	3 10½ and 4 7½
S.H. Parker Generators	6 7½
S.H. P. & H. Generators	6 11
S.H. Carburettors, H.B.C.	11 11
Horn Grips	1 10
Lamp-brackets, all patterns	1 10
Morecambe Studded Covers	18 11
Heavy Ditto	22 11
Mabon Free Engine	£2 2
F.I.E.N. Magnets	£3 4 11
New F.R.S. Generators	6 11
Exhaust Cut-outs	2 10½
H.B. Mirrors	2 7½ and 4 5½
H.B. Watch Holders	- 9½ and 1 10½
Self-contained Lamps	12 11½
New Red Tubes, all sizes	8 5½
Leather and Steel-studded Bands	18 11½
Carbide Carriers	1 9
Rubber Goggles	1 3
Brass Exhaust Whistles	2 10½
Felt Grips	3 11½
1 in. Dermatine Belting	per foot
1 in. Lyso Belting	1 8
Bowden H.B.C.'s	8 5½
S.H. Unit Couplers	9 11½

ARTICLE.

Sale Price.

Tin Tube Cases	1 5½
New Front Brakes	5 11½
New Back Brakes	7 11½
S.H. B. & B. Carburettors, H.B.C.	15 11½
S.H. Amac Carburettors, H.B.C.	14 11½
S.H. Bowden Brakes	9 11½
New Kit Ariel Tools	11 11½
Oilcans, new	- 5½
Petrol Funnels, new	- 7½
Special Belt Fasteners	- 5½
Vulcan Belt Fasteners	- 10½
Bradbury's Adjustable Pulleys	11 11½
Assorted Adjustable Pulleys	6 11½
S.H. Lucas and F.R.S. Lamps	from 19 11
S.H. Brooks's Saddles	10 11½
S.H. Odd Saddles	6 11½
S.H. Electric Lamps	4 11½
S.H. Generators	1 11½
S.H. Self-contained Lamps	4 11½
S.H. Separate Generator Lamps	3 11½
S.H. Triumph Cylinders	25 11½
S.H. Triumph Pistons	8 11½
S.H. Odd Cylinders	from 19 11
S.H. Odd Pistons	6 11½
S.H. Odd Parts of Engines	Cheap
S.H. Odd Bags	from 1 11½
S.H. Rubber Belts	from per foot - 9
Chemico Repair Outfits, 1/6 sizes	- 8½
Dunlop Repair Outfits, 1/6 size	1 11½
Patheuch Outfits, 3/4 sizes	2 6
Matchless Spring Forks	12 11½
XL All Spring Forks	12 11½
Bowden Light Brakes	4 11½
Veeder Cy-tometers	10 11½
New Brooks's Padded Saddles	19 11½
S.H. Brooks's Pan Seat Saddles	19 11½
S.H. Ukant's Stands, 2½ in. wheels	2 11½
Small Pannier Bags	2 11½
Extra Large Pannier Bags	4 11½
Bosch Plugs	3 6
Lodge Plugs	4 6
Lucas Rear Lights	1 11½
Three Strang Sales	each £3 19 11½
Two Smaller Ones	£2 19 11½
Harrison's Back Rests	7 11½
S.H. Auto. Variable Pulleys	12 11½
S.H. Mat-less Spring Forks	9 11½
Straight Silencers	2 11½
S.H. N.S.U. Fan	4 11½
S.H. Brown Free Engine	13 11½
S.H. Mabon Variable Pulley	£1 19 11½
S.H. Albion Four-speed	19 11½
S.H. Brooks's Large Carrier Bag	4 11½
S.H. N.S.U. Two-speed	£2 19 11½
S.H. Albion Free Engine	£1 19 11½
S.H. Bradbury Spring Forks	19 11½
S.H. Bradbury Spring Forks (1910)	24 11½
New XL All Saddles	29 5½
New XL All Pan Seat Saddles	48 11½
New F.R.S. Back Rests	25 11½
S.H. Douglas Footrests	4 11½
S.H. Footrests	4 11½
S.H. Pumps	1 3
S.H. Horns	1 11½
S.H. Butted Tubes	from 4 11½
S.H. Circular Tubes	3 11½
S.H. Carriers	1 11½
S.H. Rom Covers	24 11½
S.H. Kempshall Covers	35 11½
S.H. Covers, various	8 11½
S.H. Foot Pumps	3 11½
Deance Watches	3 11½
S.H. Mudflaps	1 5½
S.H. Tank Control Carburettors	1 11½
Top Tube Generator Brackets	- 10½
Odd Pulleys	from 4 11½
Belt Punctures	- 10½
Large Car Coils	9 11½

LOTS OF OTHER BARGAINS.
Lis tr e.

TO THE TRADE. WANTED.

1912 P. & M.'s at £60, SCOTT'S at £60, MORGAN RUNABOUTS at 5% off retail price, and TRIUMPHS at 5% over cost. Cash waiting.

**HITCHEN'S MOTOR
EXCHANGE CO., LTD.,**
—The Money-back Firm,—
MORECAMBE.

Telephone :
112.

Telegrams :
"Motor, Morecambe."

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



SECTION I.
Northumberland, Cumberland, Durham, and Westmoreland.

SECTION II.
York and Lancashire.

SECTION III.
Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

SECTION IV.
Nottingham, Lincoln, Leicester, Rutland, Northampton, and Warwick.

SECTION V.
Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

SECTION VI.
Worcester, Hereford, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

SECTION VII.
Gloucester, Oxford, Buckingham, Berks, Wilts, and Hants Channel Islands.

SECTION VIII.
Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

SECTION IX.
Somerset, Devon, Dorset, and Cornwall.

SECTION X.
Scotland.

SECTION XI.
Ireland and Isle of Man.

IT'S MOST IMPORTANT THE MAN ABOUT TO START



Motor cycling should first visit the splendid show of machines always on view at

WAUGHOPES

Nowhere in the United Kingdom is it possible to see such a great display of the latest and best

1912 MODELS OF ALL THE MOST FAMOUS MAKES.

Nearly 250 New and Second-hand Machines; a most unique collection from which every buyer can be sure of making a satisfactory choice.

OUR 70-DAY'S LIST INCLUDES		
4603.	3 1/2 h.p. 1910 Standard TRIUMPH	£35 0
4605.	5-6 h.p. 1910 Four-cylinder F.N.	£25 0
4607.	3 1/2 h.p. 1911 KERRY-ABINGDON	£32 0
4715.	3 1/2 h.p. 1911 SCOTT	50 Gns.
4709.	3 1/2 h.p. 1910 P. and M. and sidecar	£45 0
4707.	3 1/2 h.p. 1910 LINCOLN-ELK	£23 0
4706.	2 1/2 h.p. 1911 lady's MOTOSACOCHE	£29 0
4701.	2 1/2 h.p. 1909 twin N.S.U.	£20 0
4699.	3 1/2 h.p. 1910 2-speed HUMBER	30 Gns.
4692.	4 1/2 h.p. 1909 four-cylinder F.N.	£20 0
4691.	3 1/2 h.p. 1911 P. and M.	£50 0
4690.	8 h.p. 1911 2-speed MATCHLESS	£55 0
4689.	3 1/2 h.p. 1910 tourist REX	£28 10
4688.	3 1/2 h.p. 1911 2-speed HUMBER	£36 10
4686.	3 1/2 h.p. 1911 ZENITH GRADUA	£42 10
4682.	3 1/2 h.p. 1911 T.T. TRIUMPH	£35 0
4677.	3 1/2 h.p. 1910 BRADBURY	£30 0
4676.	8 h.p. 1911 BAT, Roc 2-speed gear	£50 0
4675.	2 1/2 h.p. SINGER	£12 10
4673.	5-6 h.p. 1911 four-cylinder F.N.	£35 0
4685.	3 1/2 h.p. 1911 2-speed HUMBER	£37 10
4670.	3 1/2 h.p. 1911 BRADBURY	£35 0
4277.	1 1/2 h.p. 1910 SINGER Moto-Velo	£22 10
4393.	3 1/2 h.p. 1911 CHASE, Peugeot eng.	30 Gns.
4420.	3 1/2 h.p. 1911 F.E. PREMIER	40 Gns.
3894.	1 1/2 h.p. 1910 F.E. MOTOSACOCHE	£22 10
4308.	7 h.p. 1910 2-sp. V.S. and sidecar	40 Gns.
4312.	3 1/2 h.p. 1910 Standard TRIUMPH	£37 10
4229.	8 h.p. 1910 Standard BAT	£40 0
4564.	3 1/2 h.p. 1911 F.E. TRIUMPH	£45 0
4448.	3 1/2 h.p. 1911 Standard BRADBURY	£37 10
4527.	3 1/2 h.p. 1911 KERRY ABINGDON	£33 0
4533.	2 h.p. 1911 HUMBER, Armstrong 3-speed gear	£35 0
4361.	3 1/2 h.p. 1911 F.E. BRADBURY	40 Gns.
4474.	3 1/2 h.p. 1910 Standard PREMIER	£30 0
4370.	2 1/2 h.p. 1911 Standard DOUGLAS	£32 10
4322.	3 1/2 h.p. 1911 2-speed N.S.U.	£37 10
4425.	3 1/2 h.p. 1911 F.E. PREMIER	40 Gns.
4552.	3 1/2 h.p. 1907 TRIUMPH	£23 10
4432.	5 h.p. 1909 Twin REX DE LUXE	£32 10
4346.	3 h.p. 1909 FAFNIR	£20 0
4492.	2 1/2 h.p. 1910 DOUGLAS	£26 10
4537.	3 1/2 h.p. 1910 CENTAUR	£28 0
4573.	2 1/2 h.p. 1908 DOUGLAS	£15 0
4160.	2 h.p. 1908 MOTO-REVE	£15 0
4479.	2 1/2 h.p. MINERVA	£6 10
4260.	2 1/2 h.p. BRADBURY	£10 10
3295.	1 1/2 h.p. MOTOSACOCHE	£17 10
4404.	3 1/2 h.p. 1908 WANDERER & sidecar	£25 0
4444.	1 1/2 h.p. 1909 WOLF	£12 10
2965.	2 h.p. 1909 MOTO-REVE	20 Gns.

Send details of your used machine and receive our handsome liberal exchange offer in part payment of new 1912 model, delivered now or at opening of 1912 riding season.

9, SHOE LANE, FLEET ST.,
LONDON, E.C.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, 2d. will be charged for registration, and three stamped and addressed envelopes must be sent or forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 10, c/o 'The Motor Cycle,' Coventry"; or it "London" added to the address, then to the number given, c/o The Motor Cycle, 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons are dealt in perfect safety by availing themselves of our deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under 10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Hiffe and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

1911 Standard Triumph, first-class condition; £38, or close offer.—Whittaker, High St., Sunderland.

3 1/2 h.p. N.S.U., magneto, condition excellent; £13/10; going abroad.—Greene, Workington.

1909 Free Engine Triumph Motor Cycle, in perfectly sound order; £35.—Hayward, Skinnergate, Darlington.

3 1/2 h.p. Singer Motor Cycle, free engine model, been little used; £47, or near offer.—Hayward, Skinnergate, Darlington.

3 1/2 h.p. Zenith, with Gradua gear, J.A.P. engine, 1909 model; £22/10.—Hayward, Skinnergate, Darlington.

DELIVERIES now being booked for Triumphs, Singers, B.S.A., and A.J.S. motor cycles; early deliveries guaranteed.—Hayward, Skinnergate, Darlington.

N.S.U., 3 h.p., 1908, magneto, all accessories, including spare plugs, good going order; bargain, £14 cash.—Higgleton, Ryhope.

3 1/2 h.p. 1911 Standard B.S.A., done 100 miles, perfect condition take best cash offer.—Pyrah, 2, Red Barns, Crawhall Rd., Newcastle.

3 1/2 h.p. Triumph, magneto, B. and B. carburetter, 1910 Mahon clutch; genuine bargain, £25; any trial.—Nixon, Brampton, Cumberland.

FOR Sale, Phelon and Moore motor cycle, 1911 model, Kempshall tyres, 2-speed gear, in perfect order; £46.—J. Vart, jun., Cornecliffe Rd., Darlington.

TRIUMPHS, Humber, B.S.A., Royal Enfield motor cycles, lightweights, 2 speeds, free engines; write, wire, or phone for immediate deliveries.—Turvey and Co., The Motor House, Sunderland. Tel.: No. 626.

SECTION II.

York and Lancashire.

END of Season Clearance Sale to make room for new 1912 models.

1911 T.T. Triumph, like new, complete; £38.

1911 Bradbury, in fine order; £35.

1909 Triumph, complete, lamp, etc.; £30.

1909 T.T. Triumph, a flier; £28.

1908 Triumph, Palmer rear, Dunlop belt, fine order; £26.

CROSS, agent for Triumphs, Matchless, and Bradburys, Rotherham.

1908 Triumph, perfect, Dunlop tyres, nearly new; £23.—86, Fargate, Sheffield.

LATE 1909 Triumph, excellent condition; £27.—Marlow, 2, Christian Rd., Preston.

1912 Premiers 1912

We are sole district agents for this high-class make, and can give early deliveries. Very liberal allowance for your present machine in exchange.

TRIUMPH, 1909, two speeds	£37 10
PHANOMEN, 6 h.p. twin, two speeds	£35 0
TWIN REX, 6 h.p., accumulator ignition	£13 10
PREMIER, 1911, free engine, only run 100 miles	£45 0
MINERVA, 1911, 4½ h.p., spring forks	£16 10
N.S.U., 4 h.p., brand new, single-cylinder, ideal sidecar machine; listed £48	£35 0
REX DE LUXE, 5 h.p., twin, two speeds, handle starting, M.O.V., 1911 model	£48 10
REX DE LUXE, 5 h.p., twin, two speeds, 1910	£42 10
BRADBURY, new 1911 model	£44 10
REX, 3½ h.p., spring forks, magneto, h.-b. control, 1909 model	£22 10
N.S.U., 6 h.p., twin, two speeds, free engine, magneto, h.-b. control	£25 10
HUMBER, 3½ h.p., 1909, two speeds, handle starting, h.-b. control	£26 10
REX, 3½ h.p., 1908, spring forks, magneto, h.-b. control, beautiful condition	£16 10
N.S.U., 3½ h.p., two speeds, magneto	£19 10
N.S.U., 3½ h.p., magneto, good order	£16 10
QUADRANT, 3½ h.p., magneto, spring forks	£16 10
REX, 5 h.p., twin, with forecar	£11 10
N.S.U., 3½ h.p., M.O.V., magneto	£15 10
N.S.U., 3 h.p., M.O.V., nice order	£10 0
REX DE LUXE, two speeds, magneto, handle starting, h.-b. control	£26 10
ENFIELD, 2½ h.p., M.O.V., acc. ignition	£9 10
ARIEL, 2 h.p., Minerva engine, M.O.V.	£5 10
HOBBART, 3 h.p., vertical engine, low	£8 10
ROYAL STAR, 2½ h.p., vertical engine	£5 10
KERRY, 2½ h.p., 20in. wheels, vertical engine	£8 10
OLYMPIC, 3½ h.p., vertical engine, 20in. wheels	£6 10
PREMIER, 3½ h.p., 1912, three-speed gear	£58 0
PREMIER, 2½ h.p., 1912, three-speed gear	£47 5
2½ h.p. MINERVA	£47 5
2½ h.p. DE DION, vertical engine	£4 10
ARIEL, 3½ h.p., vertical engine, M.O.V., 20in. wheels, nice condition	£8 10

PUSH CYCLES TAKEN IN EXCHANGE.

TRICARS.

TWIN REX, air-cooled, belt drive, Fit-all two-speed gear	£14 10
STEVENS, 1 h.p., single-cylinder, air-cooled, Roe two-speed gear, handle starting	£14 13
TWIN REX, 5 h.p., air-cooled	£11 10

CARS.

DARRACQ, 9 h.p., two-seater	£15 15
EAGLE, 14 h.p., four-cylinder, five-seater, two speeds and reverse	£27 10
HUMBER, 5½ h.p., two-seater, bucket seats, two speeds and reverse	£18 10
PHENIX, 8 h.p., two-cylinders, magneto, hoods, screen, and lamps	£56 0

GENUINE MICHELIN TYRES.

	Beaded.	Wired.	Tubes.
26 x 2	17/-	16/6	9/6
26 x 2½	18/6	17/6	9/9
26 x 2½	21/-	18/5	10/-
28 x 2	19/-	17/-	10/-
28 x 2½	19/-	—	10/6
MICHELIN 26 x 2 11/6	28 x 2 12/-		
BUTTED 26 x 2½ 11/9	28 x 2½ 12/6		
TUBES. 26 x 2½ 12/-	28 x 2½ 12/6		

Carriage Paid. All Guaranteed. Prompt Delivery.

MISCELLANEOUS.

Carburettors—Longuemare and F.N.	4/5
New Amac Carburettor, H.B. control	15/-
Long Handle-bars, drop ends	5/6 and 8/6
Coronet Silencers, up to 5 h.p.	3/3 and 4/6
XL'ALL Spring Forks	9/6
Gripkin Belting: ¾in. 10d., ¾in. 11d., 1in. 1/-	
Wide Mudguard, ¾in. 2/3; ¾in. 2/11 pair.	
Handle-bar Watches, with holders	4/3
New Sidecar Frame and Wheel	35/-
Trembler Coils, 6/6. Plain	2/11
Powell and Hanmer 11 Lamp	11/6
16 Guinea Lowen Sidecar	£5 0
Nearly New Coronet Sidecar	£3 10
New 4½ Screw-cutting Lathe	£9 10 or exchange
New 3½in. treadle lathe	£3 or exchange

Booth's Motories,

Keighley Mills, Bedford Street North, Halifax.
Tel. 1062.

MOTOR BICYCLES FOR SALE.

3½ h.p. Chater-Lea-Jap, 1910, Bosch, Palmers, winner of trophies.—Thackray, Tivoli Place, Ilkley.

TRIUMPH, 1909, in good condition, new tyres, very fast machine; cheap £28; exchange.—Below.

ROC, 4h.p., late 1910, not run 250 miles, fitted with Roe 2-speed gear, 1in. belt, Dunlop covers; exchange; £29 cash.—Parker, Stanley Garage, Westbrook St., Bolton. Phone: 1348.

1911 Douglas, like new, done little work, climb anything; £31.—Gurnett, Howard St., Rotherham.

1911 Norton, 5h.p. twin, fine order, Clincher, Palmer; £36.—Hill, 26, Morven Grove, Southport.

GOURLAY, the great Douglas agent, now booking 1912 models.—Gourlay, Fallowfield, Manchester.

1911 Indian, 7h.p., with 2-speed gear, condition perfect and equal to new; £50.—Seal and Bull, Southport.

3½ h.p. Humber, 2 speeds, handle starting, perfect; £32 bargain, sell or exchange. — Tuson, Westcliff, Preston.

B.S.A., 1911, 3½ h.p., fastest in Lancashire, all accessories; first offer £40.—Roper, 2a, Stafford St., Burnley.

T. PARISH for the best motors, Bradbury and Douglas agent, sidecar builder, Fishergate, Preston.

T. PARISH has a Humber, 3½ h.p., 2-speed free engine, £27; also Rex, 3 h.p., £10, grand climber.

1910 Enfield 2½ h.p. Lightweight, just overhauled; £26/10.—Allen Bros., Wellington Rd. S., Stockport.

1909 4½ h.p. Twin-cyl. Aleyon, spring forks, magneto, B. and B., very fast; £16—15, Bradford St., West, Bolton.

B.H.J.A.P., 1910, 7-8 h.p., all accessories; £37—J. H. Kearns, 57, Northumberland Rd., Old Trafford, Manchester.

1911 M.A.-Roe, 2½ h.p., twin, new tyres and belt, in excellent condition; £29, or exchange.—17, Peel St., Accrington.

2 h.p. N.S.U. Lightweight, 1909, magneto, tyres nearly new, perfect order; £12/15.—Fisher, 76, Seaforth Rd., Lancaster.

3½ h.p. Kerry, Hellesens ignition, leather belt, spring forks, low position, good puller; £12/10.—Falkinghambridge, Spa, Whitby.

1910 F.E. Triumph, perfect throughout, tyres very good, lamp, and tools; £38; trial 20 miles.—P. Driffield, Helperry, York.

2½ h.p. Vertical Petrol, bargain, £10, or nearest; spring forks, footrests, Brooks saddle, accessories.—O.B., Newbould, Rawmarsh.

1911 Zenith, 3½ h.p., splendid condition, special fittings, spares; £40; no offers.—9, 061, The Motor Cycle Offices, Coventry.

1911 P. and M., recently overhauled; any report from makers, in splendid condition; give any test.—Bentley, 11, Westgate, Cleckheaton.

FREE Engine Rudge, run 2,700 miles, new back tyre, new belt, lamp, horn, in splendid condition; £41.—Shore, 756, Brownhill, Blackburn.

HALIFAX, new, unused 3½ h.p. Rex, cost £48; also new twin, cost £51; exchange offers liberally considered.—Motor Exchange, Westgate, Halifax.

RUDGE, free engine, new June, 1911, splendid condition, enamel and plating as new, tyres unpunctured; £45.—Brett, 300, Kirkstall Rd., Leeds.

LOOKI—Rex, 1906, 3½ h.p., h.-b.c., adjustable pulley, new tyre and rim, various improvements, reliable; bargain, £11.—Williams, Henry St., Lytham.

1910 8 h.p. Matchless, Nala 2-speed, free engine, coach-built sidecar, speedometer; £55, near offer.—30, Mayfield Rd., Whalley Range, Manchester.

N.S.U., 1911 Model de Luxe, 3½ h.p., 2-speed and free engine, brand new; list price £52/15, cash £40.—Graydon, 19, Kensington Rd., St. Anne's-on-Sea.

6 h.p. Roe-Peugeot, Bosch, Whittle, Dunids, clutch, splendid tyres, good running order; too powerful; cash £17/10.—Glinster, Christchurch St., Preston.

1910 Scott, splendid condition; expert examination; £40, near offer, or good single and cash.—Jones, Magnet House, Woodbine St., Salford, Manchester.

HUMBER, 1911, new in September, 2-speed, free engine, handle starting, with sidecar, also new in September; £48.—49, East Rd., Longsight, Manchester.

6 h.p. Twin Minerva, 2½ tyres, Whittle, spring forks, adjustable pulley, guaranteed sound, good sidecar machine; £19, or near offer.—Chappell, 35, Healey Lane, Batley.

PHELON and Moore, late 1909, perfect condition, completely overhauled June, practically new engine; expert examination; £40.—13, Welling Drive, Bradford.

1911 Triumph, equal to new, £39; 1911 Calthorpe, perfect order, only done about 2,000 miles, cheap. £35; 3½ h.p. Rex, new tyres, h.-b.c., a bargain, £12/10; all above guaranteed.—Embry Cycle and Motor Co., 191, Holderness Rd., Hull.

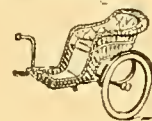
CORONET SIDE CARS

COMPARISONS—
£5 5s. versus £8 8s.

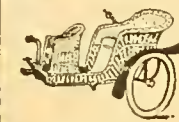
We guarantee our £5 5s. model to be equal, and in some cases actually superior to, any £8 8s. model seen at the Olympia Show. The "Coronet" represents all that is best in sidecar construction.



MODEL C.—£7 2s. 6d.



MODEL A.—£5 5s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest car pattern mudguards. Wicker, cane, or coach-built bodies. Child's reversible seat. Erectable upholstery.

NOTE front arm which grips main tube of sidecar, which is the only correct mechanical method—nothing topsided about this attachment.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURY'S, etc. Discounts to Agents.

TEE BEE
SEAT-PILLAR,
5/- each.

GREAT CLEARANCE LINE.

New Dunlops, 28 x 2 and 2½, wired edges ..	10/6
Dunlops, 28 x 2, beaded, heavy treads	14/9
24 x 2 and 2½ Beaded Clipper Covers, new ..	8/6
Best Quality Butt-ended Tubes	7/9
150 New Tubes, 26 x 2½	5/11
Rubber-studded Covers, best make	25/-

ENGINES:

4 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
4 h.p. Twin N.S.U., with magneto	£9 0
1½ h.p. CLEMENT GARRARD pattern ..	£7/6
3 h.p. FAIRBIR, silencer, etc.	£3 10
4½ h.p. STEVENS, good order	£5 5
9 h.p. DARRACQ, water-cooled	£12 0
10 h.p. CLEMENT, two cylinder	£12 10
3½ h.p. REX, M.O.V.	£3 10
3½ h.p. AUTOMOT 22 0 ..	2 CYCLONE, m.o.v. £1 15
1½ h.p. MINERVA £1 8 ..	2½ h.p. BROWN .. £3 5
3 h.p. QUADRANT £3 0 ..	2½ h.p. MINERVA £3 5

Exchanges entertained.

MAGNETOS. MAGNETOS. MAGNETOS.

We have a large stock of the best makes from 59/6. Your old coil and acc. taken in exchange.

NEW CARBURETTORS FOR OLD.

22/- and your carb. secures a new 1911 B. and B. with h.b. control.
20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control
Delivery per return.

BOOTH'S MOTORIES,
KEIGHLEY MILLS, BEDFORD ST. NORTH
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MAUDE'S BARGAINS

ORDER EARLY!

Don't Pay Premiums!

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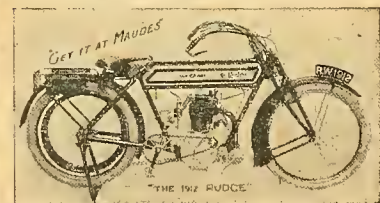
£5 5s. model. £6 6s. model.



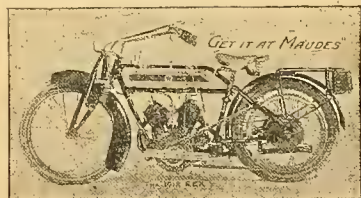
£7 7s. model. £8 8s. model.
Send for complete List. Post free upon application
IMMEDIATE DELIVERIES.

1912 MODELS. ORDER EARLY.

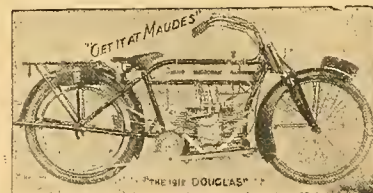
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MOTOR BICYCLES FOR SALE.

GENUINE Bargain: 5-6h.p. F.N., good condition; examination invited; £20: take small Drummard lathe, treadle motion, part exchange.—Oddy, Lotherdale, Keighley.

SEE, Write, or Wire, Geo. Merrick: he's the man for Bradburys; in stock, Rudge, B.S.A., A.J.S., N.S.U., and runabouts.—Merrick's Stores, Listerhills, Bradford. Tel.: 2439.

1908 N.S.U., 3½h.p., spring forks, later magneto, Palmer cords, new tube, Amac, thorough running order, ride reasonable distance; £17, or offer. — 245, Preston Rd., Longridge.

32 h.p. New Hudson, 3-speed gear, 1912 model, delivered first week in January; advertiser unable to accept; nearest offer to list secures.—Box 9,055, The Motor Cycle Offices, Coventry.

DOUGLAS, July, 1910, with 1911 improvements, engine just returned from overhauling by makers, P. and H. lamp, horn, Whittle belt, numerous spares; £26.—Le Mare, Ashley House, St. Helens.

TRIUMPH, 1909½, free engine, new Whittle belt, Clincher tyres, in splendid running order; £32, or will exchange for 1911 fixed engine, with cash adjustment.—Anderson, 142, Causeway, Warrington.

34 h.p. M.M.C. Motor Cycle, spring forks, B. and B., mileage 4,000, free engine, 40a. accumulator, in perfect running condition; £15, or exchange for good twin out of repair.—Reeves, cycle maker, Banfurlong, Wigan.

1911 5h.p. Twin Rex de Luxe, purchased March, mileage 4,000, Whittle, complete with N.S.U. cane sidecar, 2 new tyres, Continental front, Avon rear; £55 combination; any examination.—Andrews, 11, Roundhay Place, Leeds.

1911 4-speed Free Engine Osborne, 4h.p. J.A.P., and sidecar, perfect condition, accessories, spares, 38 guineas; 1907 3½h.p. Triumph, h.b.c., adjustable pulley, nearly new tyres, perfect condition, accessories, spares, bargain, £20.—Haigh, King St., Huddersfield.

ALL the Best Makes. Each one a pleasure to own. We give prompt deliveries; P. and M., Bat, Bradbury, Indian, Ivy, B.S.A., Clyno, Scott, Douglas, Calthorpe, and the Hazlewood 2½h.p. 3-speed J.A.P.; exchanges with pleasure.—Embro Cycle and Motor Co., Holderness Rd., Hull.

REX, 1910, 3½h.p., thoroughly overhauled, condition as new, offers wanted; Singer Velo, 1910, like new, £18; Triumph, new cylinder, piston, carburetter, and variable pulley, overhauled by Triumph, £18, to clear; new N.S.U., 1911, 2½h.p., twin, undergeared pulley, makers' price £43, ours £34.—Hartley Clegg, Ltd., Central Garage, Burnley.

FOR Sale, H. D. Shaw's 7h.p. Indian, fastest machine on the road in the North of England, winner of several open hill-clubs and speed events, with tuning and racing handle-bars, 3 spare covers, 2 spare tubes, spare ported racing cylinders, 2 spare pistons, spare exhaust valves, lamp, generator, horn, tools, etc., also 7 sprockets and chain wheels, giving gears from 2½ to 6½ to 1; price 55 guineas.—Full particulars from H. D. Shaw, Ashton House, Undercliffe, Bradford.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

THE North Wales Motor Exchange, Rhosddu, Wrexham. Tel.: 283.

1912 T.T. Rudge (Olympia Show machine); £48/15.

1912 A.J.S., Model A. (show machine); £38/17.

1911 Humber Lightweight, like new, studded Dunlops; bargain, £27/10 cash.

1910 Free Engine Triumph, all spares; £40.

1911 Bradbury (1910 engine), absolutely like new, Kempshall tyre, Dunlop belt; £40.

N.S.U. Magneto Lightweight, spring forks, low built, Whittle belt; £20.

5 h.p. Twin Rex, Bosch, h.b.c., fine sidecar machine; £25.

32 h.p. Rex, 1907, spring forks, rubber belt, trembler coil, ideal machine for a beginner, splendid climber; £10.

2 h.p. Motor Cycle, 26in. wheels, vertical engine, Longemore carburetter, rubber belt, good going order; £5.—W. Jones, 64, Rhosddu Rd., Wrexham.

PHOLON and Moore, new 1911 model, just arrived from makers; immediate delivery.—Moss, Wem.

SCOTT, Douglas, and Zenith, new 1912 models due this month; book now.—Moss, Wem.

BAT, 3½h.p. Roe 2-speed, accumulator, general condition good; bargain, £12/10.—Barrington, Junction Rd., Leek.

1911 3½h.p. Premier; £28; exchange Indian or Triumph; wanted, rigid sidecar.—Minshall, Stone-way, Bridgnorth.

A.S.L., 1910-11, 5-6h.p., fast clutch model, very comfortable, spares; £37; no offers.—Marston's Cycle Stores, Bridge St., Chester.

SALE! SALE! SALE!

To make room for 1912 stock we offer the under-mentioned machines at a reduction **FOR SPOT CASH ONLY of 15%.** This does not apply to exchanges or deferred payments. **COMPARE PRICES.**

F.N., 4½ h.p., four-cylinder, like new	£30
N.S.U., 3½ h.p., brand new, 1911 model	£40
REX 5 h.p. de Luxe, new, 1911 models	£60
BRADBURY, 3½ h.p., vertical engine, spr. forks	£18
PREMIER, 3½ h.p., 1910, twin, very fast ..	£32
MINERVA, 4½ h.p., twin, spr. forks, good tyres ..	£22
REX, 5 h.p., 1910, model de Luxe, two speeds ..	£42
SCOTT, two speeds, magneto	£28
REX, 1910, 5 h.p., M.O.V., gold medal winner ..	£35
REX, 1911, 7 h.p., two speeds, excellent order ..	£51
REX, 5 h.p., magneto, very fast	£24
TRIUMPH, 1909, 3½ h.p., standard model	£32
ARIEL, 1910, 3½ h.p., footboards fitted, F.E. ..	£30
N.S.U., 1908, 5½ h.p., two speeds, perfect	£25
REX, 1911, 5 h.p., de Luxe, brand new. In stock ..	£34
TRIUMPH, 1908, 3½ h.p., XL'All saddle	£18
REX, 1907, 5 h.p., free engine, spring forks ..	£34
REX, 5 h.p., 1910½, two-speed, M.O.V.	£42
PEUGEOT, 7-9 h.p. Twin, magneto	£26
ARIEL, 2½ h.p., lightweight model	£10
MATCHLESS-J.A.P. 8 h.p., side valves	£37
ANGLIAN, 2½ h.p., good running order	£6
KERRY ABINGDON, 1910, 3½ h.p., clutch ..	£32
REX, 1911, 7 h.p., tourist model	£37
REX DE LUXE, 1908, 5 h.p., two speed	£28
F.N., 1½ h.p., magneto, nice lightweight ..	£13
N.S.U., 3½ h.p., 1910 model, like new	£28
ANTOINE, 5 h.p., footboards, just overhauled ..	£20
KERRY, 5 h.p., twin, low built	£17
REX, 1910½, 5 h.p., de Luxe, M.O.V., as new ..	£42
KERRY, 3 h.p., vertical engine, spring forks ..	£8
HUMBER, 3½ h.p., 1909, two-speed	£32
TRIUMPH, 3½ h.p., 1909, footboards	£34
N.S.U., 3½ h.p., magneto, spring forks	£22
MOTOSAGOCHE, 1½ h.p., Bosch magneto	£15
REX 1912 de Luxe Models in Stock	
CALTHORPE, 3½ h.p., 1911 model, as new ..	£38
N.S.U., 3½ h.p., two speeds, spring forks	£25
PORTLAND, 1911, 3½ h.p. model, two speeds, as new ..	£42
REX, 1910, 3½ h.p., tourist, magneto	£24

50/- deposit secures—

LLOYDS, 2 h.p. ..	£10	BARTER, 2½ h.p. ..	£8
MINERVA, 2 h.p. ..	£6	BROWN, 2 h.p. ..	£7
KERRY, 2½ h.p. ..	£9	ARIEL, 2½ h.p. ..	£12
CUNARD, 3 h.p. ..	£10	L.C., 3 h.p.	£10
QUORANT, 1½ h.p. ..	£8	RIP, 2½ h.p.	£8
TIMES, 2 h.p.	£8	ANTOINE, 2½ h.p. ..	£7

Balance 5/- weekly.

CARS AND TRICARS.

F.N. Light Monocar, 5-6 h.p., four-cylinder, two speeds, plate clutch, wheel steering, very fine monocar. Offers.

REX Litettes, 1911 models, new	£50
BROWN, 3½ h.p., two speeds, air-cooled	£16
STAR Car, 9 h.p., three speeds	£25
REXETTE, 6 h.p., latest model	£22
REX Triette, 5 h.p., free engine	£22
BEDELIA Car, latest 1911 model, two speeds, magneto, only done 300 miles	£45

SIDECARS, &c.

MONTGOMERY Sidecar, child's seat	£7
FORECAR, with tyres, aluminium finish	£2
MILLFORD, left side, rigid type	£5

1911 REXES. 1911

We have a few 1911 REXES, all brand new and guaranteed, to clear at special prices. All models. Write us for prices. Special exchange allowances.

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Largest Rex Dealers,
16, WESTGATE, HALIFAX.

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GUARANTEED IN RUNNING ORDER.

1912 Twin REX Sidette, in stock	£75 0
1911 4 h.p. A.S.L., nearly new	£35 0
1911 3 h.p. Tourist REX, done 750 miles	£32 10
1911 2 h.p. Two-speed REX Junior	£39 10
1911 3 h.p. REX, clutch model	£37 10
1911 5 h.p. Two-speed REX DE LUXE	£47 10
1910 4 h.p. REX DE LUXE, brand NEW	47 Gns.
1910 3 h.p. T.T. TRIUMPH, grand machine	£34 0
1910 7 h.p. REX DE LUXE, two speeds	£48 0
1910 7 h.p. Twin REX, HOT STUFF	£37 10
1910 5 h.p. REX REX, very fast	£29 10
1910 5 h.p. REX DE LUXE, fine sidecar machine	£42 10
1910 3 h.p. REX, very fast, special machine	£27 10
1909 Twin REX DE LUXE, two speeds	£34 0
Twin REX DE LUXE, Ruc clutch, wants tuning up	£16 10
1908 3 h.p. Magneto REX, very fast	£24 10
1907 3 h.p. Magneto REX, spring forks	£19 19
5 1/2 h.p. Twin REX DE LUXE, Ruc clutch, sp. forks	£24 10
Brand New 3 1/2 h.p. REX, spring forks and pedals	£31 0
Brand New Twin Magneto REX	£37 15
Brand New 3 1/2 h.p. REX, special finish	£29 10
2 h.p. 1910 Two-speed Magneto F.N.	£27 10
Magneto TRIUMPH, spring forks, specially low	£25 0
3 h.p. REX, very good order	£8 10
3 h.p. REX, very fine condition	£15 10
5 1/2 h.p. Twin REX, extra good	£16 10
Four-cylinder F.N., magneto, spring forks	£18 18
F.N. Magneto Lightweight	£16 10
3 1/2 h.p. MINERVA-CHATER-LEA	£14 10
3 h.p. WOLF, Stevens engine, h-b. control	£12 10
Twin Magneto MOTO-REVE	£17 10
3 h.p. QUADRANT, spring forks, h-b. control	£12 10
3 1/2 h.p. W.C. Two-speed Runabout	£16 10
4 h.p. HUMBER, chain drive	£9 10
MOTOSACOCHE, Draid forks	£14 10

Easy Payments at Special Rates.

NEW

1911 2 1/2 h.p. 2-speed REX Junior	50 Gns.
1911 3 1/2 h.p. Free-engine REX	43 Gns.
1911 3 1/2 h.p. REX DE LUXE	57 Gns.
1911 Twin REX DE LUXE	63 Gns.

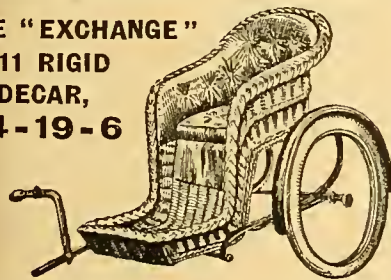
Offers Wanted, Liberal Exchange Allowances.

1912 BRADBURY REX

LIBERAL EXCHANGES.

THE "EXCHANGE"

1911 RIGID
SIDECAR,
£4-19-6



"Superbe" type, with best tyre, apron, etc. ... £6 6 0
Ditto, with reversible child's seat ... £7 0 0
Ditto, with best coach-built body ... £7 12 6
Improved Quick-detachable joints are fitted to all models. Prompt delivery to suit Rexes, Triumphs, N.S.U.'s, Indians, and any other make.
Discount to Trade. Exchanges entertained.

£4 DOWN

and 5/- weekly secures prompt despatch of any of these machines

3 1/2 h.p. MINERVA-CHATER-LEA	£14 10
3 h.p. QUADRANT, V belt, h-b. control, sp. forks	£12 10
3 h.p. HUMBER, chain drive	£9 10
Lightweight MOTOSACOCHE, spray, runs well	£414 10
3 h.p. REX, specially good condition	£8 10
3 1/2 h.p. KERRY, spring forks	£10 10
Twin Magneto MOTO-REVE	£17 10
3 h.p. WOLF, spray, smart, h-b. control	£12 10
5 1/2 h.p. Twin REX, fine machine	£16 10
3 1/2 h.p. MINERVA, M.O.V., 26in. wheels	£15 10

26 x 2in. CONTINENTAL and CLIPPER-Covers	12/6
26 x 2in. MICHELIN Heavy Tricar Covers	22/6
26 x 2in. MICHELIN Extra Heavy, WIRED	20/-
New Sidecars	24 19s. 6d. and 28 8s.
Second-hand Sidecars from	35/-

MOTOR BICYCLES FOR SALE.

TRIUMPH, 3 1/2 h.p., 1909 model, perfect order; any trial; £30.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

TRIUMPH, 3 1/2 h.p., 1908 model, perfect order; any trial; £25.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

HUMBER, 3 1/2 h.p., 1911 model, as new; £35; any trial.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

1 1/2 h.p. Magneto N.S.U., 2-speed, free engine, guaranteed as new; any trial; £22, cash or exchange.—Gittins, The Lawn, Oswestry.

TRIUMPH, 1911 model, 3 1/2 h.p., new, free engine; £55, or nearest offers.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

BRADBURY, 3 1/2 h.p., Bosch magneto, spring forks, low machine, good tyres; a bargain, £12; no oners.—Black, Spring Place, Chesterfield.

1911 Triumph, clutch model, very little used, all accessories; £45, bargain; any examination.—Deane, Matlock Bath, Derbyshire.

2 1/2 h.p. F.N.-Chater-Lea, scound machine, and in the best condition as to tyres, etc.; must sell, £1/10.—Smith, Upper Grove Rd., Chesterfield.

N.S.U., 3 1/2 h.p., magneto, B. and B., Whittle belt, Michelin tyres; £20: would exchange same and cash for 2-speed free engine.—Fisher, North Rd., Congleton.

MOTOR Cycle, 3 1/2 h.p., Hummer inclined engine, very low, new magneto just fitted, new tyre, lamp, and generator; £12.—Crawford, Station Rd., Northwich.

HUMBER, 3 1/2 h.p., new motor cycle, fitted with all latest improvements; usual price £45, accept quick sale £39.—Pepper's Garage, Shelton, Stoke-on-Trent.

HUMBER 2 h.p. New Motor Cycle, as supplied by makers; our price quick sale £32.—Pepper's Garage, Shelton, Stoke-on-Trent.

1910 Speed King Rex, 5 h.p., very fast, perfect, £22/10; 1911 Bradbury, perfect, new condition, £29/10.—Box No. 9,056, The Motor Cycle Offices, Coventry.

GENTLEMAN, obliged to realise on his new B.S.A. not done 10 miles, lovely machine, sacrifice £42; also 1910 twin Moto-Reve, as new, £22.—Box 9,025, The Motor Cycle Offices, Coventry.

TRIUMPH, late 1909, Mabon free engine, recently overhauled, perfect, Jones speedometer, watch, Antelope lamp, brand new back tyre and 2 belts, and other extras; £34, or offers.—Banghat, Hydro, Llandudno.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

3 1/2 h.p. Minerva, good condition, new B. and B. carburettor; £11.—223, Newark Rd., Lincoln.

DOUGLAS, new; going cheap; fitted for the road; bargain.—79, St. John's Rd., Sparkhill.

1911 (June) Twin 5 h.p. Cone Clutch Rex, unscratched; £45.—Stuart Smith, 3, Newhall St., Birmingham.

1912 Triumphs; delivery guaranteed January; order at once.—W. Brandish, Triumph agent, Great Heath, Coventry.

1911 Triumphs, free engine, splendid condition; any trial or expert examination; £43/10.—W. Brandish, Coventry.

1912 F.E. B.S.A., in stock, magneto machine in part exchange; 1911 F.E. Rudge, brand new, offers.—Plastow Motors, Grimsby.

1911 Douglas, F.E., 2 speeds, hand starting, ridden 1,500 miles, complete; £38/10.—Plastow, Motors, Grimsby.

1910 3 1/2 h.p. Minerva, Bosch magneto, Whittle belt, variable pulley; £17/10.—Plastow, Motors, Grimsby.

TRIUMPH, 1909, re-bushed November, 1910; £26; inspection by appointment.—Lea, 15, St. Peter's Rd., Harborne, Central 113.

TRIUMPH, 1910, standard model, lamp, horn, spares, new back tyre; £30, lowest.—Grant, 177, Grove Rd., Sparkhill, Birmingham.

1909 5-h.p. Rex 2-speed, recently rubbed through-out, condition excellent, all spares; £30.—A. Francis, Hyde House, Leamington.

TRIUMPH, June 1910, enamelling and plating like new, all spares, Solar lamp, etc.; £31; cash wanted.—22, East Gosport St., Leicester.

2 1/2 h.p. Genuine De Dion, Bat spring frame and forks, new piston and cylinder, B.B., h-b.c.; £12.—Thompson, Edmund St., Kettering.

SINGER Moto-Velo, a genuine lightweight, in good condition, full spares, including new Lyso; £25.—Leigh, 78, Queen's Rd., Nuneaton.

1911 Hummer Lightweight, adjustable ignition, complete tool kit, 2 new belts and spare inner tube.—8,624, The Motor Cycle Offices, Coventry.

RUDGE, 1911, Angust, Cowey, Antelope and Lucas lamps, spare valves, cover, and tube; 38 guineas.—Bmyth, 4, Brighton Terrace, Horncastle Rd., Boston.

REY, 5, HEATH ST., HAMPSTEAD

Close to Hampstead Tube Station.

Telegrams: "Rey, Hampstead." Tel. 2678 P.O., Hampstead

EXTENDED PAYMENTS

Taken on any Machine or Runabout.

NO EXTRA CHARGE

on the following 1912 Machines in STOCK:

TERMS: QUARTER DOWN, BALANCE IN TWELVE EQUAL MONTHLY PAYMENTS.

BRADBURY, 1912, standard	No extra E.P.	£48 0
BRADBURY, 1912, T.T.	"	£48 0
BRADBURY, 1912, free engine	"	£54 10
BRADBURY, 1912, two-speed gear	"	£55 0
RUDGE, 1912 standard model	"	£48 15
RUDGE, 1912 T.T.	"	£48 15
RUDGE, 1912 free engine	"	£55 0
B.S.A., 1911 standard model	"	£50 0
HUMBER, 1912, two-speed gear	"	£52 10
ZENITH, 1912, 3 1/2 h.p., six weeks	"	53 Gns.
ZENITH, 1912, 6 h.p., six weeks	"	67 Gns.
ZENITH, 1912, 8 h.p., six weeks	"	69 Gns.
PREMIER, 1912 standard	"	£47 10
PREMIER, 1912 free engine	"	£54 10
PREMIER, 1912 two-speed gear	"	£58 0
BAT, 1912, 3 1/2 h.p., two-speed	"	£59 0
BAT, 1912, 6 h.p., two-speed	"	£70 12
BAT, 1912, 8 h.p., two-speed	"	£72 12
F.N., 1912, 2 1/2 h.p., two-speed gear	"	45 Gns.
F.N., 1912, 5-6 h.p.	"	58 Gns.
SINGER, 3 1/2 h.p., 1912	"	£48 15
SINGER, 3 1/2 h.p., 1912, free engine	"	£55 0
LINCOLN ELK, 1912, 2 1/2 h.p.	5% extra E.P.	£28 10
LINCOLN ELK, 1912, 3 h.p.	"	£30 10
LINCOLN ELK, 1912, 3 1/2 h.p.	"	£34 0
TRIUMPH, 1912, T.T. Roadster	"	£50 0
BEDELIA Cars	7 1/2% extra E.P.	59 Gns.
G. & R. Runabouts, 8 h.p. (in 6 weeks)	"	87 Gns.
A.C., speed suitable type (in Feb.)	"	£87 10

Any other makes on application.

ALL THE ABOVE MACHINES IN STOCK. No waiting.

1911 New Machines to clear at Bargain Prices.

P. & M., two-speed gear	£56 10
B.S.A., 3 1/2 h.p., standard £50 model	£41 0
HOBBART, 2 1/2 h.p., lightweight, £38 model	£29 0
TRIUMPH T.T. Roadster, £50 model	£47 0

Second-hand Machines at Bargain Prices to clear.

PREMIER Twin, 1911, two-speed gear	£38 0
BRADBURY, 1911, fine order	£32 0
F.N., four-cylinder, 1911, almost new	£29 0
RUDGE T.T., 1911, very fast	£29 0
F.N., 2 1/2 h.p., two-speed, good condition	£27 0
QUADRANT, 3 1/2 h.p., 1911, good condition	£26 0
N.S.U., 3 1/2 h.p., two-speed gear	£15 0
REX, 3 1/2 h.p., with speedometer	£26 0
ZENITH, 1910, good order	£28 0
BAT, 6 h.p., good condition, all accessories	£32 0
LINCOLN ELK, 3 1/2 h.p., 1911, clutch, and sidecar	£45 0
BAT, 8 h.p., 1910, with Millford sidecar	£245 0
F.N., 4 1/2 h.p., good order	£18 0
BRADBURY, 1911, splendid condition	£33 0
TRIUMPH, 1910, 3 1/2 h.p., free engine model	£38 0
TRIUMPH, 1911, standard, splendid order	£39 0
B.S.A., 1911, almost new	£40 0
HOBBART, 2 1/2 h.p., soiled only	£29 0
DOUGLAS, 2 1/2 h.p., 1911, good order and condition	£29 0
TRIUMPH, 1911, almost new, clutch model	£50 0
TRIUMPH, 1911, clutch model, as new	£48 0
ZENITH, 1911, soiled condition only	£48 0
REX, 4 h.p., T.T., twin, 1911 model, splendid order	£26 0
INDIAN, 5 h.p., late 1910, red, all accs., bargain	£26 0
DOUGLAS, 2 1/2 h.p., 1910, fine order, all accessories	£25 0
REX, 3 1/2 h.p., 1910, good order	£24 0
LINCOLN ELK, 1910, 3 h.p., magneto, spring forks	£15 0
TRIUMPH, 1911, almost new, with accessories	£42 0
DOUGLAS, 1911, Model D, all accessories	£26 0

THE

£3-10 REY Sidecar £3-10

With 26 x 2 1/2 Hutchinson Tyre, £5.

Repairs of every description at lowest prices. All Motor Cycle Accessories in stock. BOOK your 1912 mount NOW. Send for Exchange Form, and get best price.

BEST HOUSE IN ENGLAND FOR QUICK DELIVERY.

Terms: Cash, Exchange, or Extended Payment on any Machines or Sidecars.

The REY LEATHER BELTING outlasts two of any other make. PRICE 2/- per foot. Sample on application.

REY

Manufacturers of the Rey Exhaust Whistle and Sidecar. ONLY HOUSE IN ENGLAND FOR QUICK DELIVERY.

HAMPSTEAD.

In answering these advertisements it is desirable to mention "The Motor Cycle."

3 SPEEDS ARE BETTER THAN 2

The 3-speed **New Hudsons** have stood the test, and are absolutely in the **first rank of Class** motor cycles.

We are agents for **Halifax** and **Huddersfield**, and can give early delivery.

We can supply the chain drive enthusiast with the popular **A.J.S.** machines for which we are sole agents.

High Class Motor Cycles in Stock.

MOTO-REVES.

Handy in grease, free from vibration, splendid hill-climbers.

1911 Single-cylinder, record machine	£22 0
1910 2½ h.p. Twin, very fine order	£23 0
1910 2½ h.p. Twin, with 1911 fittings	£24 0
1909 2½ h.p. Twin, 50x70 mm.	£20 0

All have magneto, h.-b. control, Druid forks, toolbag, tools, and inflator.

1910 3½ h.p. REXES.

We have four of these, price £27 each.

REXES. REXES. REXES.

3½ h.p. 1909 Tourist, fine gear	£24 0
3½ h.p. 1909 Speed King, extra fine	£23 0
3 h.p. 1908 Featherweight Rex, Bosch mag.	£17 0

TWIN-CYLINDER REXES.

7 h.p. de Luxe, two speeds, M.O.V.	£48 0
5-6 h.p., 1908, two-speed, and sidecar	£32 0
5-6 h.p., de Luxe, clutch model	£24 0
5-6 h.p., de Luxe, 1908, two-speed model	£24 0
5-6 h.p., de Luxe, 1908, two speeds, special	£29 10
5-6 h.p., 1908, two-speed de Luxe, 1909 eng.	£32 0

N.S.U.'s. N.S.U.'s. N.S.U.'s.

5½ h.p., two speeds, Bosch, B. & B. carb.	£25 0
5 h.p. Twin, Bosch magneto	£19 0
1910 6 h.p., M.O.V., two speeds	£33 0

OTHER MAKES. OTHER MAKES.

1911 Two speed Bradbury, fine	£37 0
1911 Lady's Hobart, Armstrong three speeds	£33 0
3½ h.p. L.M.C., 1910 model	£25 0
3 h.p. Singer, Bosch, V belt drive, B. & B.	£16 0
3 h.p. Quadrant, Bosch, B. & B. spr. forks	£16 0
3½ h.p. Quadrant, h.-b. control, spring forks	£16 0
2½ h.p. Humber, chain drive	£7 0
1½ h.p. Minerva, V belt	£4 10
3½ h.p. Minerva, Bosch magneto, Amac.	£22 0

SIDECAR COMBINATIONS.

5-6 h.p. Clutch Model Rex and new Sidecar	£29 0
5-6 h.p. Two-speed 1908 Rex and Sidecar	£33 0
7-9 h.p. Two-speed Rex and Sidecar	£53 0
1910 6 h.p. N.S.U., M.O.V., two speeds, complete with N.S.U. coach-built sidecar	£38 0

All fitted with Magneto and Spring Forks.

£4 DOWN SECURES ANY OF THESE. BALANCE 6/- WEEKLY.

3½ h.p. Brown Bicar, 26in. wheels	£12 0
3½ h.p. Fainir, M.O.V.	£12 0

£6 DOWN SECURES ANY OF THESE. BALANCE 7/6 WEEKLY.

3½ h.p. Quadrant, h.-b. control, spring forks	£16 0
3 h.p. Quadrant, Bosch magneto	£16 0
5-6 h.p. Twin Rex, h.-b. control, variable	£16 10
3 h.p. Singer, Bosch magneto, h.-b. control	£16 0
4½ h.p. N.S.U., Bosch	£19 0
5-6 h.p. Twin Rex, Bosch magneto	£21 0

CARS AND TRICARS.

5 h.p. Humber Car, two-seater, good gear	£22 0
6½ h.p. Peugeot Car, two-seater	£35 0
Duocar, Bosch magneto	£45 0

MISCELLANEOUS BARGAINS.

Torpedo Petrol Tank, with oil pump	10/-
Bowden Triple Handle-bar control levers	3/6
New Screwing Lathe, 4in. centres	£6 10
Farrar's Sidecar, quick detach joints	£3 15
Farrar's Sidecar, new wicker body	£3 15
Portland Sidecar, 26in. wheel	£3 10
Fulford Castor Wheel Sidecar	£5 0
Prested Accumulators, new, 15 amp.	9/6
Tricar Frame, suit 6 h.p. engine	35/-

Farrar's Motor Exchange

19, 21, 23, 25, Hopwood Lane,

Telephone **HALIFAX** (Two minutes from G.P.O.) 919.

MOTOR BICYCLES FOR SALE.

HUMBER, Midland Depot, 78, New St., Birmingham. We are now booking orders for early delivery of all models; delivery of the famous flying twin from stock.

HUMBER—We are Humber specialists, and have therefore a particular interest in these famous machines. The finest value in the show. 1912 models may now be seen in our showrooms.—Henry Garner, Ltd., 78, New St., Birmingham. Phone: Central 7298. Wires: Dependable.

HUMBER Depot, Birmingham.—We have a few bargains to offer in second-hand machines: various makes, from £15 upwards; repairs on the premises; Humber spares always in stock.—78, New St.

31 h.p. Rudge, P. and H. lamp and generator, mirror, clock, horn, new September, 1911; 40 guineas.—Box L5, 109, The Motor Cycle Offices, 20, Tudor St., E.C.

1911 2½ h.p. 2-speed Douglas, free engine, handle starting, only new 5 weeks ago, done 600 miles; £40 spot.—Colmore Depot, 31, Colmore Row, Birmingham.

1911 Enfield, 2½ h.p., 2-speed, free engine, guaranteed as new, fine lightweight; £39 spot.—Colmore Depot, 31, Colmore Row, Birmingham.

1911 Scott, brand new, never been used, for immediate delivery, £60; splendid opportunity; also S.H. 1910 Scott, for £35; guaranteed.—Colmore Depot, 31, Colmore Row, Birmingham.

ROC, 1910, 4 h.p., 2-speed, free, new tubes, tyre, Jones speedometer, lamp, tools, B. and B. Bosch; £28; guaranteed.—May, 56, Middleborough Rd., Coventry.

P. and M., New April, 1911, perfect condition, geared for sidecar, 25 tyres, chain guard, recently overhauled by makers; £55.—Morley, Station Rd., Wylde Green.

1911 Scott, only been 2,157 miles, Jones trip speedometer, Trinitone horn, complete set of tools, spares; £50.—Colmore Depot, 35, Colmore Row, Birmingham.

MOTOR Cycle, 3½ h.p., m.o.v., magneto ignition, h.-b. carburettor, sloping back frame, low built, first-class order; bargain, £15/10.—Browns, 12, Bull Ring, Birmingham.

REX de Luxe, 1911 model, 3½ h.p., free engine, 2 speeds, magneto ignition, spring forks, aluminium footboards, only little used; bargain, £38.—Brown's, 12, Bull Ring, Birmingham.

QUADRANT Motor Cycle, 3 h.p., B. and B. carburettor, spring forks, lamp, etc.; sell bargain, £7.—Brown's, 12, Bull Ring, Birmingham.

1911 Rex Motor Cycle, 3½ h.p., m.o.v., magneto, h.-b., drip feed, aluminium footboards, abucet new; bargain, £28.—Brown's, 12, Bull Ring, Birmingham.

1911 T.T. James, 3½ h.p., special tank, mudguards, F.R.S. lamp, spare tube and case, new Kempshall and Rom, condition guaranteed; £35.—Lixon, Park Rd., Sutton Coldfield.

2 h.p. Griffon-Zedel, entire h.-b., 26in. wheels, black, ignition, Sieman Obach battery, lamp, spares; £10/10; no offers; perfect running order.—Spoonier, bulb grower, Spalding.

DOUGLAS, 1911, unscratched and guaranteed perfect; expert examination; engine efficiency as new, footboards, N.A.B., all spares, tyres new; £32.—Bamber, Hill, Four Oaks, Birmingham.

SINGER, 3½ h.p., 1911-12, with or without N.S.U. 2-speed gear, condition equal to new; price with spares and gear £48; without gear £45.—No. 9, 041, The Motor Cycle Offices, Coventry.

1909 Triumph, just overhauled, excellent condition, Lucas headlight, new belt, tyres splendid condition, spare valve and butt-ended tube; £32/10.—Write or call, 83a, Wellington St., Leicester.

1910 F.N., 2½ h.p. lightweight, 2-speed gear and free engine, good lamp, tyres good, complete with tools; £25.—Write or call, 83a, Wellington St., Leicester.

TRIUMPH, 1909, condition and tyres excellent; £29/10; Mabon clutch, 1911, spare belt and tube case, Pillion seat, cyclometer, etc., extra if required.—Silverston, 10, Retton Park Rd., Edgbaston.

5 h.p. V.S. and New Burbury S.C. (cost £9), 2-speed, Whittle, magneto, exhaust whistle, 1911 B. and B., long exhausts, lamp, spares, built tubes, excellent condition.—Allen, Rockingham Rd., Kettering.

3½ h.p. Rex de Luxe, 1909; 2 speeds, Kempshall and Continental just fitted, quantity spares, all parts excellent condition, only been used for pleasure by engineer; £27/10.—Copley, St. Catherine's, Lincoln.

TRIUMPH, June, 1910, free engine, engine completely overhauled at Triumph works recently, tank repainted, new Lyso belt, new tyre on rear wheel, and new horn, complete; £38.—Box 9, 015, The Motor Cycle Offices, Coventry.

P. and M., Saxon forks, B. and B. 1911 carburettor, gears, engine perfect order, Kempshall non-skid back, unpunctured, nearly new, dry battery ignition, been carefully looked after, fitted rear case, very smart looking, does 40 m.p.h., handle starting very easy, clutch anything, a thorough good mount; goes to best offer over £25.—Ernest Mays, Steckford.

"Follow my Leader."

OUR "last" season's improvements are now being extensively copied by enterprising makers.

TOO LATE!!

We are still 12 months ahead.



MODEL DE LUXE.
£5 5 0.

MODEL C.
with Cane Body. £6 0 0.



MODEL E.
with Reversible and Detachable Child's Seat. £6 10 0

MODEL D.
with Coach Built Body. £7 0 0.

Absolutely the finest value on the market.

LESS POWER.

It is admitted by experts that, owing to the unique design, far less power is required to propel Farrar's Sidecars than any other style on the market.

NOTE OUR front arm which grips the sidecar CENTRE, nothing lopsided about this attachment.

OUR quick detachable joints are a treat.

OUR cranked back axles are extensively copied.

OUR design is the safest on the market.

OUR 12 months' guarantee is honestly carried out.

ALL COMPLETE WITH MUDGUARD AND TYRES.

Discount to the Trade.

Delivery from stock to suit TRIUMPHS, REXES, P. & M.'s, N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE.

SPRUNG LIKE A CAR.

Sole Agent for Australia and New Zealand:

Mr. T. HARRIS, Hunter Street, SYDNEY, N.S.W.

TYRES. TYRES. TYRES.

Heavy Rubber-studded Covers, 26 x 2 1/2	18/6
26 x 2 1/2 Hutchinson Heavy T.T. Covers	25/-
26 x 2 and 26 x 2 1/2 Wired-edge Covers	12/6
Continental Rubber Non-skids, 26 x 2 1/2 or 2 3/4	30/-
Hutchinson, ribbed tread, 26 x 2 1/2 in.	18/6
Continental, beaded, 26 x 2	18/6
Tubes, all sizes, guaranteed	9/6
New Butted Tube, 26 x 2 1/2	8/6
New Butted Tube, 26 x 2 3/4	9/3
Special Heavy 26 x 2 1/2 Tubes, guaranteed	7/6

MISCELLANEOUS BARGAINS.

Speedometer, glass face broken	25/-
New Toolbags, 9 x 6 x 3 1/2 in.	4/8
Sidecar Aprons, green or red, with studs	7/6
1 h.p. Electric Motor, 230 volts, new	£7
DAV Twin-cylinder Bosch, new	£4 15
Mabon Clutch, variable pulley	35/-
XL All Spring Forks	8/6
Druid Spring Forks	£2 5
1½ h.p. Clement-Garrard Engine, new	£3
New Lycett's Tabular Carrier	4/11
New Lamp and Generator, plated	12/6
Brand New 4 h.p. N.S.U. Engine and Bosch magneto	£11 11
New 1911 B. & B. Carburettors, h.-b. control	25/-

5/- allowed for old carburettor.

Longuemare, B. & B., F.N., and others from 5/- each.

FARRAR'S MOTOR EXCHANGE,

19, 21, 23, 25, Hopwood Lane,

HALIFAX (Two minutes from G.P.O.)

Telephone 919.

RUDGE MODELS.

EARLY DELIVERIES Guaranteed.

T.T. MODEL	£48
FREE-ENGINE MODEL	£55
MULTI GEAR MODEL	£60

Any make of motor cycle taken in part exchange, and highest prices allowed. MAY WE QUOTE YOU?

REX, 5 h.p. Tourist, brand new, cantilever seat, drop feed, spring forks, aluminium footboards, all improvements	Guaranteed	£40
REX, 5 h.p. 1909 Model, Tourist, spring forks, adjustable pulley	Guaranteed	£26
REX DE LUXE, 5 h.p., 1909, 2-speed gear, variable pulley, spring forks	Guaranteed	£33
REX SPEED KING, 5 h.p., 1909, adjustable pulley, drop feed lubricator	Guaranteed	£26
REX SPEED KING, 3½ h.p., all improvements, especially built for Isle of Man races, chain drive	Guaranteed	£25

MINERVA, 8 h.p., Phoebe & Moore, 2-speed gear, chain drive, handle starting, Bosch magneto, Brown and Barlow carburettor, Chater-Lea frame, and spring forks, complete with sidcar	Guaranteed	£40
N.S.U., 2½ h.p. twin cylinder, lightweight, handle-bar control, 26in. wheels, 1909 model, splendid order, stands and carrier	Guaranteed	£22
HUMBER, 3½ h.p., two speeds, magneto, handle starting, free engine, etc.	Guaranteed	£29
DOUGLAS, 2½ h.p., 1911 model, standard throughout, splendid condition	Guaranteed	£30
PORTLAND, 3½ h.p., 1911 model, all-weather finish, all improvements, and in first-class order	Guaranteed	£32
REX Speed King, 3½ h.p., very racy	Guaranteed	£22
REX DE LUXE, 5 h.p., Bosch, finish as new	Guaranteed	£23
FAFIR, 3½ h.p., two speeds, Druid forks, will take a sidcar	Guaranteed	£13
N.S.U., magneto, 3½ h.p., very powerful	Guaranteed	£17
REX DE LUXE, free engine, twin cylinder, handle starting	Guaranteed	£22
RIP, Peugeot, 3½ h.p., low built, racy	Guaranteed	£12
REX, 1906, handle-bar control, good condition	Guaranteed	£10
QUADRANT, 3½ h.p., complete with sidcar	Guaranteed	£15

SIDECAR MACHINES.

HUMBER, 3½ h.p., two speeds, Roe gear, handle starting, and free engine, sidcar Portland Six-guinea Model	Guaranteed	£34
REX DE LUXE, 5 h.p., 1909, two-speed gear, variable pulley, complete with splendid sidcar	Guaranteed	£38
MIDGET BICAR, 3½ h.p., two-speed gear, variable pulley, automatic carburettor, nearly new sidcar	Guaranteed	£18
REXETTE, water-cooled, coach-built, two speeds, wheel steering	Guaranteed	£18

CARS.

FORD, 15-18 h.p., two-seater or three-seater, four-cylinder, wind screen, Cape cart hood, Bosch magneto, Gabriel horn, Stepany wheel, three-ante horn, and an ordinary car horn, clock, etc., etc., splendid order Guaranteed **£85**

£2 deposit down, balance 5/- weekly, secures any of the following:

LLOYD'S , 2 h.p.	£8	F.N. , 2½ h.p.	£8
REX , 2½ h.p.	£8	BOWDEN F.N.	£7

TYRES. TYRES. TYRES.

Avon, 26 x 2in., heavy rubber, studded	18/6
Avon, ditto, 26 x 2in.	18/6
Continental, 26 x 2in., rubber ana-skid, basket pattern, heavy type	33/6
Continental, ordinary plain tyres, 26 x 2in., beaded	17/3
Avon, 26 x 2in. or 2½in., beaded edge	16/6
Continental 26 x 2in. tubes	5/6
Avon extra heavy tubes, 26 x 2in.	8/6

MISCELLANEOUS.

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Lycell Toolbags, 9 x 6 x 3½in.		4/6
Sidcar Aprons, green, red, or blue		6/9

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Powell Street,
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Telegrams:
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MOTOR BICYCLES FOR SALE.

SECTION V.

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PARKER and Son.—B.S.A., 2-speed, clutch, and T.T. models; delivery December; place your order now.

PARKER and Son.—Triumph, clutch models; delivery January.

PARKER and Son.—Rudge; early deliveries; clutch and T.T. models.

PARKER and Son.—Bradbury, clutch models, early delivery; 2-speed, chain drive, delivery in March.

WE Have several good Triumphs in stock at very reasonable prices; free tuition to all purchasers.—Parker and Son, St. Ives, Hunts.

2½ h.p. Bradbury Motor Cycle, torpedo tank, good condition; £6/10, must sell.—Harrington, Dunstable, Beds.

LAMBERT, Thetford, for early deliveries of 1912 Triumphs, Bradburys, Matchless, Humbers, Ridges, B.S.A., etc.

MINERVA, 3½ h.p., low, fast, good tyres, 26in. wheels, splendid running order; £6/10.—5, Carlton Terrace, Cromer.

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1909 Magneto Motosacoche, spring forks, in perfect order; £13.—37, Searle St., Chesterton, Cambridge.

3½ h.p. Bradbury, 1911, new back tyre and belt, Cowey speedometer, P. and H. lamp, vitch, perfect order; £38/10.—Ireland, Mildenhall, Suffolk.

TRIUMPH, 3½ h.p., 1908, magneto, Dunlop front, Kempshall back, and Dunlop belt few weeks old, horn, exhaust whistle, footboard, stand, etc., smart; £25, or near cash offer.—Buxton, Cross St., Cromer.

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SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

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DOUGLAS, 1910, good running order, tyres as new; £22.—Passey and Hall, Ltd., Ross, Herefordshire.

TRIUMPH, 1909, in excellent condition, new Michelin non-skid and new belt.—Jones, Victoria Garage, Milford Haven.

MATCHLESS, 1911 model, 3½ h.p. J.A.P. engine, condition as new throughout, guaranteed perfect; a bargain, £35.

TRIUMPH, 1911, standard, complete with lamp, horn, etc., excellent condition, unsratched; any trial; £37/10.

DOUGLAS, 1911, model E, 2-speed, handle starting, has been very little used, guaranteed; £38.

TRIUMPH, 1910, clutch model, in fair condition; £35.—Stour Cycle Depot, High St., Stourbridge.

1912 Scotts, Triumphs, Rogers, New Hondsons, Rudge-Whitworths, P. and M's, Douglas, and Matchless motor cycles; book now, early delivery guaranteed.—Stour Cycle Depot, Stourbridge.

TRIUMPH, October, 1910, perfect condition, Lomax new band on back wheel; £40, or nearest offer.—A. White, North Terrace, Evesham.

BRADBURY, 1911, standard, only ridden 700 miles. Tyres as new, tools; accept £40, cost £48/15.—W. Pugh, 12, Lion St., Hay, Hereford.

HUMBER, 3 h.p., 1910, 2-speed, free engine, starting handle, new non-skid tyre rear, spare cover, lamp, speedometer excellent condition; £35.—May, Beaufort St., Chepstow.

2½ h.p. Douglas, 1911, splendid condition, delivered last April, spare non-skid, inlet valves, springs, etc.; £32.—Box L4,813, The Motor Cycle Office, 20, Tudor St., E.C.

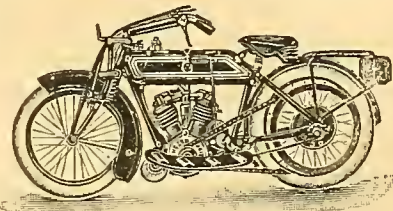
BAT, 1911, 5-6 h.p. with cane sidcar and 2-speed gear, P.R.S. lamp, horn, etc., £60; Cowey speedometer, perfect condition, 55/-; 650 x 65 Kempshall cover, very good condition, 40/-.—H. E. Stringer, Springfield, Stourbridge.

3½ h.p. Motor Cycle, very low, White and Poppe engine, new Palmers, Dunlop belt, adjustable pulley, h.b.c., B. and B. carburettor, stand, carrier, horn, new Autoclisp lamp, generator, very reliable, good hill-climber; £16, or offer.—Monole, Lugwardine, Hereford.

ZENITH, 3½ h.p., late 1910, Service belt, Kempshall back tyre, overhauled, guaranteed, £37/10; Rex, 5 h.p., 2-speed gear, free engine, handle starting, £16; N.S.U., 3 h.p., magneto ignition, new back tyre, goes well, £10/10; many other bargains, write for list; sole agents for Scott, Zenith, and Lincoln Elk motor cycles, good deliveries.—Burrell, Ltd., 2, Albany Rd., Cardiff.

Collier's Motories, WESTGATE, HALIFAX, ENGLAND.

Brand New 1911 3½ h.p. Tourist REX	43 Gns.
" " 1911 2½ h.p. 2-speed REX Junior	50 Gns.
" " 1911 3½ h.p. Free-engine REX	48 Gns.
" " 1911 3½ h.p. REX DE LUXE	57 Gns.



Also 1911 New 2-speed Twin REX DE LUXE as per illustration 63 Gns.

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CASH, EXCHANGE, OR EASY PAYMENTS.

1911 3½ h.p. Two-speed REX DE LUXE, NEW	47 Gns.
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3½ h.p. N.S.U., free engine and sidcar	£33 10
Magneto TRIUMPH, spring forks, very smart	£25 10
Twin REX DE LUXE, and Montgomery Sidcar	£25 10
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5 h.p. 1910 Twin REX, special machine	£29 10
3½ h.p. Four-cylinder F.N., magneto	£19 10
2½ h.p. KERRY, run well, spring forks	£10 10
1910 3½ h.p. T.T. REX, very fast	£27 10
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1 h.p. HUMBER, chain drive	£7 10
1 h.p. AUTOINE, M.O.V.	£14 10
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3½ h.p. Speed King REX, brand new	£29 10
1910 Twin REX DE LUXE, two speeds	£42 10
New Twin REX, cantilever seat	36 Gns.
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Twin REX DE LUXE, and Sidcar	£38 10
MOTO-REVE, magneto, Druids	£19 10
MOTOSACOCHÉ Lightweight	£14 10
3½ h.p. MINERVA, torpedo tank	£14 10
F.N. Lightweight, magneto, spring forks	£19 10
REX Twin, 3½ h.p., spring forks, last	£19 10
REX, 3½ h.p., spring forks, Dunlop non-skids	£15 10
1911 3½ h.p. Free-engine REX, brand new	38 Gns.
1911 Twin REX DE LUXE	£46 10
1911 Single-cylinder Two-speed REX, 300 miles	£32 10

A CALL WILL REPLY YOU.

Early deliveries of 1912 Bradbury machines.

Exchanges Quoted. Distance no objection.

SUNDRIES.

Xfall Anatomical Saddles	20/-, 25/-, 30/-
Wright's Spring Footstools	7/6
Ferry's Turbine Spanners	1/6
Mirror Lens, Rushmore pattern, plated Searchlights, extra large generator	each 12/6
New Shamrock-Gloria Belting, 5ft. 6in. x ¾in.	12/-
New Motor Cycle Tubes, all sizes	6/-
New 26 x 2in. Continental and Clipper Covers	12/6
New 24 x 2in. Clipper Covers	10/6
New 28 x 2in. Clincher and Calman Covers	13/6
Forward Belt Fasteners	1/6
Brooks' Brood Saddle	10/6
Double Twist Horns, well plated	4/8
New 15 amp. Accumulators, 10 9; 20 amp. Fuller's	11/-
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Bosch Plugs, 3/6	Lodge Plugs 4/6
Long Handle-bars, well plated	5/6 and 6/6
Swan-neck Seat-pillars, plated	4/2
New Sidcar Body, well upholstered in blue or green	18/9
Harrison Back-rest, new, recommended	12/6
Second-hand Toolbags	1/- and 1/6

In answering these advertisements it is desirable to mention "The Motor Cycle."

THE MOTOR CYCLE

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ADDRESS: 20. TUDOR STREET, LONDON, E.C.

Running Costs.

THE correspondence now appearing in our pages on the cost of running a motor cycle shows that, like all other pastimes, the expenses vary to a considerable extent according to circumstances.

We do not consider that it is possible to lay down any hard and fast rule respecting the actual cost which would apply to all cases. What is possible is to give experiences of readers regarding the minimum and maximum costs incurred with the running of a first class machine, and leave it to the rider's own individual tastes whether he includes under the head of cost of running such items as a shed for storage, special clothing, etc. We particularly mention these items, because in some instances motor cyclists have already got accommodation for a machine without requiring a special shed, and whereas one rider may consider that the pastime cannot be properly enjoyed without the latest thing in coats and overalls, with perhaps three different suits of these garments for varying climatic conditions, another will economise in this direction as well as in others, and reduce the cost considerably by making one suit of overalls suffice for all weathers. In the case of accessories, too, a motor cyclist, if he happen to be impecunious and at the same time enthusiastic, can dispense with all but the absolute essentials and curtail expense in that manner.

The question of mileage ridden also plays a big part in the annual costs, particularly in connection with depreciation. Presuming depreciation is reckoned at 20% per annum the rider who covers 10,000 miles in the period between purchase and sale will reduce his running cost very greatly in comparison with the man who only uses his mount occasionally and rides at the

most 2,000 to 3,000 miles in the same time. As an example, the depreciation for a £50 machine is £1 per thousand miles in the case of the man who rides 10,000 per annum, and £5 per thousand for the smaller mileage.

So it is throughout, one man can do for less than a penny a mile what costs another anything from double to treble that amount. We can, therefore, safely say that to the economist on a good mount it is possible to motor cycle for 3d. to 1d. per mile, provided rigid economy be exercised and a sufficient number of miles ridden.

The Sporting Side of the Pastime.

IN connection with the somewhat restrictive policy adopted by the Manufacturers' Union with regard to A.C.U. competitions, we think it is possible that the members of the Union, who appear to act very much on the lines of the Society of Motor Manufacturers and Traders, have overlooked the fact that they as motor cycle manufacturers cater for a more sporting class of purchaser than the car manufacturer. The motor cyclist is, generally speaking, younger and more keenly enthusiastic, and therefore inclined very much more favourably towards competitions of all kinds, whether they are connected with motor cycling or not. We do not think this aspect of the case has been mentioned before, and we certainly think that it is one to which the members of the Manufacturers' Union should give their best consideration. It would be extremely unwise to place too many restrictions on the sporting side of the pastime, or the interest, which at present is healthy and whole-hearted, would wane and become stagnant, the industry suffering as a consequence.

TOURING IN NORTH DEVON.

An Easy Way out of Lynmouth. "The Uxbridge Autocyclist" Clears the Air.

IN *The Motor Cycle* of November 2nd the record of the Clyno hill-climbing expedition contained the following inoffensive paragraph, which seems to be causing a good deal of misunderstanding in some quarters: "At the top of Countisbury-Hill we nearly collided with a tourist from Uxbridge with a Triumph and sidecar, who was on his wrong side, but we freely forgive him, for we all stopped and had a most interesting chat. We enquired how they got out of Lynmouth with a single gear, and learned that there was a roundabout way *via* the Doone Valley.

On the following Wednesday, "Kuklos" in *The Daily News* commented on this paragraph in the following terms, which strike me as being snappish and offensive: "These statements are as false as they can be, and I am getting tired of setting them right. A capital road leads into Lynmouth (or out of it) by gradients so easy that they present little difficulty to the bicyclist and none to the autocyclist of any power whatsoever. It leaves Lynmouth between the two horrors (Lynton and Countisbury), winds easily and beautifully up the Watersmeet Valley as far as Hillsford Bridge, where it breaks away from the Brendon and Oare Road, turns right and north [This is an error, Mr. Kuklos.—Ed.], over the 'new motor road,' and climbs with only one sharp pitch to Simonsbath, on Exmoor. There you either turn right and west for Challacombe, Blackmoorgate, and Ilfracombe or Barnstaple, or left and east for Exford, Wheddon Cross, and Exeter or Minehead or Taunton. The latter is the way to Lynmouth for all those ordinary autocyclists who are not out to ruin their tyres or twist their frames. It goes nowhere near the Doone Valley, where there is no road at all."

The Motor Cycle comment was: "Perhaps the Uxbridge motor cyclist who regularly uses this road will enlighten 'Kuklos';" and on November 29th "Kuklos" returned to the attack with the following: "I hope he will try. I shall be very pleased to make a common hash of the Uxbridge autocyclist or anyone else who challenges my Exmoor geography."

Where "Kuklos" Fails.

If "Kuklos" were right it would be bad news indeed for those motor cyclists who, besides being keen motor cyclists, are admirers of this charming corner of old England and of the "Lorna Doone" country.

For the motor cyclist to see the most-treasured spots in this delightful country a knowledge of the means of access is most essential.

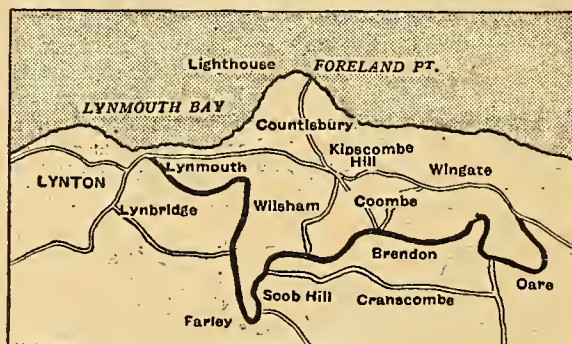
The road which I referred to as skirting the Doone Valley is the key to Countisbury and the valley itself. It leaves Lynmouth by the ordinary Watersmeet Road and goes up over the new motor road, and just at the top of this latter, after rounding the hairpin bend, there is a turn to the left leading to Brendon and Oare. This road winds through the East Lyn Valley, and at Malmsmead passes right by the entrance to the Doone Valley, going on over Malmsmead Bridge to Oare Church. Here there is a right-angled turn to the left, which leads up a well-made, beautifully-graded hill to the top of Exmoor, joining the Porlock-Lynmouth road just on the Somerset side of the County Gate.

As to the astounding charge made by "Kuklos" that this information is false, I need only say that just before I met Messrs. Frank and Geoffrey Smith at Countisbury I had driven my 1911 single-gear'd Triumph and loaded sidecar right round this route, and we went to the entrance of what is known as the Doone Valley, where, according to "Kuklos," there is no road at all. Although I shed my passenger on two pitches between Lynmouth and Oare, I believe I could have managed them if I had not been caught napping. Curiously enough, one of these was the new motor road itself on "Kuklos's" route out of Lynmouth, which he says has gradients so easy as to present no difficulty to a machine of any power!

The Road over the Moors.

The road to which "Kuklos" refers, *i.e.*, the well-known one right over Exmoor to Minehead *via* Simonsbath and Exford, is another matter altogether, and is used for totally different purposes from the one to which I am referring. It gives one a magnificent route right over the heart of Exmoor, and is almost unequalled for views of the rolling moors, but when "Kuklos" goes on to write of it as "the one and only way in and out of Lynmouth for those riders who are not out to ruin their tyres or twist their frames" he is penning absolute nonsense. It certainly is very useful as a pleasant alternative route out of Lynmouth, but it is ridiculous to advise tourists to take that way into Lynmouth. The main road from Porlock to Lynmouth presents no difficulty by taking the tollgate hill at Porlock, when it is quite a simple ride on and down into Lynmouth. This bit, in fact, is one of the very gems of N. Devon, and the unfortunate tourist who, according to "Kuklos," must always go meandering all round Exford and Simonsbath would never experience the unique zigzag tollgate climb from Porlock to the top of Exmoor, which is quite an easy climb. As corner after corner is rounded (and what corners!), a magnificent panorama unfolds itself, the road being cut on the side of Exmoor.

And at the top—that unique ride on the top of the beetling cliffs, with the rolling moors on one side and the cliffs sheer down to the sea on the other, until Lynton and Lynmouth at length burst into view through a cleft in the moors. Nowhere can they be seen to such advantage as from the top of Countisbury Hill.

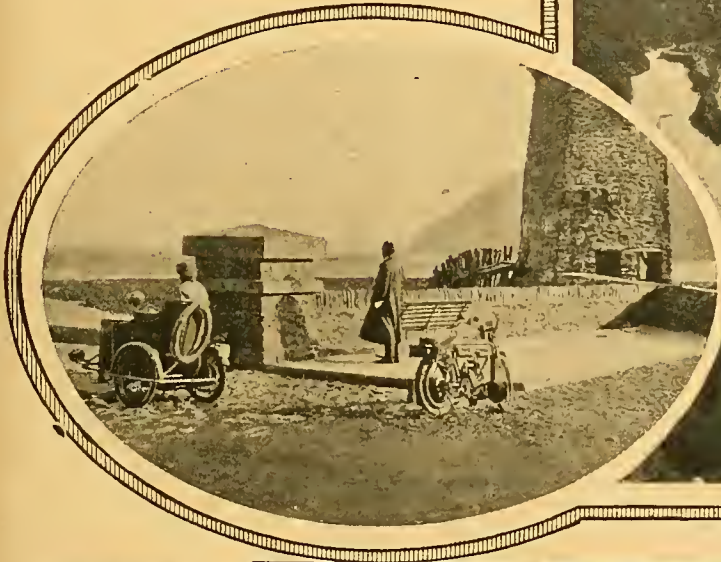


An easy route out of Lynmouth which joins the main Porlock Road.

Touring in North Devon.—

So much for friend "Kuklos," with his Doone Valley legend, his Simonsbath fetish, and the "common hash of the Uxbridge autocyclist" he had promised to make for himself.

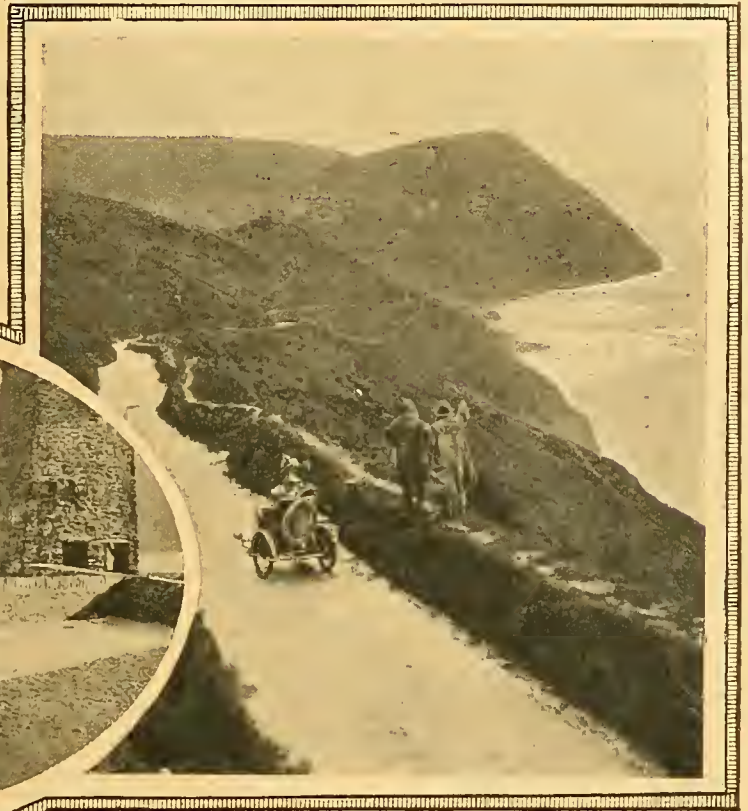
I might add that I have made three week-end trips to N. Devon this year, and on each occasion I have put up at that most excellent little inn at Countisbury known as the "Blue Ball," so as to enable my being on the moors all the time

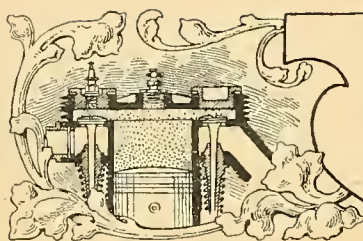
RUGGED COAST SCENERY. COUNTISBURY HILL, NORTH DEVON.

Lynmouth Harbour and old lighthouse.

while close to Lynmouth. Most reasonable charges combined with real Devon fare had made it an indispensable halting place to me, but without the tried and tested Doone Valley key route it would have been an impossible spot for my recent sidecar week-end.

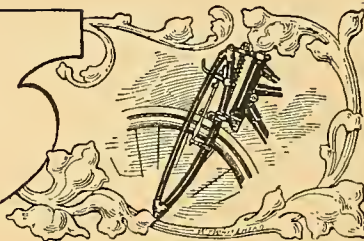
I trust these few notes from personal experience may help to elucidate the N. Devon road puzzles and dispel some of the terrors existing in the imaginations of would-be North Devon tourists.—
L. W. SPENCER.





Lubrication Systems.

Some Examples of Current Practice
on Motor Cycles.



It is somewhat singular that only lately has any serious consideration been devoted by manufacturers of motor cycles to the improvement of lubricating systems, since the matter of efficient lubrication is of such paramount importance, that one would have thought it would be one of the first things to which the designer would direct attention.

The last two Olympia Shows, and especially the one just over, have, however, indicated that considerable progress is taking place. Thanks to great advance in the construction of material for the working parts of engines, the life of a motor cycle power plant is being continually extended to a greater length, but even so it is not yet what it should be. When I say "life" in this connection I do not mean the time over which the engine can operate with a tolerable amount of satisfaction, but rather the period between its being turned out from the manufactory, and the time at which it shows some appreciable falling off in power, irrespective of such adjustments to the valve gear as are rendered necessary by ordinary wear and tear. When one considers the disadvantages of the plain splash system of lubrication with which most motor cycle engines are fitted, it is almost a matter of surprise that engines do work satisfactorily for so long. This is especially the case in an air-cooled engine of high efficiency, since this implies that its operation is surrounded by almost the worst possible conditions, viz., not only poor cooling generally, but what is far worse, cooling which is not uniform around the cylinder. If the machine be single-gear, so much the worse, for in this case the load has to vary very considerably, and not infrequently it happens that over long stretches at a time the engine is called upon to give its full output against a very heavy load.

The Disadvantages of Splash Lubrication.

The principal disadvantages of the splash system, irrespective of the method of oil feed thereto are: firstly, the amount of lubrication flung on to the reciprocating parts has no proportion whatever to the load on the engine. That is to say, the piston, for instance, is much better oiled when the machine is running fairly fast on a mere whiff of gas along a level road than when the engine is slowly tugging on a severe gradient. Yet it is in the latter circumstances that the better lubrication of the piston is demanded. Secondly, the piston and cylinder walls are lubricated most upon the side which requires it least. With an engine rotating in the same direction as the back wheel of the machine, the thrust of the piston on the power-stroke is manifested on the rear side of the cylinder,

but with an air-cooled engine not only does this rear side get much hotter, but it also has considerably less oil thrown on to it than the front side, which from the very fact of its being kept much cooler and having less thrust to sustain, could do with very little. Even if the engine were reversed, and the side thrust of the piston applied to the front wall of the cylinder, only the cooling would be improved, as the bulk of oil would still be thrown on to the wrong wall. It is in this respect that splash lubrication betrays its most fundamental failing.

Lubrication of Big Ends.

The next disadvantage is that owing to the extremely high pressure upon the crank pin, it is very difficult to get the big end sufficiently lubricated, unless some method is adopted for providing it with a more or less constant feed. Unless a drilled crankshaft be employed, centrifugal force not only prevents the big end from dipping into the oil (since whatever oil there is in the crank chamber is immediately whisked to the rim of the flywheel), but causes any oil that does, by chance, get to that bearing to be thrown off as rapidly as possible. A considerable volume of oil has to be carried around by the flywheels and this absorbs an appreciable amount of power, but putting this question aside, there are other ill effects which follow upon having a crank chamber full of an oil mist, the principal one being that the under side of the piston head is kept continually smothered, and in carbonising the oil through its heat it rapidly vitiates the whole of the oil supply in the crank case. I have often seen it stated that the flooding of oil upon the under side of the piston is beneficial on account of the fact that the piston is considerably cooled thereby. But I cannot see that this argument has very much weight, since the cooling effect of the oil can at best only be very slight.

On the other hand, with a loose fitting piston a considerable quantity of oil vapour can be pumped into the combustion chamber, and being only partially carburetted, will burn only incompletely, and cause carbonisation. In twin engines of the usual V type there is, of course, the further disadvantage that the rear cylinder gets a much greater supply of oil than the front one.

The above are the principal disadvantages of the splash system, against which can only be cited a single mitigating quality, viz., that it requires no additional working parts whatsoever. To operate at all satisfactorily, however, it is essential that the supply of lubricant be as nearly as possible a constant one, and no one could fail to be struck by the indications at Olympia that so many manufacturers have realised the importance of this point

and have adopted some means or other for achieving it.

Hand Pump Lubrication.

There is still, however, a large number of machines in which the means for replenishing the supply of oil in the crank chamber consist solely of a hand pump designed to be operated every so many miles. It is, to put it plainly, difficult to conceive of any system of lubrication which could be less satisfactory than this method, for it adds disadvantages to those from which the splash system inherently suffers—that is, the supply is inconstant, and therefore periods of over-lubrication alternate with periods of under-lubrication, and the supply depends entirely upon the vigilance and care of the rider. That engines give satisfactory service under such conditions is quite surprising, and may be regarded as a direct tribute to the excellence of the workmanship and the material employed. As it is, a supply of oil is forced into the crank chamber so as to lubricate the engine entirely irrespective of the load under which it is working at the time, and also with no regard whatever as to how much oil the engine needs. In any circumstances, if this system is to average up fairly correctly, the injection of every pumpful must be followed by a period of gross over-lubrication (unless it happens to be made at the foot of a long, steep hill), and also there must be a period of gross under-lubrication immediately preceding injection. The result is a perfectly natural one, viz., rapid carbonisation and unnecessarily heavy wear on all moving parts. Furthermore, the piston is occasionally flooded, with the result that oil gets under the rings, carbonises as soon as the supply commences to get short, and the temperature begins to go up, and, as a result, prevents the rings from functioning properly.

Constant Feed.

These evils are to a certain extent mitigated by employing a constant feed, which in current practice is obtained in three principal ways. Firstly, by having a hand-operated pump which discharges through a sight-feed-drip. Secondly, by using either the compression or suction in the crank chamber to operate a visible drip feed automatically. Thirdly, by installing in the engine a direct-driven positive pump.

Apart from the fact that all these three systems suffer from the same fundamental disadvantage, viz., that they do not give a supply of lubricant which is proportional to the load upon the engine, each of them has its own disadvantages, and, of course, advantages also. The spring plunger device is simplicity itself, but depends entirely upon the care of the rider. The auto-

Lubrication Systems.—

matic crank case suction method, having very little working pressure, is easily deranged by quite a trivial amount of dirt either in the needle valve or in the pipe. It depends for its operation upon the tightness of the crank chamber bearings, and the good working of the non-return valve which has to be fixed on the crank chamber. At the same time, if it be working properly, it requires little or no attention. The third, or mechanical system, introduces a certain amount of complication, and, of course, expense, but on the other hand, it is not easily deranged, and when once set may be left to look after itself.

Advantage of Hand Pump and Sight-feed.

Regarding the question of feed in proportion to load, these three systems, as I have said, are all imperfect, but not, however, equally so. The hand-operated pump and drip gives a feed proportional only to time, and accordingly unless adjustment be made it makes no difference to the supply of lubricant whether the engine be run at full load, or at light load. In other words, whether one is rushing a heavy gradient "all out," or pottering along the level with the throttle nearly closed, the rate of feed remains the same. It is quite probable, however, that this gives actually a better effect than that obtained with the mechanical pump, or with a feed of the automatic suction type. Both of these give a supply of oil which is purely and simply proportional to the speed of the engine, which means that in running light down hill, or on the level, one is getting more oil into one's engine than one obtains when getting the last ounce of power out of the motor on a steep gradient: in other words, the engine gets the least amount of lubricant when it requires the most, and *vice versa*. Thus when the mechanical pump is merely used as an adjunct to the splash

lubrication of the ordinary kind, no advantage whatever is gained, except that the system requires no attention, and is quite positive.

As will be seen from the examples of lubrication systems which will be dealt with in a subsequent instalment, several makers improve upon the splash system by at least ensuring that oil does get to the crankshaft and crank pin bearings.

Ideal Lubrication.

Before dealing with them, however, it will be as well to give an outline of what constitutes the ideal arrangement. Firstly, there should be a positive pump driven by the engine, and furnished with an adjustable by-pass valve. This pump should supply the main bearings direct under considerable pressure, and from these the oil would pass through a hollow crankshaft to the big end bearings, thence to the gudgeon pin through a drilled connecting rod, and out through the hollow gudgeon pin on to the sides of the cylinder walls. A circular channel should be fitted below the bottom of the stroke of the piston to collect all the oil running down from the cylinder walls, and return it to the oil reservoir, from which the pump draws its supply, this oil being, of course, first passed through a filter. The base of the crank chamber should have a sump cast in it so that the internal flywheels would not pick up any used oil that fell therein from the main, or big end bearings. This oil, after being filtered, would be put into circulation again by the pump. In addition to the main bearings, the pump should force oil directly to the thrust side of the piston. These three main delivery pipes would branch from a valve which would be inter-connected with the throttle control, so that both the throttle and the valve would open proportionally and simultaneously, thus giving an oil feed proportional to the load on the engine. The oil pump would be set to deliver more oil than would ever be likely to be

required, and a by-pass, or release, would be fitted so as to return such oil as was not passed through the control valve to the supply sump.

Adjustable Trough System.

Although ideal as far as lubricating efficiency is concerned, this system is open to improvement in respect to its complication and cost of installation. On the score of economy, moreover, a less complete oiling device might be advisable, and this could very easily be devised on the same principle as is used on Daimler and Minerva cars. In this case, the lubrication is to a certain extent, on the splash method, the great point being that the amount of oil splashed on to the cylinder walls is dependent on the throttle opening, and upon nothing else. The big end bearing is furnished with a scoop which, at the bottom of its path, dips into a narrow trough which is maintained full of oil by a direct driven force pump. Excess of oil overflows out of the trough and falls into the crank chamber sump, after which it is put into circulation again. The trough is attached to a pivot at one end, by means of which it can be lifted or lowered, and thus the depth to which the big end scoop dips into the oil can be adjusted. The trough pivot is connected up to the throttle lever, so that both are operated simultaneously. The main bearings are fed by a pump in the usual way. This system, it will be seen, does not do away with all of the disadvantages of splash lubrication, though it gets rid, at any rate, of some of them. At the same time, although the oil delivered to the piston and cylinder walls is proportional to the output of the engine, the feed is not so effective as it would be if the oil were delivered to the thrust side of the piston direct.

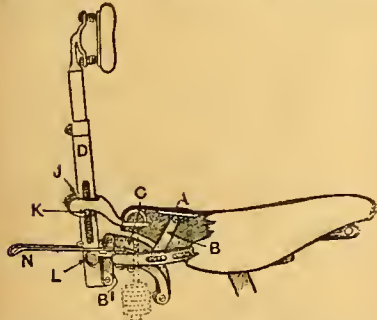
Next week's instalment will contain illustrations and descriptions of lubrication systems on existing motor cycles.

AN AUTOMATIC BACK-REST.

An improved back-rest, which is automatic in its action, has been produced by T Eltringham Henderson, of 73, Camden Street, North Shields. The action is simple, and can easily be followed by reference to the appended sketch. It will be seen that the rider's weight forces

correct position, in which it is maintained by the pawl K which drops into the clip J. The height of this clip is adjustable to suit the weights of various riders. When the rider rises from the saddle the saddle springs expand, and thus lift the pawl K out of the clip J, whereupon the back-rest, which is hinged at L, drops

back on its cradle spring N. This allows the rider to dismount in the usual manner without being impeded by the fitting. The position of the rest is adjustable, as also is the leverage on C. The device is extremely neat and ingenious, and should admirably suit the needs of those requiring an automatic back-seat.



down the lever C through the medium of the connecting link B. C, in its turn, is connected by means of the links B' to the bottom of the hinged back-rest pillar D. Thus, when the rider takes his seat the back-rest rises automatically into the



The coach-built sidecar body illustrated is one which requires no door fastenings, as the peg marked A fits into a corresponding hole B, the combination, therefore, being self-fastening. It is the production of Farrar's Motor Exchange, Halifax.

OCCASIONAL COMMENTS

By "IXION"

The Tyre World.

Standard tyres at present fall into two clearly divided classes. On the one hand the most popular tyre lines consist of comparatively light and inexpensive covers, which no experienced competition rider would dream of fitting for a 1,000 mile event, unless factory pressure compelled him to use them. The anti-skidding corrugations on their treads are worn flat in about 500 miles or so on the back wheel, and punctures are of frequent occurrence. Also it is not unknown for the tread to split, the wall to break, or a big nail practically to ruin the cover so far as road-side repairs are concerned.

After about 1,500 miles on the back wheel such a cover is usually untrustworthy, and a cause of chronic nervousness until its ultimate demise. That such covers should be standard in makers' catalogues is beyond my comprehension, unless it be due to the price question.

On the other hand, many tyre firms manufacture and list a far heavier type of cover at a considerable increase of cost. The corrugations of its tread are so pronounced that it may still serve as an efficient anti-skid after 2,000 miles hard work on the rear wheel; a few chosen samples are genuine non-skidders after double this distance under favourable conditions. The tread is so thick that only a very big nail can effect a puncture, and even then has to enter at right angles to penetrate the air tube.

The tread is solid enough to wear until the fabric casing disintegrates in 4,000 or 5,000 miles, and the walls are sufficiently sturdy to last a year without collapsing. From the user's standpoint such tyres are a genuine economy, not only of time and temper, but also of money. It is only their high prime cost which prevents them from being listed as standards in the average motor cycle catalogue. But their existence is only recognised by a minority of motor cyclists.

I suppose managers of firms which have to produce machines at a price are compelled to buy cheap light tyres; if they ride themselves, they use the firm's standard cover, and never realise its defects, because the running shop staff usually do their repairs and fit new covers for them, and the cost goes down in establishment charges.

The testers, of course, have to use the tyres supplied by the firm, and seldom use the same machine long enough to realise how quickly the treads wear off and how easily they puncture. There may be a small explosion after the annual six days' trial, when the team of three representatives return and explain that they have had endless tyre troubles. But the matter is often forgotten by the next year.

I should like to see the big tyre firms pressing the advantages of these heavier and more costly tyres up in

their trade customers; I should like to see every motor cycle makers' catalogue listing heavier tyres as an extra, and advising customers to submit to the extra outlay in the interests of real convenience and comfort, and of final economy.

Positive Transmission for Lightweights.

I should like to commend the idea of rigid and positive transmissions to those who are interested in the 80 lb. lightweight. In the last T.T. Race I took a special interest in the drive applied to the Alcyon; a small pinion on the crankshaft meshed with a large gear wheel on the counter-shaft; this gearing effected all the necessary reduction, and the final drive was by chain running over two sprockets of equal size. A change of ratio could be effected by carrying an extra sprocket on the far side of the rear wheel, and reversing the wheel when required.

Mr. G. N. Higgs's stand at Olympia contained a most admirable lightweight Alcyon, which may prove to be a prophet. Its drive was exactly as described above, and the possible harshness of this drive was modified by the use of a miniature twin-cylinder engine, of the side by side vertical type, with all valves mechanically operated, and the exhaust valves in front. I dare say this machine scaled considerably over 80 lbs., but an 80 lb. type of similar pattern is well within the bounds of possibility.

Given a reliable engine, it should turn out an entirely satisfactory machine with good hill-climbing possibilities and little liability of trouble. Does it represent the lines which the lightweight will follow in its inevitable evolution?



THE MOTOR CYCLE IN INDIA.

A rider of a T.M.C. travelling at 35 m.p.h. along an exceptionally good Poona road.

The Motor Cycle for Postal Delivery.

An up-to-date Scheme which may revolutionise Rural Postal Services.

It has always been a matter of surprise to us that tricar, sidecar, and, in fact, any speedy light type of passenger motor cycle, have not been utilised long ago for rural district postal work. A light motor vehicle is not only cheaper, but, what is more important in the distribution and collection of mails, much quicker than a horse. It is perhaps only natural that the lead in pressing the motor cycle into the service of H.M. Government should be given by the centre of the motor industry.

Quite recently the Coventry postal authorities resolved to displace a horse and cart used on an exceptionally severe rural service, covering a distance of forty miles, by a motor bicycle and sidecar, the sidecar seat of course being displaced by a large hamper to accommodate letters and parcels. The machine selected for the work is a $3\frac{1}{2}$ h.p. Rover with three-speed gear, attached to which is a Mills-Fulford sidecar, and mounted on this is a hamper measuring 30in. x 30in. x 28in. Although the adoption of the motor cycle is at present more in the nature of an experiment, it is an official move, and one which, should it prove successful, will have a far-reaching effect, and will revolutionise the postal delivery service throughout the whole country. Up to the present the machine has behaved magnificently. The driver is not experienced, but his runs commence at six o'clock each morning, when he delivers letters to the sub-offices of Radford, Keresley, Corley, Fillongley, and Arley, collecting on his return run. This journey is repeated

in the afternoon at four o'clock, the motor cyclist postman finally arriving home at 7.45 p.m., which at this time of the year means from three to four hours of riding in darkness.

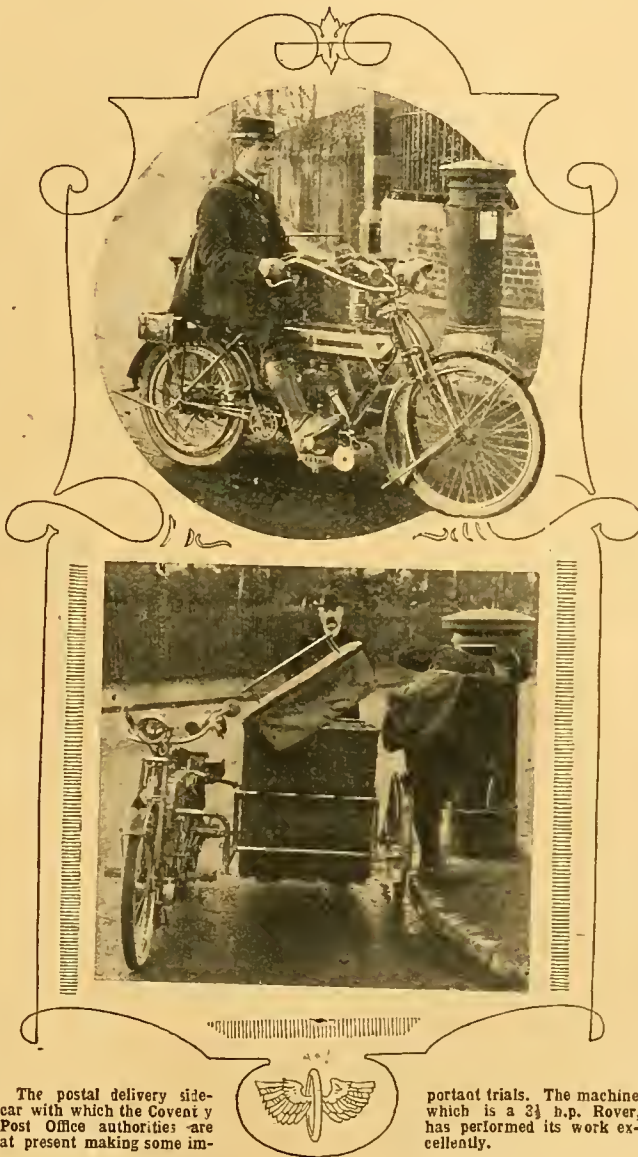
The Saving of Time.

On the very first day's test it was found that the service was accelerated by no less than four hours, i.e., one hour was saved on each journey, outward and homeward. When it is considered that this sidecar is doing the work which was previously performed by a man with a horse and cart for the heavy work of the main journey and a cyclist for the quick day mail, it will readily be realised that this up-to-date scheme has every promise of success. The most severe time of the year has been selected for the trial, which is to extend over a period of three months, and should the Rover sidecar emerge successfully—and we do not doubt its ability to do so—motor cycles and sidecars, painted a vivid red and carrying the Royal mails, will be a common sight on our roads.

In conclusion, we should like to acknowledge our indebtedness to the Coventry Postmaster, Mr. F. Taylor, who courteously provided us with the above information. Mr. Taylor is as anxious as the keenest motor cyclist would be to expedite the delivery and collection of mails, and has great faith in the motor cycle being adapted

to the requirements of the rural postman. He listened with interest when we told him of the good and regular work which is being performed by motor cyclist postmen in the United States over very scattered areas.

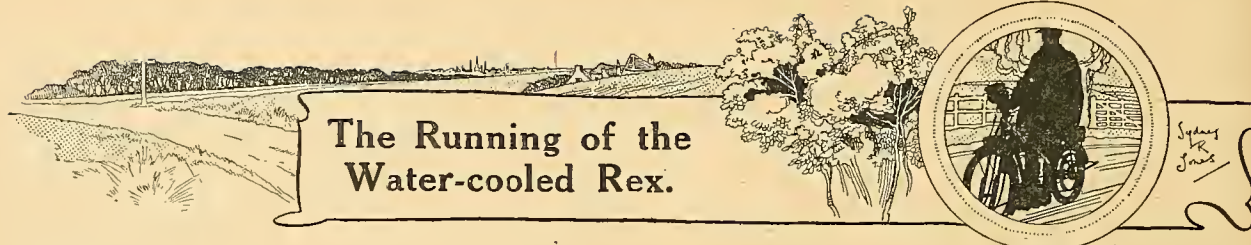
earth the better. The roads are not made for either motor cycles or motor traffic. They are made for ordinary people." Whatever his Lordship's private opinions may be, we certainly think he should not allow prejudice to overcome discretion, and make statements of this nature from the Bench.



The postal delivery sidecar with which the Coventry Post Office authorities are at present making some im-

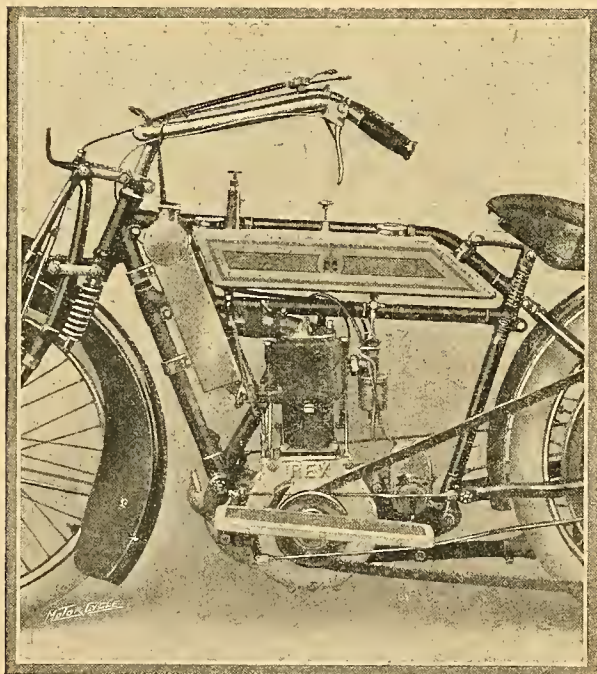
portant trials. The machine, which is a $3\frac{1}{2}$ h.p. Rover, has performed its work excellently.

His Honour Deputy-judge Templar made some remarkable statements with regard to motors at the Tadcaster County Court last week. According to the *Yorkshire Evening Post*, he is said to have stated that "Motors are the greatest nuisance which ever came, and the sooner they are swept off the face of the



The Running of the Water-cooled Rex.

ANYONE who has studied closely the shortcomings of the modern air-cooled motor cycle engine is forced to the conclusion that water-cooling possesses great attractions. What present-day motor cyclist has not been heard to grumble that his engine knocked, his engine accumulated carbon deposits in a comparatively short distance, and that when asked to do really heavy work it knocked itself to a standstill on a steep hill through overheating? And, further, that he dare not venture forth for long distances without a spare valve or valves in his tool kit. All these drawbacks promised to disappear with the adoption of water-cooling, so it was with much interest that we recently accepted an invitation by the Rex Motor Manufacturing Co., Ltd., to try their water-cooled model.



Rex water-cooled $3\frac{1}{2}$ h.p. power plant, showing position and neat design of the honeycomb radiator.

The machine we sampled was the $3\frac{1}{2}$ T.T. mount ridden by R. Lord in the Isle of Man. Its engine dimensions are 85×88 mm., capacity 499 c.c., but the 1912 design has been increased to 84.5×95 mm., capacity 532 c.c., and is rated at 4 h.p. The general design, however, remains the same. The radiator, which is of the honeycomb pattern, is in two halves, one fitted on each side of the down tube, pannier fashion, the bottom of the radiator coming below and the top above the cylinder jacket, thus enabling

thermo-syphon cooling. Once full of water, the tank seldom requires replenishing.

The makers' confidence in the machine is demonstrated by the fact that not a tool or spare of any description was put on it; and so with merely a King Dick in our pocket the machine underwent a trial on three successive week-ends.

On the road the machine runs very smoothly, and is free from all rattle in the radiator, and there is no splashing of water, as might be supposed. We were especially pleased with the manner in which it took a high gear without any fuss, which enabled one to maintain a steady 30 m.p.h. with the engine turning over at a comfortable speed. The water-cooled Rex is by no means lacking in pace, and its hill-climbing capabilities are proved by the fact that the machine took on the run Saintbury Hill, near Broadway, at a fine turn of speed, geared $4\frac{1}{8}$ to 1. Saintbury averages 1 in 11.9 for over a mile, the steepest gradient being 1 in 6.1. When running slowly in traffic, engine knocking was not entirely absent, but we partly blamed the spark timing for this.

Praise for the Long Exhaust Pipe.

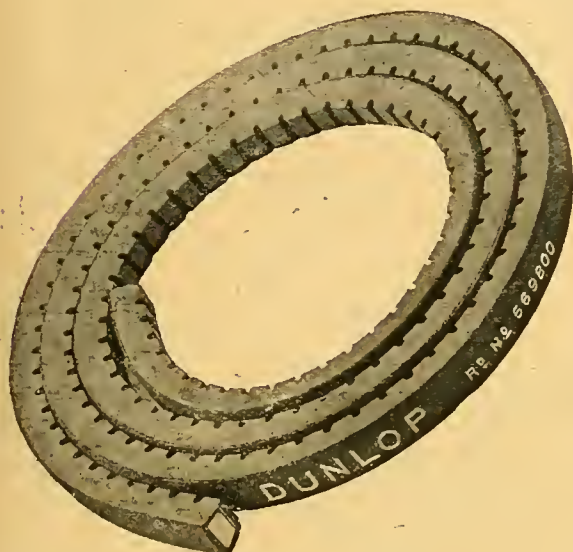
The long exhaust pipe, extending beyond the rear hub, as adopted on the 1912 Rex, is an effective silencing arrangement, and most pleasing to the rider, who can hardly hear the beat of the engine as he whizzes along, but one hardly wants a cut-out in addition, for there does not appear to be the slightest back pressure.

There is no need for us to enlarge further upon the genuine comfort afforded by the spring seat-pillar, for it is such a well-tried device. In addition to the smooth pull and soft explosions, a big point in favour of the water-cooled Rex is that the engine never requires an injection; even on the coldest mornings the engine is as free as ever. Another advantage which the makers have proved after extended trials is its economy in petrol and lubricating oil. Altogether, we were much impressed by this water-cooled mount, and can imagine no more suitable single-cylinder sidecar machine where it is frequently necessary to resort to the low gear.

CLUB REPRESENTATION ON THE A.C.U.

With the object of meeting with the views of affiliated clubs, especially those at a distance from the Metropolis, the following resolution has been passed: "That this committee recommends to the General Council of the Auto Cycle Union that increased representation be given to the affiliated clubs, and that a special sub-committee be formed to carry out a new centre scheme. This sub-committee consists of Messrs. Otto Thomas, A. J. Moorhouse, W. Pratt, F. A. Hardy, and J. W. G. Brooker."

It is good to know what you buy before buying ;
 It is better to know that what you buy has been bought
 by others ;
 It is best to know what the other fellows say about what
 they have bought and what you should buy.



If you are casting
 about for a motor-
 cycle belt, select a

DUNLOP

which is working its way to the position of first favourite by reason of its flexibility and reliableness.

The subjoined letters, written by motor cyclists for the guidance of their fellows, explain its popularity and adduce sound reasons for purchasing it:—

From Dublin.—“No sign of stretching.”

“It affords me great pleasure to testify to the admirable quality of your 1" belt. Before I purchased it I had no end of trouble with other makes, but since I fitted the Dunlop to my 1911 Rex I have covered 1,000 miles, and it has shown no signs of stretching. Wishing you every success,
 J. J. S. ALLEN.”

11, Camden Street Upper,
 Dublin, 19/10/11.

From Bournemouth.—“Dunlops make a difference.”

“A short time ago I noticed in one of the papers a letter from a gentleman who was much satisfied because he had done about 800 miles on a Dunlop belt. I should like to

confirm all your correspondent said with regard to the qualities of your belts. Since May last, one has run my machine (a 3½ h.p. Triumph with N.S.U. two-speed gear) no less than 1,469 miles, of which 1,459 miles have been with a sidecar attached. The belt is by no means finished yet, and is good for another 500 miles at least. I have had to shorten it only four times, and the way it runs for hundreds of miles with no signs of stretching is extraordinary. Surely these figures must be a record for a rubber belt? Previous to using the Dunlop I had very disappointing results with several other makes, and had become very sick of having to buy new belts after every 100/60 miles. I think it should be made widely known amongst motor cyclists what your belts are capable of.

5, Avon Road, Bournemouth.
 16/11/11.

J. GUY.”

SOME OF THE RECORDS HELD BY THE DUNLOP MOTOR-CYCLE BELT.

Flying Kilometre and Flying Mile in Three Classes (A, B, C).
 Flying Five Miles, Fifty Miles, and One Hour, Class A.
 50 Miles, 100 Miles, One Hour, and Two Hours, Class B.

Send for booklet about Dunlop Tyres and Sundries.

THE DUNLOP PNEUMATIC TYRE CO., LTD., ASTON CROSS, BIRMINGHAM ; ALMA ST., COVENTRY.

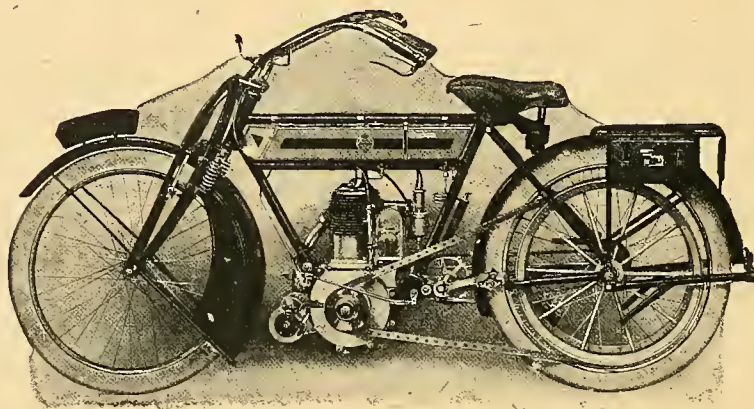
Branches—London, Nottingham, Manchester, Newcastle, Bristol, Leeds, Liverpool, Glasgow, Dublin Re.fast.

In answering this advertisement it is desirable to mention “The Motor Cycle.”

T.1

ROVERS

3½ h.p. Rover Motor Cycle.



Price,	Fixed Engine Pattern	- - - - -	£49 - 0 - 0	net.
„	with Triumph Free Engine Clutch	- - - - -	55 - 5 - 0	„
„	with Armstrong-Triplex Three-speed Gear	- - - - -	59 - 10 - 0	„

W. N., Ross-on-Wye, writes—

“The machine continues to give great satisfaction. I have done up to the present about 3,000 miles (a good deal of it with sidecar and passenger), but have never yet unpacked the toolroll on the road or made any adjustment other than the pulley or belt.

I shall be pleased to give my experience to any enquirer. The machine I use in all weathers in my business and find she is very safe on grease, in fact I have never yet had a side-slip or let her over.

She runs smoothly and silently, and has never required any adjustment during the 6-7 months I have used her.”

Catalogues and full particulars free on application.

THE ROVER CO., LTD.,
COVENTRY.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 23, Tufel Street, E.C., and should be accompanied by the writer's full name and address.

"The Motor Cycle" as a Tyre Gaiter.

[6127].—Whilst out on my two-speed Number late the other night just midway between Maidstone and Wrotham I got a bad burst and had no tyre gaiter with me. I had a copy of *The Motor Cycle* in my pocket, which I cut in half, folded it crescent shape, placed it inside the cover, and fitted my spare butt-ender, and managed to reach home on that. I can assure you I blessed that copy, and reckon it was well worth the penny spent on it.

A. E. LICENCE.

Touring in South-west Wales.

[6128].—Referring to letter No. 6091, signed "BD 50," relating his hair-raising trip over the Llanybyther-Llansawel Road, he is not the first to ride that way by many a long day. On one of my many trips from South to West Wales I was over the roads he mentions six years ago on a 4 h.p. Stevens before the days of two-speed gears, and, having spent some years in Wales, think it very little out of the ordinary.

L. EVANS.

Winter Mudguarding.

[6129].—Referring to your issue of the 7th inst. and to the article entitled "Mudguarding" on pages 1338-1339, we would like to call your attention to the fact that, so far as front mudguards are concerned, our Mon-Aero-Guard, as illustrated in the same issue (page 1348), embodies all the suggestions made by your contributor. The front extension is brought over as far as is safe, while the brake work and springs are completely shielded from all mud and water. Moreover, it is absolutely unnecessary to affix a magneto cover when this guard is used, as no mud whatever can fly on to the magneto from the front wheel.

The guard is not new; it has, in fact, been made privately in Coventry for some years, but we shall shortly be able to supply it in quantities.

THE AUTO-AERO CO.

Air v. Water Cooling.

[6130].—As a staunch believer in the future of water cooling for motor cycle engines, I note with interest that the Rex Co. are putting a water-cooled model on the market. To my mind this is the beginning of the end for air-cooled engines, and in a few years they will be obsolete.

In my opinion, the growing popularity of variable speed gears will compel designers seriously to consider the claims of water-cooling, even if only on account of the abnormal wear of the engine a speed gear naturally causes, on account of the higher number of revolutions and increased working temperature on the low gear.

It is well known that the modern high-compression engine is short-lived to a degree that few car owners would tolerate. No doubt a larger number of owners of sidecar outfits will heartily agree with this.

I can hear somebody enquire as to what the advantages of the water-cooled engine are. In the first place, (1) greatly decreased petrol and oil consumption, (2) longer life of engine, (3) superior power maintenance, (4) absence of valve troubles, and lastly (5) increased power when plunging hard at full throttle, i.e., absence of overheating—a very real trouble, as can be seen by the fact of the crack riders in some of the trials stopping at the foot of hills to cool engines!

These are very material advantages indeed, and the only disadvantage that I can see is slightly increased weight, which, in view of the benefits obtained, is not worth consideration.

J. A. WOOD.

Belts and Bad Weather.

[6131].—With regard to letter 6087, I have ridden a Service belt 7,200 miles and the belt is still good. The only attention I give it is an occasional scrape and a rub over with engine oil; it has not let me down yet and always grips. I use the machine every day, and ride in every county south of Yorks. Need I add the usual disclaimer?

A. E. LICENCE.

[6132].—Until we read Mr. Choldcroft's letter [No. 6087] of November 30th we were not aware of the circumstances to which he refers. He should have taken the trouble to have ascertained definitely whether or not Mr. Barnes was using our belt, and also whether there was any special reason for its slipping. We all know Mr. Barnes to be an experienced competition rider—no one more so—and the mere fact of his selecting our belt in preference to others is very gratifying to us and an excellent testimonial for the belt itself.

The offer made in our previous letter referred to is still open to Mr. Choldcroft or any other reader of your paper who likes to avail himself of it.

THE SERVICE CO. (LONDON), LTD.

Adjustable Tappet Rods.

[6133].—In case anyone is tempted to try the type of adjustable tappets illustrated in your last number, letter 6107, I may say that this idea does not work in practice.

In the first place, no provision is made for holding the tappet stem itself whilst unscrewing the lock nut, etc. We tried this idea when experimenting with the 1912 3½ h.p. New Hudson engine, but found it quite useless, and we finally adopted the pattern now fitted.

Incidentally, any noise from the valve gear can be far more effectively eliminated by the means of adjusting the tappets close up to the valves than by any arrangements of springs which I have tried so far.

Spring tappets do not seem to work at all at very high speeds, unless the springs are very strong.

ROY W. WALKER.

Second-hand Machines and Agency Conditions.

[6134].—May I draw the attention of your readers to conditions which are likely to be fraught with serious consequences to would-be purchasers. I have been riding a particular make of machine for three years, having had two models. Wishing to buy next year's model I went to various agents in my neighbourhood to discover which would allow me the most on my old machine. Eventually I found a dealer, in whose selling district I did not reside, who offered me the best price, and so I placed my order with him.

Now, however, he informs me he is not permitted to sell to anyone residing out of his district without sharing his commission with another agent.

On the face of it this restriction does little if any harm to the agent, but to the intending purchaser it is a serious matter. The effect of it is practically to dictate from whom he is to buy his machine, and to prevent him obtaining a fair allowance for his old model, as obviously no dealer can compete with the dealer in the would-be purchaser's own district in this respect.

Personally, I have never dealt with the agent in my district, as I have always obtained what I consider better treatment from an agent in an adjoining district, and the only effect that this move is likely to have upon me will be that I shall purchase another make of machine, and friends are talking of following my example.

LIBERTAS.

The Evolution of Transmission.

[6135].—I read the article on "The Evolution of Transmission" in the issue of November 30th with much interest. What I cannot understand in this article is why a person of "Ixion's" wide experience, having given up the belt, should now plump for what is no doubt a go-between, viz., the chain drive.

There seems to be no doubt that the motor cycle is going through the same series of evolution with regard to transmission that the motor car has already gone through, and the chain has practically disappeared from all recent car practice in favour of shaft drive with either worm or bevel. The shaft drive has also already been used with excellent results on one or two makes of motor cycle for a fair number of years.

The disadvantages of chain compared with shaft drive, even when the former is completely enclosed, are, in my opinion, considerable, such as stretching, with the consequent getting out of pitch and breaking of rollers, and with the usual open running chain must be added fairly rapid wear, dirt, and expenditure in grease or oil.

The chain, both open and enclosed, has undoubted advantages over the belt, but in my opinion cannot be compared as an all weather transmission with the completely enclosed shaft drive, as regards lasting, general efficiency, and cost of upkeep.

I may say that I have had two years' experience of a shaft-driven machine, and the transmission has not cost a farthing or needed any adjustment whatever. It looks as if it should last as long as any other working part of the machine, and is quite unaffected by any condition of weather or roads.

F. T. MARLEY.

[6136].—How glad I am to see that that most respected and popular motor cycle writer and critic "Ixion," who is so jealous as to his identity, has something to say against what is, perhaps, our greatest bugbear—belt drive.

I feel charmed with his ideal of chains running in oil. Who will try to criticise it, save those enthusiasts who ride excellent variably geared machines, the gear of which is inseparable from belt transmission?

I have been riding a 1910 Triumph all the season. The machine I must say has been a gem for reliability, but oh! those belts. They have been my only source of roadside trouble, and have cost me £4 this season. Not because my pulleys have been out of order or not in line, for I have got from 1,900 to 2,400 miles out of each belt.

The other day I chanced to be near a "meet" of foxhounds, and I met two ladies on restive horses on a steep and twisty hill. The road surface was very wet and muddy. I slowed down in passing the ladies and when past I opened the throttle, the engine roared round, and the machine came to a standstill on the steepest part of the hill—due, of course, to the wet and slipping belt.

As it is a question of £ s. d. and all-weather riding with me, I feel I shall be justified in parting company with belt drive. I should like to see a silent chain drive (as used on the timing gears of the best car engines this year) enclosed in an aluminium, quickly detachable case (similar to the Triumph magneto chain cover) and running in oil. An aluminium case seems to me preferable to a steel one; it would look very neat, and there would be no enamel to clip off when it was detached.

E. W. CHOLDCROFT.

[6137].—Having read with interest the paragraph in "Ixion's" comments on "The Evolution of Transmission," I wondered, as I have often wondered before, why it is that the claims of the shaft drive seem to have been either forgotten or ignored.

After weeks spent in a most careful inspection of all makes, I finally decided on a 2½ h.p. F.N. lightweight.

Why? Because—principally—of its system of transmission. Taking the question of belt drive first, one can read scarcely a single account of a tour or trial in which the defects of this transmission are not shown up.

As to the chain drive, although this is a far better mode of transmission than the belt, I doubt if it can be said that there is a machine on the market which has its chain sufficiently protected and lubricated.

Now I maintain that with a properly constructed shaft drive all the above defects of transmission by belt or chain are avoided.

The champions of the belt drive assert that for sweetness of running this method of transmission is unbeatable; all I can say is that with my shaft drive I have never experienced a suspicion of jar or vibration at whatever speed the engine is running—and I can ride from four to thirty-five miles an hour—the only indication one has that the shaft is doing its work well and truly being the gentle "hum," which rises and falls in a pleasing cadence as the speed of the machine is increased or lessened.

Why do our firms cling so tenaciously year after year to the belt drive?

It is, I am afraid, the old reason, too strong a conservatism in idea and design.

CLERICUS.

[6138].—"Ixion" is too hard on the belt! He refers to the constant adjustment of belts at the foot of every steep hill in the various long distance trials. Why? Because by means of the belt and adjustable pulley a handy means is provided of altering the gear ratio. Why does not the chain driver do the same? Simply because his gear is fixed. He is unable to alter the ratios unless he carries spare chains and sprockets. I should like to have explained why one occasionally sees chain driven machines with the wheels out of line? I put it down to the rigid drive. The last time I used a chain drive, loose and broken spokes in the back wheel were not unknown. Has this difficulty been overcome? Again, "Ixion" must not forget that one can change a rubber belt with the aid of detachable fasteners and have clean hands at the finish. Contrast this with the repair of a chain. Again, what would happen if an engine seized with chain drive? I had this experience last year with a belt drive, and although the belt was adjusted fairly tightly it merely slipped over the pulley. With a chain I presume I should have slipped over the handle-bars! Whilst I must admit I am sick and tired of fiddling with belts, I am not nearly so convinced after ten years' riding as "Ixion" is, that chain is the transmission of the future.

CRITICUS THE SECOND.

Multi-pole Sparking Plugs.

[6139].—I should like to make a suggestion in connection with the multi-pole sparking plug invented by Mr. Howard Smith, and which appeared in your issue of September 14th.

This issue has only just reached me, October 30.

Would it not be possible, instead of using the device as a multi-spark plug, to make use of it to obtain two simultaneous sparking positions some distance apart in the cylinder, as shown in the top sketch. Of course, the objection to a plug of the above type would be the introduction of two high tension conductors so close together; but the chances of shorting could be materially reduced by making the upper part of the plug of a larger diameter than that used in general practice. The plug B could be of standard type, and the connection between A and B could either be by ordinary high tension wire or by a stiff piece of metal, which latter would, I think, be preferable, as it would avoid having loose wire flapping about. Of course, in the days of the accumulator and coil it was a comparatively easy matter to have a four-terminal coil, and thus obtain the two sparking points, as in the lower sketch, but with a magneto it would, I think, entail having an extra slip-ring. I do not in any way wish to encroach on Mr. Smith's invention, but I simply put this suggestion forward on the chance that it may be of some general interest.

E. P. THOMAS.

Suggested method of wiring mentioned in letter from E. P. Thomas, Hong-Kong.

- A. Special double pole plug.
- B. Ordinary plug.
- C. Primary winding for coil system.
- D. Secondary winding for coil system.

Hong-Kong.

[Since the date referred to by our correspondent, the Bosch Co. have introduced a special magneto which gives two sparks simultaneously at two different plugs in a single-cylinder engine. See page 1154 issue of Nov. 2nd.—Ed.]

Ladies' Motor Cycles.

[6140].—In the article "Ladies Motor Cycles at Olympia," by Mrs. Cooke, published in your issue of Nov. 30th, this lady states that many makers have completely covered in all the mechanical parts to guard against spoiling one's clothes, and that some work is involved in moving the shields should anything go wrong. She also states that "she prefers to see some of the mechanism of the machine she rides," but I find that the Motosacoche appeals to those riders who do not know anything about engines, and moreover do not wish to. It is only the work of a minute or two to dust over the shields, which are detachable in two or three seconds.

Mrs. Cooke also objects to corded dressguards, but they are quite satisfactory on pedal cycles, and if in their stead were fitted steel guards covering in the wheel completely, what an unsightly contraption it would be. Mrs. Cooke also seems to overlook the fact of the cooling effect the shields have on the engine. It is unnecessary for a lady who rides one of these machines to wear the usual mackintosh overall with a strap round her waist; she has only to wear her ordinary walking costume. OSBORNE L. DE LISSA.

Wear of Big End Bearings.

[6141].—With regard to the above, your readers, and also the manufacturers of motor cycles, must consider the fact that they are getting double, and sometimes three times, the power from their engines that they obtained two or three years ago. Bigger bearings and forced lubrication are the remedy. The method of crank construction on the twin cylinder horizontally opposed Douglas lends itself beautifully to this principle, and the timing gears might also act as a pump. With regard to rear springing (in my humble opinion) to leave the engine and other mechanism unsprung is a big mistake, as the heavier the weight the steadier the riding (in proof try a big landaulet).



Sketches referred to in letter from R. Halbard.

A. Engine. B. Hinged fork end. C. Hinged bracket joint.

The transmission should, however, be through equal sprockets, all gear reduction being effected through a rigid drive. My idea is that sketch No. 1 is wrong, because as the frame works up and down over inequalities of the road an unequal amount of belt is unwound off the two wheels, causing a jerk. If the flywheels are heavy, this must cause tyre wear, not to mention belts, whereas, in No. 2, the sprockets are equal, and you can have as much movement as you like; it will not affect the engine or tyres. I hope I have made myself clear. I think this is the reason for the scarcity of the spring frame pedal cycle. R. HALBARD.

Proposed Abolition of the Cut-out.

[6142].—In your leader *re* cut-outs and noise you just hit the nail on the head. Yes, it is the unreasoning prejudice of the public that is the cause of more than half the trouble—a prejudice directed against motors in general and motor cycles in particular. When horse-drawn lorries are being driven over stone sets on the trot, as they often are when lightly loaded, the noise, as we all know, is absolutely deafening, and yet our fair-minded public never says a word. A fortnight ago I was conversing with a friend in a busy town where stone sets abound. Two lorries came past, one behind the other, at a brisk trot, when we had to suspend our conversation for about half a minute. I remarked to my friend that if a motor cycle made half or a quarter the noise, the public would be up in arms. And yet the horse-lorry runs absolutely free from taxation, whilst the motor cyclist pays tax in four different ways, viz., licence, petrol duty, registration, and driving licence. I consider this prejudice adds insult to injury. As you truly say, when the motor cycle becomes practically noiseless, it will be thought dangerous on that account. FAIR PLAY.

[6143].—I have read with interest the letters appearing in your popular paper regarding the abolition of the cut-out, and would like to give my humble opinion of the matter. I think the idea of abolishing the cut-out is ridiculous. Had it been of no benefit to an engine, would it have been adopted practically universally by the manufacturers? As regards the noise made through the opening thereof, it is absolutely nothing in comparison to that of a steam roller at work or a steam tractor with a truck or so behind it; in fact, there are any number of vehicles which are continually running about towns which make quite as much noise as a motor cycle with its cut-out open—if not more. I ride a fast T.T. machine myself, but although I keep the cut-out closed in town, do not see why I or anyone else should be compelled to do away with it because it makes a noise! I know it would be detrimental to my machine, inasmuch as on a day's run it would most certainly (in my case, at least) be the cause of one or two stops on account of overheating, no matter how carefully the machine were driven. Besides, what harm does it do anybody if the rider of a machine uses his cut-out on the open road? I firmly believe that if half the people who talk about the abolition of the cut-out only had the experience of riding through a crowd on a fairly silent machine with its cut-out closed, they would come to the same conclusion as I have, and that is that a silent machine is a danger to both its rider and the public generally.

W. EGBERT JAMES.

Motor Cycle Clothing.

[6144].—We frequently notice in your "Questions and Replies," hints to motor cyclists about clothing. For instance, on page 1335 you say, in reply to "O.V.T.": "Nothing is absolutely waterproof except paramatta (when it is new) and oilskin (always). Now paramatta is simply the name of a fabric which in itself is about as waterproof as a pocket handkerchief. Paramatta is only waterproof when it has been coated with rubber—technically called "proofed." As regards oilskins always being waterproof, one of our staff who has tried them informs us that they are waterproof until they have been chafed, and then they require re-oiling.

Without wishing to get a free advertisement, any medium quality rubber-proofed material, such as we or any other first-class manufacturers produce, will keep out a pouring rain for days, and will be as waterproof at the end of six months as the day it was bought, provided it has had moderate care—say not had any holes punched through it, or soaked in petrol or lubricating oil.

As regards Irish frieze leather-lined, the disadvantage of these thick materials is that they are very heavy when wet, and take a long time to dry.

If the rider does not object to rubber-proofed garments they are undoubtedly the cheapest and best. One rubber-proofed suit would outlast a dozen oilskins, and would preserve the wearer from the old "sea dog" appearance inseparable from the latter.

For those riders who have an objection to rubber-proofed garments we supply our special "Everdri" cloth. This will keep out the rain for a considerable length of time. It contains no rubber, and is therefore quite porous.

We might mention that several members of our staff are motor cyclists, and our motor cycle clothing is actually made by motor cyclists for motor cyclists.

We have tested the waterproof qualities of our motor cycle jackets by playing a hose on them at full pressure for an hour or two, to make certain that the rain could not force its way through the fastenings of the coat.

DUNLOP RUBBER CO., LTD.

[We regret the omission of the word "waterproofed" before the word paramatta. We cannot absolutely endorse the statement made in the second paragraph of our correspondent's interesting letter, viz., "that any medium quality rubber proofed material will keep out pouring rain for days." Our experience is, and we think most motor cyclists have found out, that while rubber proofed material will stand a great deal of rain, at the end of a long run in pouring wet the material becomes soddened, especially after the clothing has been used for a time. If this is not the case, why do trials competitors invariably don oilskins if they think they are in for a soaking day's ride? On the point of appearance the waterproofed garments are, of course, unquestionably superior.—Ed.]

Lining on Tanks.

[6145].—"R.J.D." asks, in the November 30th issue, for a tip regarding lining of a tank. Why not let him try the old plan of pasting papers on the tank in the form of stencils, leaving between their straight edges the space for the paint line. They are afterwards wetted and washed, leaving the line on the tank. J.M.C.

Sunrising Hill and 3½ h.p. Sidecars.

[6146].—I noticed a statement in *The Motor Cycle* recently to the effect that H. G. Dixon, driving a three-speed motor cycle and sidecar, is the first to climb Sunrising Hill with a sidecar in competition unaided. Will Mr. Dixon tell me when he did it, as a friend of mine happened to be at the Birmingham and Sutton Coldfield A.C. Trial referred to, and he assures me that at the first attempt he certainly did not get up the hill even after jumping off and running alongside his machine for some distance? Perhaps Mr. Dixon climbed the hill in the dark. OBSERVANT.

Petrol Charges in Oxford.

[6147].—As a regular reader of *The Motor Cycle*, may I appeal, through its columns, to Oxford motor cyclists on an important matter. The price of petrol, always high in Oxford, has recently reached a figure which, with the possible exception of the time of the strikes, is, I think, unprecedented. Shell has often been sold here at as high a price as 1s. 4d. per gallon, but during the last six weeks the price has risen to 1s. 6d. per gallon. Great indignation is felt at such a state of affairs among the motor cycling friends with whom I have discussed the question. But I should be glad if motor cyclists in general would tell me through your columns whether such a condition exists elsewhere. OXONIENSIS.

Silence and Silencers.

[6148].—As numerous complaints have recently been made with regard to the inconsiderate and noisy manner in which some motor cycles are being ridden in and around Birmingham, we should appreciate your assistance in pointing out the harm done to the pastime generally by such practices, in the hope that an improvement may be brought about.

Up to the present the complaints we have received have been made by motorists, but if an improvement does not take place we cannot be surprised if the public and the authorities also complain and apply for further restrictions, which we should all deplore.

EDWARD H. FRYER, Midland Manager A.A. and M.U.

HOWARD SMITH, Hon. Sec. Sutton Coldfield A.C.
R. V. C. BROOK, Hon. Sec. Birmingham M.C.C.

Competitions in 1912.

[6149].—Comment has been made in your columns on the Herts County fixture list for the coming year.

May I point out that this club has no wish to monopolise dates to the exclusion of local clubs. Far from it.

On the contrary, we are particularly anxious that our events should not clash with those of local clubs. As a matter of fact our fixtures of 1912 are very much the same as those of 1911. Secretaries were asked to attend the meeting at Olympia, armed with prospective dates, so that all had the same opportunity as we had.

We have a large membership and we must cater for them accordingly, but we hope not at the expense of other clubs.

C. C. COOKE, hon. sec.

Winter Mudguarding.

[6150].—I note with pleasure in last week's issue of *The Motor Cycle* that you published an article on "Mudguarding" in which belt protection devices were mentioned. I may say, as the outset, that I am an ardent advocate of the belt as being the most suitable means of transmitting the engine-power to the back wheel, and have used a similar device to that fitted to the Dot, as illustrated on page 1338, for the last four years, having in that time ridden practically 50,000 miles with various 8 h.p. twins. and always with sidecar attached, and have never once been troubled with a

es

suspicion of slip during the whole of that time, although I have been out in the most atrocious weather with mud ankle deep everywhere.

Had half the care and attention been bestowed upon belt protection that has been lavished on suitably enclosing chains, I am sure the belt would have more than held its own and not be regarded, as it now unfortunately is, as a very inferior method of drive. So confident am I of the superiority of this form of transmission, that I would like to take an "ardent chain driver" through the vilest possible weather and road conditions on a little match for a small wager, and at the finish for him to race me in removing and replacing his back wheel; lack of dirt on the hands to be counted as a point.

I wonder whether anyone will accept my challenge, my only terms being that he shall, as well as myself, use a sidecar. ERIC LONGDEN.

[6151].—I read with very great pleasure the article on "Mudguarding," by "H.D.T." in last week's issue. To say that the present motor cycle is "mud" guarded is to say what is not true. If one goes out on a really muddy day for a ten minutes' ride on a present-day motor cycle, one comes back covered with mud from top to toe, and this is, forsooth, what makers call "mudguarding." I call it mud encouraging.

I ride my machine—using it in my practice as a medical man—summer and winter, fine and wet, and in winter I clothe it in what I call petticoats; even then my belt slips in really wet weather. The belt is, at best, only a makeshift. When the public understand that a properly protected chain, or a shaft drive, is the proper transmission, then good-bye to the ridiculous belt, with its mess and slipping. Fancy a belt on a car. Cars used to have belts in days gone by, and very shortly we shall say "motor bicycles used to have belts."

If the makers would give us a moderate weight machine, which would go anywhere, require little attention and be silent, the average rider would be satisfied. A machine of the following specification would, I think, meet the wishes of the rider of, at any rate, middle age: Frame, dropped; mudguarding really efficient; enclosed chain or shaft drive; three speeds and clutch; all controls from handle-bar except one brake actuated by the foot, internal expanding; long footboards, in the form of a trough, high at the sides and in front; a really silent silencer; strong non-skid tyres (half the so-called non-skid tyres on the market are merely fantastical designs in the tread, and are of no use); engine, twin, about 4 h.p.; pan seat; machine to be sprung fore and aft; decent clearance between rims and forks (the present wheels are too close to the forks); all parts easily accessible and standardised; stand for both wheels; no bright parts, and, if possible, disc wheels. M.D.

Carbon Deposits.

[6152].—I see that Mr. W. Elder has analysed the sample of carbon which I sent him, and I must confess that I was amazed at the things he found it composed of. The presence of ferric oxide, volatile oils, and road matter is most alarming, and shows that, in these days of keen competition, hardly anything is free from adulteration. I really shall have to change my brand of tobacco, if it contains such foreign matter as this, for the carbon I sent Mr. Elder was nothing more nor less than the hard crust scraped from the bowl of my favourite pipe! In conclusion, I should like to congratulate Mr. Elder on his great analytical skill, and in expressing my thanks for his trouble to assure him that his analysis, if not strictly accurate, has at least proved extremely interesting. ARCHIBALD.

SUMMARY OF CORRESPONDENCE.

H. R. Ellis Coker wishes to learn the views of motor cyclists residing in Peckham and district who might wish to avail themselves of special motor cycle garage accommodation if such were provided. Letters should be addressed to him c/o the editor.

G. H. Fletcher wishes to thank the motor cyclist who rode a Douglas and helped the driver of a Rover car between Crawley and Horsham on the 3rd inst.

M.C.C. TENTH ANNUAL DINNER.

ON Saturday evening last the tenth annual dinner of the Motor Cycling Club was held at the Café Monico. The president of the club, Mr. Charles Jarrott, was to have taken the chair, but at the last moment it was announced that owing to the severe illness of his sister neither he nor Mrs. Jarrott, who was to have presented the prizes, was able to be present. Mr. Jarrott's place was ably filled by Mr. Robert Head, the chairman of the committee, who proposed the toast of "The King," wishing His Majesty a safe return from India.

Mr. Stenson Cooke then rose to propose the health of "The Motor Cycling Club," hereinafter to be referred to, he said, as the M.C.C. He was glad to note the club had progressed steadily since its inception; its 400 members were composed of the pick of the motor cycling movement. What appealed to him was that the club did not spend its substance in trying to reform the earth; it was friendly with the powers that be, it minded its own business, and kept to its sporting programme, and it was able to and did choose its own members.

He referred to the famous M.C.C. events—the London to Edinburgh run, the London to Land's End and back run for the Jarrott Cup, the team trial for *The Motor Cycle Cup*, and the London to Exeter winter run. The last-named event, he said, tickled his imagination. He hoped it would be cold, with a nip in the air—and a nip in the satchel—(laughter)—and a sprinkle of snow to make it Christmassy. He would think of the competitors that night, with bright eyes and blue noses; it made indeed a homely Christmas picture. He referred to the hill climb in France on the 17th inst., and announced that several sporting members of the club would take part or go over as spectators. He especially regretted the absence of Mr. Jarrott, and referred in glowing terms to the club officials, mentioning the new hon. secretary, Mr. Southcomb May, the only man (he is tall) who could sit behind *The Motor Cycle Cup* and yet be seen. He coupled with the toast the name of Mr. Arthur Candler.

The Retiring Secretary's Speech.

Mr. Candler, in reply, expressed his appreciation of the enthusiastic way in which his name had been received. The number of prizes on the table was a proof that the M.C.C. was a real live club. As Mr. Cooke had said, it had progressed steadily. At the annual dinner in 1903 there were on the table only three gold centre, three silver medals, and a cup.

Its growth had been largely due to the club's classic events. For the London to Exeter Boxing Night run they had received up to date eighty-six entries. He had no doubts as to the club's future. He vacated the position of hon. secretary when it was in a state of great prosperity, and he was sure that Mr. May would be found to be an excellent hon. secretary.

The club had members living as far away as Ceylon. Two of these, of whom one was Mr. D. J. Maitland, were forming the Ceylon M.C.C. on Motor Cycling Club lines. Mr. Maitland had presented gold, silver, and bronze medals to the club.

Mrs. Stenson Cooke then presented the prizes. Among those recipients who were received with great

applause were Messrs. O. C. Godfrey, A. J. Moorhouse (the winner of the Jarrott Cup), and A. B. Bennett, the hon. secretary of the Derby M.C.C., the club champions.

The Chairman afterwards proposed "The Visitors and Press." Mr. Head apologised for having to fill the vacancy caused by the absence of Mr. Jarrott. With the toast was coupled that of the ladies who helped to make these festive gatherings go, and the name of Mr. Robert Todd, the chairman of the Auto Cycle Union. Though the M.C.C. was not affiliated, it always abided by the rules of the Union, and held friendly views towards the governing body. He always regarded Mr. Todd as one of the best friends the M.C.C. had.

He would like to thank Mr. Stenson Cooke for the help his organisation, the A.A. and M.U., had always given the club. Among the visitors, he gladly welcomed the representative of the Derby club and of the S.E. London M.C.C., who ran second to the winners for *The Motor Cycle Team Trophy*. Among the members of the technical press, he mentioned the name of Mr. E. M. P. Boileau, of this journal.

Mr. Robert Todd, in reply, spoke first on behalf of the ladies, and then of the press. He referred to the various motoring organisations, and mentioned how much the movement was indebted to them. Thanks to these great combinations motoring has taken up the stand it has, while the motor cycle movement owed much to the Motor Cycling Club.

Presentation to the Retiring Secretary.

Mr. Head then presented to Mr. Arthur Candler, the retiring hon. secretary, a very handsome grandfather's clock, subscribed by the members as a token of the appreciation they had for Mr. Candler's invaluable services. Mr. Candler's health was then drunk with musical honours, and he replied in a few well-chosen words.

Mr. Robert Head subsequently proposed the toast of the absent president, who, he said, would only have been kept away by a matter of extreme urgency. The members, he was sure, would accord Mr. and Mrs. Jarrott their sympathy and condolence.

Mr. S. H. Fry, in his usual witty manner, proposed the health of Mr. Head, and with Mr. Head's reply the proceedings were brought to a conclusion.

The speeches were interleaved with a most excellent musical programme, for a large portion of which that clever entertainer, Mr. Ernest Cherry, an M.C.C. member, was responsible.

The L.C.C., at their last meeting, reversed the recommendations of their Public Control Committee, which were to the effect that applications should *not* be made for reducing speed limits on certain roads at Putney, Balham, Tooting, and Kensington. The A.A. and M.U. will oppose the applications, and will be glad to receive information from those who may have intimate knowledge of the conditions prevailing on any of the following roads: Putney Bridge and Putney High Street; Balham and Tooting, portions of the main road; Kensington, Cromwell Road and Gloucester Roads. The secretary's address is Whitcomb Street, Coventry Street, W.

CURRENT

CHAT

TIME TO LIGHT LAMPS.

Dec. 14th	...	4.49 p.m.
" 16th	...	4.49 p.m.
" 18th	...	4.50 p.m.
" 20th	...	4.50 p.m.

Fusion of Liverpool Clubs.

There is a big possibility of all the motor cycle clubs in the Liverpool district combining and forming one strong and important body.

One Hundred Entries for the Winter Run.

Entries for the M.C.C. second annual winter run to Exeter have now reached a total of one hundred. A list of names received since our last issue went to press is given on another page.

Birmingham to York and Back.

We are asked to remind intending competitors that entries for the Birmingham M.C.C. winter reliability trial on Wednesday, December 27th, details of which appeared on page 1354 of our last issue, close at ordinary fees next Saturday.

Winter Road Trials.

The Auto Cycle Union has been criticised in some quarters for holding too many reliability trials. What would its critics say to a fourteen days' trial in December for pedal cycles, yet a trial comprising sixty-two miles a day over winter roads is engaging the attention of Parisian cyclists, about fifty different makes having been entered. Among the competing machines are a B.S.A. and a New Hudson.

Auto Cycle Union Notes.

MEMBERSHIP.—Eighty-two new members were elected at a recent committee meeting.

THE INTERNATIONAL ASSOCIATION OF ROAD CONGRESS.—It was decided to contribute a sum of money towards the expenses of the congress.

PERMIT.—A permit to hold an open reliability trial this month has been granted to the Birmingham and District M.C.C.

Twelve Hours' Trial to Gloucester.

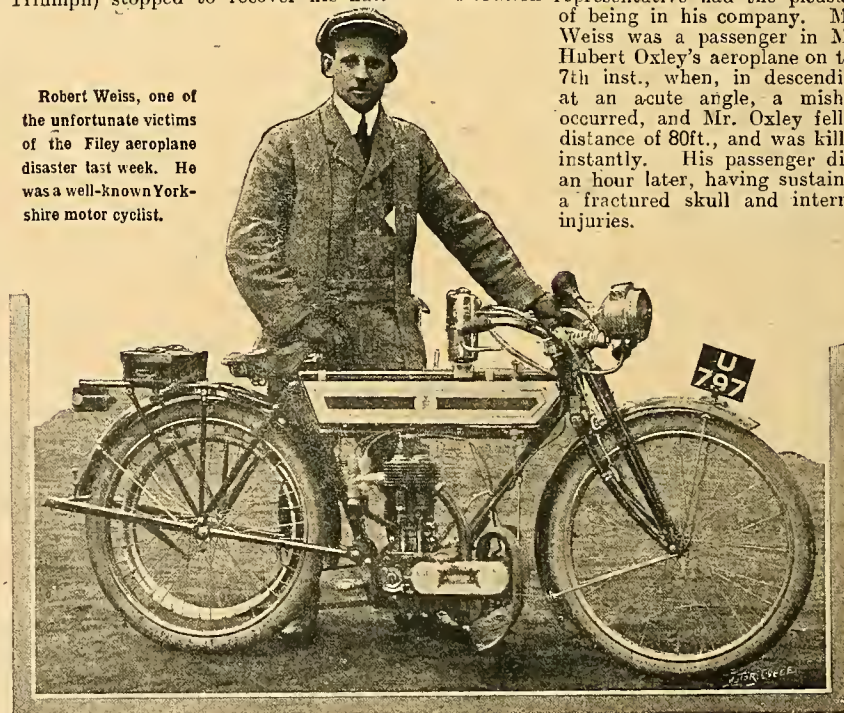
The N.W. London M.C.C. twelve hours' reliability trial to Gloucester and back on Saturday, December 30th, is creating considerable interest, and a number of entries have already been received. The start of this contest is at 7.15 a.m. from Jack Straw's Castle, Hampstead Heath, and the route is *via* Stanmore, Pinner, Rickmansworth, Amersham, High Wycombe, Oxford, Farringdon, Cirencester, Gloucester, returning by the same route, the first pair starting from Gloucester at 2.2 p.m. It will be seen that Dashwood Hill has to be climbed on the outward journey and Birdlip on the return run. There will be an untimed non-stop from Hampstead to the top of Dashwood. The hon. trials secretary for this event is Mr. Glynn Rowden, 40, Frogna^l, Hampstead, N.W.



Reliability Trial in South Australia.

The annual reliability trial and speed judgment test of the Motor Cycle Club of South Australia was held over a course of 150 miles, including some severe hills, good roads, unmade roads, and sandy patches. A uniform rate of speed of twenty miles per hour was set, and eight secret controls were arranged *en route* to trap the scorcher. Those who made non-stops were: A. Moyle (3½ h.p. Lewis, water-cooled), 199 points; C. R. Churchward (3½ h.p. Lewis, water-cooled), 199; F. R. Linb (3½ h.p. Kerry-Abingdon), 198. H. H. Ragless (3½ h.p. Triumph) stopped to recover his hat.

Robert Weiss, one of the unfortunate victims of the Filey aeroplane disaster last week. He was a well-known Yorkshire motor cyclist.



SPECIAL FEATURES.

LUBRICATION SYSTEMS.

THE MOTOR CYCLE FOR POSTAL DELIVERY.

RUNNING COSTS.

Taxicab Drivers' and Owners' Liabilities.

E. J. Robinson, a motor cyclist of Warwick, has secured damages against the London and Provincial Taxicab Co. for an accident which occurred at Leamington on the occasion of the visit of the Prince Henry tourists to that town. The evidence proved that the driver of the cab was in the wrong, and his employers have had to pay. This is an interesting case, as one or two motor cyclists have informed us that cab owners, whose drivers have been involved in accidents, have repudiated liability on the ground that when the driver is paid by results he is not in their employ but on commission.

English Aeroplane Disaster.

Robert Weiss, of Heckmondwike, near Leeds, who was fatally injured in the most serious of English aeroplane disasters at Filey last week, was a well-known motor cyclist, and one time president of the Wakefield A.C.C. Mr. Weiss at one time owned a stud of motor vehicles, including one or more cars, a T.T. Triumph, a standard model of the same make, and a 6 h.p. Roc. At the last Sutton Pank hill-climb promoted by the A.C.U., our Northern representative had the pleasure of being in his company. Mr. Weiss was a passenger in Mr. Hubert Oxley's aeroplane on the 7th inst., when, in descending at an acute angle, a mishap occurred, and Mr. Oxley fell a distance of 80ft., and was killed instantly. His passenger died an hour later, having sustained a fractured skull and internal injuries.

Busy B's in the Winter Run.

The Brothers Bashall have entered sidecar combinations for the Exeter Run. J. T., the hour sidecar record holder, will drive his Bat, whilst W. H. will bestride a new mount, the 6 h.p. Royal Enfield.

A Motor Bicycle with Wire Wheels!

In the catalogue of an auction sale which has been sent to us, appears the following: "3½ h.p. Motosacoche, guaranteed, two-cylinder motor, etc., wire wheels." Fancy a motor cycle with wire wheels—and a 3½ h.p. Motosacoche, too!

Stolen Machine.

The following is a brief description of a motor bicycle which is alleged to have been obtained under false pretences from Mr. T. P. Nathaniel, Mill Bank Place, Uphall, West Lothian. The machine is a 1910 Bradbury with N.S.U. two-speed gear. The rear mudguard has been altered, also the stand. SX 90 is painted both sides of the rear number plate. If a machine following this description is offered to any of our readers will they kindly communicate with Mr. Nathaniel at the above address, or the police authorities at Scotland Yard?

A Variety of Exchanges.

The season of profitable exchanges is at hand. Among the offers in exchange for motor cycles in our last issue were the following: Gramophones and records, second-hand pianos, 6ft. billiard table, 6 and 8 h.p. cars, grey parrot and folding camera, piano player, upright and horizontal grand pianos, automatic lung tester, ladies' and gentlemen's push cycles, knife cleaner, gas fittings, diamond ring, etc.

In last week's issue a motor cycle appeared under the heading of "95° in the Shade." May one interpret this to mean that the engine is susceptible to over-heating?

The A.C.U. Six Days' Trials.

The Tamton and Cumberland Motor Cycling Clubs have extended invitations to the Auto Cycle Union to hold the A.C.U. Six Days' Trials in their respective districts. Both Somerset and its adjoining counties, as well as Cumberland, possess their share of hills. The A.C.U. has been in the North on previous occasions, but the West is almost unknown to its members. It seems almost certain therefore that a centre in the South-west of England will be chosen.

FUTURE EVENTS

Dec. 26-27.—M.C.C. Winter Reliability Run to Exeter and back.
 „ 27.—Birmingham M.C.C. Open Winter Reliability Trial.
 „ 27.—Dublin and District M.C.C. Open Reliability Trial to Waterford and back.
 „ 30.—North West London M.C.C. Twelve Hours' Winter Reliability Trial.

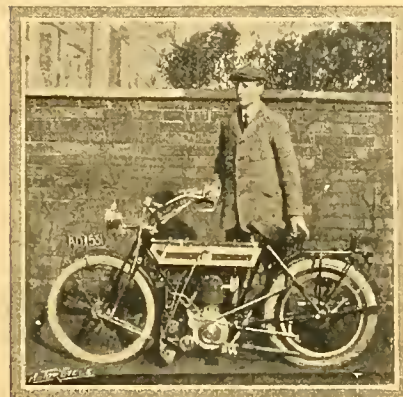
A special heading will be found in the miscellaneous advertisement columns for announcements of forthcoming club competitions.

Hill-climbing.

Nowadays, it is not a question of which steep hills a motor cycle will climb, but rather if there is a hill a motor cycle cannot climb. A number of readers have written in appreciation of our article "A Record Hill-climbing Expedition" suggesting further severe roads and hills in North Wales, Scotland, and Cumberland. Frank Smith writes that he will be pleased to conquer any hills or roads any of our readers may suggest, as he is anxiously waiting to hear of the hill his Clyno cannot get up.

A Schoolboy's First Tour.

The reproduction below is that of Mr. A. E. Hawkins, a Cheltenham schoolboy sixteen years of age, who during his



holiday this year rode from Cheltenham to Dewsbury (180 miles) in a day, starting at 6 a.m. and reaching his destination at 4.30 p.m. On the return journey he rode across country from Dewsbury to Beccles by Doncaster and Newark-on-Trent. Finally he rode from Beccles to Cheltenham in the day, a distance of 190 miles, the journey being accomplished without incident. Starting early, he reached Cheltenham before 5 p.m. For a hardened rider such journeys are not at all extraordinary, but for a boy of sixteen years, they are quite worthy of note. His mount was a 1908 Triumph, and he is eagerly looking forward to a similar trip next year.

English-Dutch Reliability Trial.

We have received too late for press this week, details of the International Reliability Trial between a team of Dutch and English motor cyclists to take place in Holland at the beginning of August. Entries are being invited from Dutch motor cyclists, and a dozen will be selected composed of six private owners and six trade riders. The same procedure will be followed in selecting the English team. Further details next week.

Yorkshire Judge's Extraordinary Outburst.

A highly important case, bearing on the liability of a local authority to pay damages arising out of a skid due to tarred roads, was heard on Wednesday week at Tadcaster. Plaintiff was a motor cyclist named Archibald C. Gray, a Leeds commercial traveller, who was riding towards Askham Bryan, and his machine skidded on the tarred main street of Tadcaster, where he said there were no warnings. The judge non-suited him. Worse than that, his Honour, Judge Templar, delivered himself of the following trenchant but amusing criticism of motorists in general: "Was it the only road in England? If you go on a tarred road you go at your own risk. The roads are not made for either motor cycles or motor traffic. They are made for ordinary people. Motorists seem to think the roads are made entirely for themselves, and for their own purpose. They are the greatest nuisance which ever came, and the sooner they are swept off the face of the earth the better. Another case of prejudice!"



BOY SCOUTS' GREAT FIELD DAY AT PORTSMOUTH LAST SATURDAY.

The Scouts' duty was to protect the common from the invading force. Lieut. Bostock, R.N., is captured trying to get through the cordon of scouts, and is seen being searched for dispatches—his motor cycle is hidden from view.

Motor Cycle Hill-climb in France.

BRITISH RIDERS TO COMPETE.

A NUMBER of well-known motor cyclists are crossing over to France next Saturday to take part in the open hill-climb on the 17th inst. organised by the Auto Cycle Club of France, the classes for which we enumerated in our issue of Nov. 23rd.

A fairly large entry has already been received from well-known French, German, and Italian riders, and the addition of such well-known English names as Arthur Moorhouse (Indian), W. Cooper (Bradbury), F. Smith (four-speed Clyno sc.), Hugh Gibson (Bradbury sc.), Stanhope Spencer (Rudge), and W. H. Bashall (Bat), gives it an international aspect.

Several interested motor cyclists are crossing over with the party, including Messrs. W. H. Wells and O. C. Godfrey, which will be leaving Charing Cross about noon on Saturday and return on Monday. The name of the hill is Gomez-le-Chatel, a severe rise about twelve miles from Paris and two and a half miles from Orsay, and the competition will start at 10 a.m. The Auto Cycle Union is fixing up all arrangements for hotel accommodation, and readers who desire to join the party should apply to the A.C.U.

The regulations are that all machines, except in two open classes (one for bicycles and one for tricars),

must be of the commercial type, i.e., "rigorously in accordance with maker's catalogue specification." The classes for motor bicycles (with the exception of the open class) are divided by cubical capacity, as follow: Class 1, 225 c.c.; class 2, 300 c.c.; class 3, 400 c.c.; and class 4, 500 c.c. Tricars: Class 1, maximum bore of engine, 90 mm.; class 2, open. There will be also a class for "voiturettes" built on motor cycle lines, those connecting links between the motor car and the motor cycle, and which we prefer to designate quadcars or runabouts. The list of entries, as we went to press, stood as follows:

MOTOR BICYCLES.

- | | |
|----------------------|------------------|
| 1. N.S.U. I. | 7. Alcyon II. |
| 2. N.S.U. II. | 8. Alcyon III. |
| 3. N.S.U. III. | 9. Alcyon IV. |
| 4. Austral I. | 10. Alcyon V. |
| 5. Terrot Motorette. | 11. Motosacoche. |
| 6. Alcyon I. | |

TRICARS.

- | | |
|---------------------|---------------------|
| 12. Mototri-Contal. | 13. Mototri-Contal. |
|---------------------|---------------------|

QUADCARS AND RUNABOUTS.

- | | |
|-------------------------|--------------------|
| 14. Ronteix I. | 18. La Ponette II. |
| 15. Ronteix II. | 19. La Trotteuse. |
| 16. Guerry Bourguignon. | 20. Bedelia. |
| 17. La Ponette I. | 21. Cohendet. |

French Road Race—Circuit de Me'un.

This event, organised by the Motor Cycle Club de France on the circuit which comprises Melun, Guignes, and Lissy, was held on Sunday last. The distance ridden was 127 miles. The original intention of the club was to hold a race from Paris to Havre, but this was frustrated by the authorities. The start was at 8 a.m., and the following riders and machines were sent off at minute intervals:

CLASS I.

- | | |
|------------------------|-----------------------|
| 1. De Vay (New Hudson) | 5. Cuzeau (Terrot) |
| 2. Jeaneau (Rochet) | 6. Grapperon (Alcyon) |
| 3. Brunet (Griffon) | 7. Dacier (Alcyon) |
| 4. Canale (Alcyon) | 8. Detrez (Peugeot) |

CLASS II.

- | | |
|-----------------------------|----------------------|
| 1. Comby (Motosacoche) | 4. Lacroix (Peugeot) |
| 2. Tickenheinrich (M'coche) | 5. Péan (Peugeot) |
| 3. Millan (Motosacoche) | |

CLASS III.

- | | |
|----------------------|-------------------------|
| 1. Casse (F.N.) | 4. Dubost (René Gillet) |
| 2. Gabriel (Triumph) | 5. Golaz (Motosacoche) |
| 3. Blanchon (F.N.) | |

CLASS IV.

- | | |
|---------------------------|--------------------------|
| 1. Gomo (Peugeot) | 5. Debaume (René Gillet) |
| 2. Naas (Griffon) | 6. Fay (René Gillet) |
| 3. Sandford (René Gillet) | 7. Théry (René Gillet) |
| 4. Meuriot (René Gillet) | 8. Vaudry (René Gillet) |

The race was run in a downpour of rain, and the survivors naturally finished with their machines and themselves covered with mud. Nevertheless, the contest cannot be described as anything but a success. Twenty-six competitors came to the post, and of that number twelve completed the seven circuits to make up the distance. High speeds under the circumstances were not to be expected, the fastest time being made by Dubost on a René Gillet of 489 c.c. His speed works out at thirty-seven and a quarter miles an hour—quite a good average, considering the

state of the roads and the high wind which prevailed. Next came Fay, also on a René Gillet, but of 1,147 c.c. His speed was thirty-six miles per hour. Gabriel on a Triumph, 499 c.c., was third in order of speed, being only 4m. 25s. slower than Fay. Dacier on a single-cylinder T.T. Alcyon, 298 c.c., was not far behind, and, considering the dimensions of his engine, his speed of thirty-three miles an hour, and the weight, he was placed first in the general classification. Lacroix rode a twin Peugeot, 332 c.c., and covered the course at an average speed of nearly thirty-five miles an hour.

Dubost's René Gillet had a single-cylinder engine, Ruthardt magneto, rigid forks, and upturned bars; the transmission was by belt, and the machine was provided with stand and mudguards. Lacroix's Peugeot was also belt driven, but had a slightly dropped bar, large round petrol tank, and mudguards, but no stand. The winning Alcyon was the same model that was ridden in this year's Junior T.T.

The Results.

CLASS I.—Cylinder capacity 200 to 300 c.c.

- | | H. | M. | S. |
|--------------------------------|-----|-----|-------------------------------------|
| 1. Dacier (Alcyon, 298 c.c.) | ... | ... | 3 51 58 ⁴ / ₅ |
| 2. Dera (New Hudson, 292 c.c.) | ... | ... | 4 29 42 ² / ₅ |
| 3. Detrez (Peugeot) | ... | ... | 5 59 4 ² / ₅ |

CLASS II.—Cylinder capacity 301 to 400 c.c.

- | | | | |
|------------------------------------|-----|-----|-------------------------------------|
| 1. Lacroix (Peugeot, 332 c.c.) | ... | ... | 3 39 18 |
| 2. Péan (Peugeot, 332 c.c.) | ... | ... | 3 56 0 |
| 3. Milland (Motosacoche, 343 c.c.) | ... | ... | 4 22 52 ³ / ₅ |

CLASS III.—Cylinder capacity 401 to 500 c.c.

- | | | | |
|-----------------------------------|-----|-----|-------------------------------------|
| 1. Dubost (René Gillet, 489 c.c.) | ... | ... | 3 24 21 ¹ / ₅ |
| 2. Gabriel (Triumph, 499 c.c.) | ... | ... | 3 36 7 ³ / ₅ |

CLASS IV.—Cylinder capacity 501 c.c. and over.

- | | | | |
|--------------------------------------|-----|-----|-------------------------------------|
| 1. Fay (René Gillet, 1,147 c.c.) | ... | ... | 3 31 42 ¹ / ₅ |
| 2. Meuriot (René Gillet, 1,272 c.c.) | ... | ... | 3 57 32 ² / ₅ |
| 3. Naas (Griffon, 964 c.c.) | ... | ... | 4 10 4 ³ / ₅ |

M.C.C. Winter Run to Exeter.

The following are the entries received for the winter run since the list published last week. The total is now 113 to date:

- | | |
|---|---|
| A. P. Maurice (3½ Premier and sc.) | J. A. Densham (3½ Rudge) |
| H. C. Mills (3½ Premier) | R. G. Mundy (2 Alcyon) |
| C. B. Duberly (3½ Ariel) | G. N. Higgs (5.6 A.C. Sociable) |
| S. Boswell (3½ Ariel) | G. L. Fletcher (2½ Douglas) |
| G. Wray (3½ Bradbury and sc.) | N. C. Dear (2½ Douglas) |
| P. W. Moffat (2½ Douglas) | F. E. Pither (10 Huru car) |
| C. F. Halsall (5-6 Clyno and sc.) | N. O. Soresby (3½ Rudge) |
| T. Tattersall (5-6 R.A.C.S.) | F. J. Watson (3½ Swift) |
| H. R. D. Simpson (4 M.M.) | J. Peachey (3½ Premier) |
| F. B. Webber (8 Morgan Runabout) | R. Clark (5-6 F.N. and sc.) |
| J. Neumann (3½ Triumph) | S. B. White (4 Service) |
| P. W. Pumphrey (2½ Arno) | G. Griffiths (3½ Rover) |
| G. Stuart-White (3½ Rex) | J. Baker (3½ Rover) |
| Dr. C. B. Moss-Blundell (8 Waverley car) | R. Garcher (3½ Kerry-Abingdon and sc.) |
| J. S. Holroyd (2½ Moto-sacoché) | R. Lord (6 Rex Sidette) |
| T. Gear (2½ Motosacoché) | L. B. Feeny (4 Mcto-Rève and sc.) |
| G. W. England (8 Morgan Runabout) | F. Thomas (7 G.O.K. and sc.) |
| P. Bounds (8 Bounds-Jap and sc.) | F. L. Goodacre (2 Alcyon) |
| S. C. Perryman (3½ Ariel) | H. A. Thompson (8 D.R.C.) |
| R. Ellis (3½ Calthorpe and sc.) | J. Gibson (6 Noble) |
| R. E. Guest (6 Matchless and sc.) | H. F. S. Morgan (8 Morgan Runabout) |
| G. Robertson-Brain (3½ Ivy-Precision and sc.) | W. H. Bashall (5-6 Royal Enfield and sc.) |
| E. B. Ware (8 Chater-Lea and sc.) | J. T. Bashall (7 Bat and sc.) |
| V. Taylor (3½ Rudge) | A. V. Deacock (6 N.L.G. and sc.) |
| R. C. Davis (8 Chater-Lea and sc.) | E. G. Whelan (3½ Zenith) |
| A. J. Stevens (5 A.J.S. and sc.) | C. M. Smith (20 Adams car) |
| F. Smith (5-6 Clyno and sc.) | R. Charlesworth (3½ Zenith) |
| G. Stevens (2½ A.J.S.) | E. Babington (8 Bat) |
| S. Sawyer (3½ Premier) | A. T. Amplin (6 Matchless) |
| W. C. Hemy (3½ Service) | A. G. Leck (3½ Rex) |
| H. G. R. Slingo (5-6 Clyno and sc.) | E. Kickham (Douglas) |
| S. Browne (3½ James and sc.) | H. A. Cooper (3½ Bradbury) |
| | H. A. Duncan (3½ Rex) |
| | A. V. Sumner (2½ O.K.-Precision) |
| | A. Sproston (Rudge and sc.) |
| | E. Purchase (3½ Triumph) |
| | A. Mabon (Rudge and sc.) |
| | D. S. Baddeley (P. and M.) |

Several of those named are prospective members whose names are included subject to election at the next meeting of the Motor Cycling Club Committee. The number of entries is already a record, but still more are expected. The start is from the Bulstrode Hotel, adjoining Heston-Hounslow Station, at 7 p.m. on the 26th inst.

AN AUTOMATIC OIL PUMP.

Mr. Joseph Sarolea has lately brought out a new semi-automatic oil pump. Referring to the illustration, the body of the pump consists of the tube 1, closed at its upper end by means of the cap 2, at its lower end by the plug piece 3, in which is the inlet passage 4, and the outlet passage 5. The rod 7 is hollow, and its interior is of square section. Through it runs the square rod 11, attached to the disc 12, so that when the handle is turned the rod and disc are also turned with it. The disc 12 rests on the plug 3, while the spring 13, pressing on the nut at the end of the rod 14, presses it close up against it. The disc 12 possesses a crescent-shaped groove 15 in part of its surface.

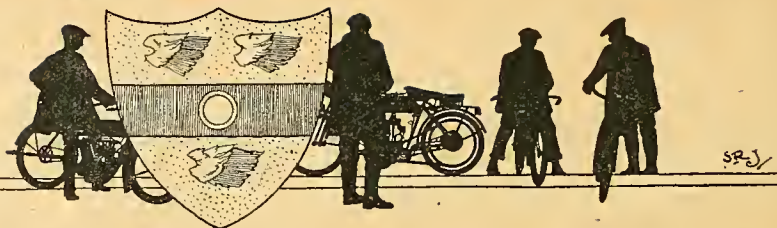
When this groove is above the orifice 4 it allows the oil to flow into the pump. When above the orifice 5 it allows it to escape to the engine. The progressive section of this hole allows regulation of the flow according to the amount the disc 12 is turned by means of the handle. The rod 7 carries an indicator 16 on the pump cover, which shows the amount of opening of the regulating disc. When the latter is in the position shown in the figure, the raising of the piston 8 has the effect of drawing oil into the pump through the orifice 4. It is possible then to turn the disc so as gradually to uncover the orifice 5, the orifice 4 at that time being closed.



STEERING FROM THE SIDECAR SEAT.

A patent steering arrangement made by Messrs. Bell Bros., of Manchester. (1) Showing the chief points. On the steering wheel is mounted exhaust lifter and carburettor control. The two connecting steering rods are adjustable. (2) When seated the wheel and column are lowered into normal position and kept there by a spring on the arched tubing at foot of sidecar.

CLUB NEWS



Liverpool A.C.C. annual dinner last Monday evening. Mr. P. Butler presenting the silver trophy to Mr. W. Heaton who rode a 2½ h.p. A.J.S. in the "banned" trial. Others in the group from the left are: Messrs. L. Mogridge (chairman), Clark (president), Baxter (captain), and Barton (hon. sec.)

Liverpool A.C.C.

A merry dinner party gathered together at the Bee Hotel on Monday night. With Mr. Percy Butler in the chair all went with vim. The room was rather crowded, many representatives of other clubs being present as guests. During the "smoker" that followed the challenge cup presented to the club by the Reliance Co., value fifty guineas, was handed to Mr. W. Heaton, of Manchester, the winner for the first year of the open two days' trial. In presenting this handsome trophy the chairman remarked that had the trials been carried out in their entirety as first arranged by the club, they would have been the best, if not quite the finest events of the year, and he fully expected that the future trials would equal any in the kingdom.

Mr. Barton (hon. sec.) said he hoped that at the meeting on Wednesday the amalgamation of clubs would come about; if so, the future of the sport and trials were assured.

Mr. Mogridge (chairman of L.A.C.C.) said that the holding of the open trial was the last straw to the A.C.U., like the last straw in the load of the camel.

Mr. Carty spoke of the difficulties yet to be overcome before the amalgamation took place, but expressed the hope that they would come to the meeting prepared to give and take and fall into line for the benefit of all. Mr. Carty's speech was followed by an excellent concert.

Bristol B. and M.C.

At a recent meeting of the Bristol Bicycle and Motor Club the following events were sanctioned, with the proviso that others should be carried out if necessary: April 27th, open hill-climb; May 11th, Taunton and back, *via* Wells, Polden Hills, and Bridgwater; June 15th, M.C.C. team trial for *The Motor Cycle* cup; June 29th, Oxford, *via* Birdlip, and back; July 20th, Keynsham-Pensford course; August 2nd-3rd or 3rd-5th, open road trial to Land's End and back; August 31st, members' hill-climb at Dundry.

M.C.U.I. (Ulster Centre).

The result of the reliability run recently held to Derry has now been announced and is given below. Of the nine riders who started eight completed the course. A broken belt fastener resulted in W. J. Adams (3½ B.S.A.) losing three marks before checking in at Toomebridge. I. I. Kennedy (3½ L.M.C.) arrived two minutes late at Dungiven, and lost one mark in consequence. G. Simpson (3½ Triumph) and I. R. Thompson (3½ B.S.A.) got ahead of schedule time, and arrived in Derry several minutes too soon; the former being penalised two marks, and the latter four marks. J. Stewart (3½ Triumph), J. Lavery (3½ Triumph), R. M. Lardy (3½ Triumph), and C. R. Martin (3½ Triumph) completed the journey without mishap of any description, and tied with full marks. The final adjustments, however, left the placings as follows: 1, J. Lavery; 2, J. Stewart; 3, R. M. Lardy; 4, C. R. Martin. It is worthy of note and rather remarkable that punctures were conspicuous by their absence, none of the riders having the slightest troubles with their tyres.



Some of the members who attended the Mersy M.C. dinner, at which the announcement of a probable amalgamation of Liverpool motor cycle clubs was made.

Club News.—

Haverstock M.C.C.

A new motor cycle club was formed with the above title at an enthusiastic meeting on the 6th inst., at the Prince of Wales Hotel, Prince of Wales Road, N.W.

Streatham and District M.C.C.

On the 6th inst. this club held the first smoking concert of the winter season at its headquarters, the Crown and Sceptre, Streatham Hill. The next item on the programme is a lecture at headquarters.

Sutton Coldfield A.C.

A lecture, illustrated by lantern slides, and entitled "Speed and Power," is to be given by Mr. W. G. McMinnies to the members of this club on Friday, December 14th, at 7.30 p.m. Tickets may be obtained from the Colmore Depot, Messrs. T. Clayton and Sons, William Bruce, Ltd., or the hon. secretary, Mr. Howard Smith, The Dingle, Four Oaks.

Mersey M.C.

The annual dinner took place on the 7th inst. at St. George's Restaurant, Liverpool, after which the prizes won during the year were distributed. Messrs. Jones, Philpot, Bethal, Carty, Morley, Harsman, Lake, Smith, Birch, Mason, Kershaw, Rees, Fox, Barker, Brown, and Rimmer were the recipients. A gold watch and gold medal were presented to Mr. H. Long for his ride of 40,000 miles in ten months on a Triumph. During the evening allusion was made to the proposed amalgamation of Liverpool clubs; this was received with enthusiasm.

Wolverhampton M.C.C.

A members' billiard tournament is to be held at the headquarters, King's Hall Restaurant, Central Arcade, on Monday, December 18th. Entries close on Friday, December 15th. Further events are as follows: The annual dinner on Saturday, January 6th, 1912, at 7 p.m.; the annual general meeting on Monday, January 8th, at 7 p.m.; a breakdown competition on Monday, January 15th, at 7.30 p.m.; a whist drive on Monday, January 22nd, at 8 p.m. All the above to be held at headquarters.

Cumberland County M.C.C.

This club recently held its annual meeting, dinner, and prize distribution at the picturesque old hostelry, The Pheasant, Piel Wyke, Bassenthwaite. The weather and roads being ideal, allowed a good muster of members of this widely scattered and rapidly growing club to assemble awheel. Headquarters have been acquired at the Great Central Hotel, Carlisle, where a room has been placed at the disposal of club members, and where motor cyclists passing through the city will receive a welcome. A number of valuable cups and other prizes having been presented for competition during 1912, a very successful season is anticipated. Joint hon. secretaries: Messrs. Hilton Robinson, Foul-syke, Loves Water, and William M. Milburn, Lome Terrace, Brampton.

Birmingham M.C.C.

R. W. Duke (Zenith) and R. H. Edwards (Triumph), the competitors left in the reliability trials, completed the fourth round last Saturday, and neither of them was "knocked out." The course was as follows: Birmingham, Kidderminster, Bewdley, Tenbury, Bromyard, Ankerdine Hill, Worcester, Droitwich, Bromsgrove, Halesowen, Mucklow's Hill, Birmingham—roughly, ninety miles. The competitors were accompanied over the course by V. Busby, on a 3½ h.p. Humber, who acted as checker. Busby unfortunately failed on Sunrising in the third round through being unable to change to his low gear before the engine stopped, the reason being that a skid on the corner had bent his footrests, so that he could not release his high gear. The roads were as bad as possible, especially Ankerdine Hill; it speaks well for both machines and their riders that they went through without a stop, as the course is considered difficult. Next week the course will be; start Fountain, Hagley Road 3 p.m., Halesowen, Stourbridge, Bridgnorth, Ludlow, Tenbury, Kidderminster, Mucklow's Hill, Birmingham. The ninth annual dinner and prize distribution will be held at headquarters on Friday, January 5th. Notices will be posted to members in a few days.

Durham and District M.C.C.

The annual dinner and prize distribution will be held on Saturday, 16th December, at the Neville's Cross Hotel, Durham. Members and friends are invited, tickets 2s. 6d. each. Mr. F. C. Wake, of Darkington, has been awarded the Aggregate Challenge Cup for competitions held during 1911.

York County M.C.C.

A club meeting will be held to-morrow (Friday), when a paper will be read by Mr. J. A. Prendergast, entitled "Scientific Tuning." The annual general meeting will be held on Friday, January 26th, at headquarters, the Grand Central Hotel, Leeds.

Blackpool and Fylde M.C.C.

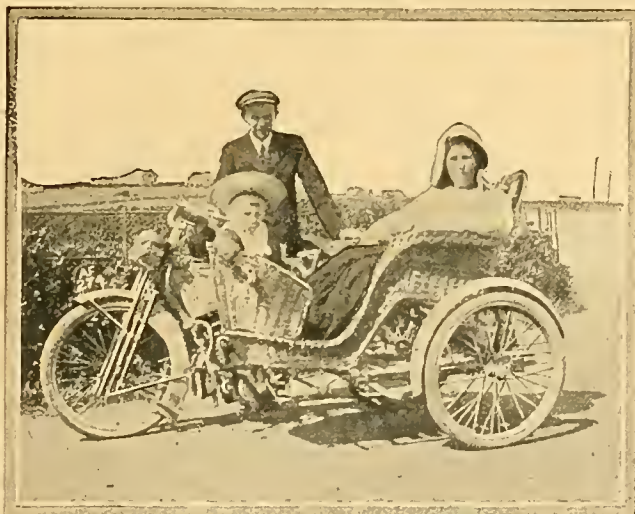
A paper on "The Internal Combustion Engine" was read at headquarters by the hon. sec., Mr. J. E. Taylor, who, together with Mr. G. F. White, afterwards gave a demonstration on "The Timing of the Valves and the Setting of the Magneto." The membership of the club is at present fifty, and is gradually increasing.

South Birmingham M.C.C.

The first annual dinner of this newly-formed club, which is developing rapidly, will be held in January, and some matters of interest to competition riders will then be announced. Information can be obtained from the hon. secretary, Mr. L. Poole, 70, Poplar Road, Edgbaston.

Essex M.C.

An interesting paper was read before the members of the Essex Motor Club on Thursday last in the committee room of the R.A.C., Pall Mall, S.W., by Mr. Douglas Leechman, on "Motor Cycles Seen at the Recent Olympia Show." Mr. O. L. Summers presided. Mr. Leechman began by saying he noticed several welcome departures from the standard design so prevalent at the present time. Water-cooling, two-stroke engines, and the use of the decompressor which allows a part of the compressed gas to escape, were among the most noteworthy. He also commented on forced lubrication, roller bearings, and foot starters. He criticised the frame of the modern motor bicycle rather severely, and brought forward a pretty allegory to illustrate his words, which cannot, unfortunately, be reproduced on paper, though it was clear enough on the blackboard. He criticised especially the design of the head, in which the top and down tubes were brought to a point, the dropped top tube, and the use of the engine to brace the frame, while he mentioned the advantage of the loop. He referred to spring frames, and commented on the stability of these on greasy roads. Spring forks were also referred to, and he mentioned the Druid, Pilot, and Indian, as being especially good. Numerous members took part in the discussion, and at the conclusion of the meeting Mr. Leechman was enthusiastically applauded for his entertaining lecture.



H. P. Harrison, engineer in charge of the Lizard Lighthouse, and his twin cylinder Rex and sidecar.

Cost of Running a Motor Cycle.

More Replies to a Reader's Query.

Sir,—If you are still collecting statistics of running costs the following may be of interest. Machine, first-class 3½ h.p. T.T. roadster. Bought new March, 1911. Sold November, 1911. Distance run, 3,900 miles, all solo.

RUNNING COSTS.

	Per mile.
Licences	£1 5 0 = .077d.
Lubricating oil	0 11 6 = .035d.
Petrol	3 8 0 = .209d.
Tyres, patches, etc.	4 4 2 = .259d.
Belts and fasteners	1 0 6 = .065d.
Carbide	0 6 0 = .018d.
Bridge tolls	0 13 6 = .042d.
Sundries	1 7 0 = .085d.
	.786d.

CAPITAL CHARGES.

Interest (five per cent.)	1 17 0 = .114d.
Depreciation	13 19 0 = .860d.

£28 11 8 1.760d.

W. WOODWARD.

Sir,—As your correspondent Mr. Geo. Pirie remarks in your last issue, very few of the published letters work out the running expenses on a fair mileage. For this reason I venture to give a short statement of my expenses, of which I keep a careful record, over a mileage of 10,300 (by cyclometer) in two years. The machine is a 1910 Douglas, which, with accessories, cost £41 6s.

Petrol, 103 gallons at 1s. 2d.	£6 0 2
Oil six gallons Vac B. at 4s. 6d.	1 7 0
One new Dunlop tyre	1 16 8
Two retreads at 21s. and 17s.	1 18 0
Tyre repairs	0 4 6
Licences	2 0 0
Overhauling engine, renewals, and cleaning	6 6 8
Sundry parts, plugs, etc.	1 10 0
Belts (three)	2 1 6
Total	£23 4 6

Reckoning the present value of machine at £25, depreciation works out at .37d. per mile.

Those who are fond of going "all out" would probably not find expenses so low. I am content with 22-25 m.p.h., and, as a result have no stops and always get there. Punctures total only four, and the tyres are good for quite 2,000 more miles. I ride in all weathers and on all grades of roads.

A. M. COTTERELL.

Sir,—I have been reading with great interest the correspondence in recent issues of *The Motor Cycle* on the cost of running and upkeep of a motor cycle and sidecar, and have been astonished at the divergence of opinion on the cost of running per mile. Not being an owner of this interesting combination, it is rather difficult for one to understand what would be regarded as a fair estimate, and as a prospective buyer, it is a question of vital importance, not only to myself, but to many who, I am sure, would become ardent motorists, if one could be persuaded that motor cycling was not the "expensive amusement" which many claim it to be. Personally, I am inclined to think that motor cyclists who place the cost of running a motor cycle and sidecar at 2d. per mile are surely over-rating the figure.

Moreover, I should like to know if ten per cent. to fifteen per cent. depreciation is not in actual experience too great a percentage to knock off each year, provided the engine is supplied by one of our best engineering firms, and also whether the "renewals" are not placed at too high a figure for a well-cared-for machine. Surely a motor cyclist who averages from fifteen to twenty miles an hour on good roads, is not going to cause such wear and ultimate depreciation to his machine as to make up for the wide margin between the actual cost of fuel, namely, petrol at 1s. 3d.

per gallon per seventy miles (with sidecar), and the alleged cost of 2d. per m.i.e. or 11s. 8d. for every seventy miles, which means 10s. 5d. for depreciation, etc., lubricants, and renewals for every seventy miles ridden. There seems to be also a great divergence of opinion as to the average "life" of a back tyre with sidecar work.

I should be glad to hear some of the opinions of readers who do not use a motor bicycle and sidecar for test purposes, and who do not put their mounts to such excessive strains in record making and reliability tests, as to what a motor bicycle and sidecar can be run at with a normal load, say about seventy miles a week for pleasure purposes, with due care and attention in keeping the engine and running parts sweet, and not trying to exceed the speed limit. I venture to say that if this all-important economic question could be satisfactorily solved, and the public could be assured that motor cycling should not cost more than 1d. or 1½d. per mile with sidecar, inclusive of upkeep, it would make more converts to this interesting pastime than columns of statistics relative to speed records. F.R. (Sussex).

Sir,—How I envy those gentlemen who run their motor bicycles 5,000 miles per annum at a cost of ½d. a mile or thereabouts. I should simply love to know how it is done. Up to now I have been sufficiently ignorant as to think that a tyre on the back wheel of a 3½ h.p. machine will not last for 5,000 miles. But I daresay I am wrong.

I do not ride a 3½ h.p. myself, but one of the smaller twin variety, and some time ago started to keep a rough account of my expenditure in connection with it.

My chief expenses are tyres and valves; this latter item may seem peculiar, but I change my exhaust valve every 1,500 miles, because I hate the idea of one breaking. I had it happen once, and— But that is another story. Tyres seem to wear out remarkably quickly on the back wheel of my machine; in fact, I feel exceedingly pleased with myself if one lasts 1,500 miles; but perhaps I don't get the right sort of tyres for good solid wear. I do not mean to say that I buy 15s. tyres, but I do not go in for the "car tyre" types—just ordinary 2½in. touring types.

Sundry replacements, too, are a fairly large item in my expenditure, because I always fall off my machine an extraordinary number of times during a season; but I presume the farthing-a-milers never have any accidents of any description. My competition fees and club subscriptions run away with quite a lot of money; in fact, these alone account for a sum just under which Mr. H. Y. Peale can run his Triumph for 5,450 miles. IGNORAMUS INCREDULUS.

Sir,—I have read Mr. George Pirie's letter in your issue of December 7th, and I should like to say that I consider that his method of arriving at the running cost of a motor cycle is rather on the millionaire basis.

To take the first point, he makes a great thing of the annual overhaul; now in the case of the present day motor cycle what does the overhaul consist of? I find that it consists of taking everything down, thoroughly cleaning the engine inside, and perhaps fitting a new big-end bush or a new gudgeon pin or bush; the rest consists of taking down the cycle part bearings and packing them with grease and properly adjusting; this I find in most cases is done by the owners themselves.

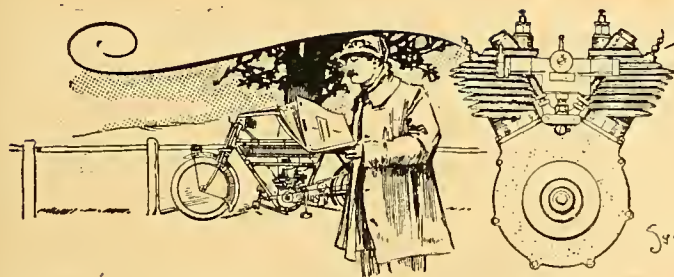
Regarding sheds: I know many motor cyclists, but I do not know one who has had a shed erected specially for his machine, and I think that Mr. Pirie will find that the great majority of motor cyclists do not have special sheds. I have seen dozens of motors kept in the hall in small houses, and in some cases even sidecars with them.

I contend that the cost of motor cycling is, within reasonable limits, adaptable to the purse of the rider.

I have ridden various makes of machines from 1906 onwards, and I know that my running expenses have not been over 2d. per mile, and I have never had a repair done for me.

I also know that unless one buys a new machine every year the depreciation is not nearly £10 per year, about £5 is a very conservative allowance under that head.

WILLIAM LAURENCE



A Motor Cycle Tour in France and Germany.

B and I had been discussing and planning a holiday in the Vosges, with a car, for some eleven months, but it was only a few days before the date of starting that it was broken to me that I was expected to ride a motor bicycle, B's party having grown to larger proportions than he originally intended. In what I then considered a weak moment, I agreed, seeing before me a long vista of broken belts, broken valves, and strenuous labour on every hill. These were all recollections of an old Ormonde of several years ago, and I did not know the modern $3\frac{1}{2}$ h.p. mount.

My Machine.

However, I tried to look on the bright side, and took delivery of, a three-speed James one Thursday morning, which happened to be the identical machine ridden by Howard Newey in the A.C.U. Six Days' Trials, and on which the seals were still intact. I was duly shown "which lever did what," and then started on the lowest gear from Southampton Row to Gamage's. I had no sooner started than I found that motor cycles had altered considerably since the last time I had ridden one, and that the Armstrong change-speed gear and Amac carburetter, instead of the "jet in a pipe" that I remembered, made the machine easily controllable and handy even in the worst traffic.

In the afternoon I went for a short run just to get the hang of the thing, and returned home distinctly impressed.

Meanwhile, B and the rest of the party with the car had crossed over to France on Thursday, and were well on the way to Gérardmer, where I hoped to catch them up.

I crossed over to Dieppe on Friday night, arriving and getting through the Customs by about 3.30 a.m. and then refreshed myself with quite a good break-

fast and managed to buy a tankful of petrol from the waiter. The petrol arrived in an old wine bottle, but it smelt all right, so I put it in and hoped for the best.

By four o'clock it was beginning to get light, so after getting a few very hazy directions from a sleepy porter I started off on my way across France to join my party.

By this time I had already acquired considerable faith in the reliability of the machine, but had one abiding dread—the back tyre; this had a most salutary effect on my speed, but by steadily plugging along at a pace that would almost (but not quite) have been approved by the English police, I found that I had covered over two hundred miles and was beginning to feel like lunch.

More Haste — !

After lunch, it struck me that it was a great pity to go too slowly, and so I started to hurry up a bit, having a vague idea of reaching Gérardmer (170 miles) that night. I paid for this at once—in the back tyre, which not only punctured, but also had started to burst round the bead. Well, I was having a holiday and I did not propose to be upset by a back tyre or anything else, so after having a quiet smoke I very deliberately patched the thing up, using the greater part of a new handkerchief and an old strap. This carried me successfully to Vitry-le-François, and though it was only thirty miles from my luncheon place I decided to have the tyre properly mended and to put up for the night.

There was no trouble about finding a bed, but mending the tyre was a different matter, especially as the garage mechanic, in explaining the weak points of the rubber tube valve, succeeded in splitting the valve tube from end to end. The garage had not any valve tubing, neither had I, and at first things looked rather bad. In England one does not learn the really useful French words for an occasion of this sort, but after a short address to the mechanic—of which I think he followed the general idea—I went to call on the local doctor and explained the difficulty. He rose to the occasion like a man and produced some tube—I think they use it for feeding babies; however, it made a "topping" valve and lasted for the rest of the trip. The cover we mended by sewing a leather patch to the canvas lining, and this, with a few more stitches added at a later date, made a very effective and lasting repair.

On the Sunday morning I started off again, with only 150 miles to



A stop for petrol at Nagold.



The Schlucht tunnel. The writer's three-speed James in the foreground.

A Motor Cycle Tour in France and Germany.—

go, with the tyres apparently sound and the bicycle still running beautifully. During the morning I had a quite uneventful ride, stopping in Contrexéville for lunch and then going on, always on magnificent roads, through the beautiful forest of Darney to Remiremont.

Arrival at Le Tholy.

I was now only twenty miles from Gérardmer, and hoped to reach it in about threequarters of an hour. However, I had another puncture on the way and did not arrive until just on dark. Here I was delighted to meet B with the car, and, leaving the bicycle in the local garage, gladly accepted a lift to Le Tholy, where the others had decided to stay for a week or so.

Le Tholy was a tiny village perched up on the side of a hill some six miles back along the road I had just come by.

For the first two days I did not use the motor bicycle at all, as there was plenty to see, and I had had quite enough of it for the time being. However, B took it out once or twice, and quite agreed with me as to its good points.

On Thursday we decided to make an excursion to see the Ballon d'Alsace, one of the highest mountains in the Vosges, about thirty miles from Le Tholy. Consequently Wednesday morning was spent in changing the front tyre of the bicycle on to the back wheel and *vice versa*. This practically put an end to my tyre trouble, as I now had a Palmer Cord on the back wheel, and, bar picking up a zin. nail, this tyre gave no trouble for the rest of the trip, as might be expected.

We found the roads excellent as far as the foot of the Ballon, but the road up, which is about seven miles long with eighteen real hairpin corners, all banked the wrong way, was rather loose and rutty.

The view from the top should have been magnificent, but it was rather too misty for us to see much, though we were told that on a clear day one can see Mont Blanc, which is the best part of a hundred miles away.

Over the Col de Bussang into Germany.

Coming down was just a clean seven mile coast when one could appreciate to the full the advantage of a free engine. Halfway we stopped to have lunch, and then decided to cross the Col de Bussang into Germany before going back to Le Tholy.

This pass was about seven miles further away, and after about six miles we arrived at the French Custom

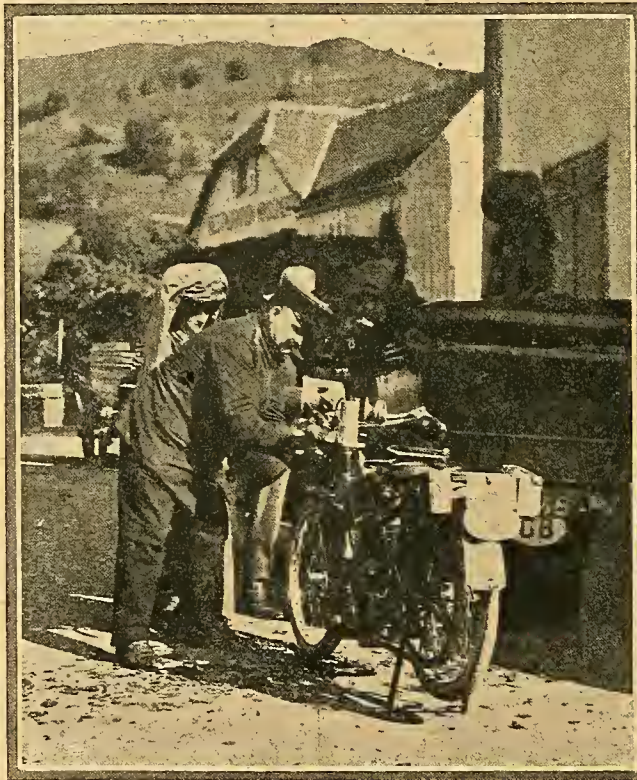
House, where our triptyques, etc., were examined and signed, and we went on to cross the actual frontier, which runs across the centre of a tunnel some two hundred yards long. This tunnel had a carpet of about zin. of dust, and as I was following a few yards behind the car I very soon had the full benefit of this, and had to aim for a small blur in the dusty darkness which I hoped was the other end.

We then ran down the German side of the pass on a magnificent road that was very pretty and beautifully graded.

On our arrival at the German Custom House we again got all our documents signed and took out German driving licences. The latter are wonderful productions, with huge red seals and tassels.

From Bussang we had quite an eventful run back into France to Le Tholy, having covered about a hundred miles on excellent roads and through splendid scenery.

This was the only run of any note that we made from Le Tholy, and on Sunday we decided to cross into Germany by the Col de la Schlucht and stay there for some days. This pass we found even better than Bussang, but one comes down very quickly into the valley of the Rhine and then has to cover some twenty miles of very uninteresting flat road. Each time we crossed this valley it was intensely hot, and the occupants of the car were well on the way to being roasted. The bicycle was far the coolest, and B and I took turns driving the car and getting cool



The sealing of the machine on the German frontier.

again on the two-wheeler. A welcome change!

Once across the valley, we started to climb up into the Black Forest, which is very similar to the Vosges, but rather wilder and more mountainous. Finally, we put up for the night at a little place called Titisee, which lay at the end of a lake in a little "cup" of the mountains.

This was a very attractive little place, and we were told that it was a great centre for winter sports. There is a very good hotel, where we decided to stay over Monday.

Monday was spent bathing in the lake and going for a walk (or climb) to the top of the hill at the back of the hotel.

On Tuesday we set out for Stuttgart, which is about 120 miles to the north-east. The first part of the day was quite uneventful, and we stopped for lunch just beyond Freudenstadt; after this the road became

A Motor Cycle Tour in France and Germany.—

steadily worse until we reached Nagold, where it was little better than a lane with an appalling surface. The road from Nagold to Stuttgart was quite good. Stuttgart is in a little hollow, and going down the hill into the town was like getting into a hot bath.

We were none of us very impressed with Stuttgart, and were thankful to leave on Wednesday morning. However, this was easier said than done, as we had decided to go back to Freudenstadt by a different road from the one we had come by, and when we had climbed out of Stuttgart into the air there was no sign of the road. Nobody's German was very good, and everybody's temper was pretty bad, and it literally took us nearly two hours to get clear of Stuttgart.

However, we finally found ourselves on the Freudenstadt road, but it was so late that we only reached Klösterreichenbach that night. Here we put up in an excellent and very cheap hotel, which we left early next morning, as the end of our holiday was in sight and we decided that we must push on towards Dieppe.

We reached Strasbourg for lunch on Thursday, and after seeing the cathedral and collecting our letters, pushed on, hoping to cross the frontier before stopping, but the Fates were against us. In the first place, B, who was driving the car, took the wrong road, and, secondly, while I was trying to take a level crossing, which the road zig-zagged across, rather too fast, the front tyre burst, and after following the line for a few yards, the bicycle and I turned a neat somersault into the road. Luckily there was not much damage done, either to the bicycle or myself, and having mended the tyre, straightened the foot-rests, and had a damaged knee most skilfully first-aided, we went on

another six miles to Saales, which is a village on the frontier.

Next morning my knee was uncomfortably stiff, but by using the low gear I found I could start the bicycle at a slow walking pace, and, once on, could get along quite comfortably.

Punctures and Punctures.

From this point the rest of the journey was absolutely devoid of trouble for me, though we had a succession of punctures, etc., in the car tyres. On Friday night we stopped at Ligny, and on Saturday at Rheims. We stayed at Rheims for Sunday, and spent the day looking round the town and patching up the tyres on the car.

On Monday we went to Compiègne and stayed the night there. Next morning we got up early and again amused ourselves with the tyres. These finished, we started up and reached Dieppe without trouble.

As B and I were both supposed to be at business next morning, we decided to cross by the night boat. The crossing will live in our memories as being a flat calm until mid-Channel was reached, after which the wind got up, and it got steadily rougher till Newhaven harbour was entered. The $3\frac{1}{2}$ h.p. James ran in a most exemplary manner, nothing save tyre trouble happened, and the Armstrong three-speed gear never gave a moment's anxiety. I cannot conclude without a word of praise for the Patchquick motor cycle outfit. Every patch held, and the solution was of the best.

Taken altogether, I should say that it would be very hard to get a better or cheaper holiday in any way than to go to the Vosges or Black Forest with a motor cycle, and I certainly want nothing better.

C.M.S.

Our party.

A typical example of the straight roads of France.

One of the few winding roads encountered.

STRAYING CATTLE.

The following High Court decision was given in an appeal by the C.T.C. against a County Court judgment which went against two cyclists who claimed damages for being knocked off their tandem by a cart horse straying on the highway:

"First of all, what is the duty of an owner or occupier of land adjoining a highway with regard to keeping animals off the highway or fencing his land so as to prevent animals getting on to the highway? By common law, there is no such duty at all and we have not to-day heard any argument as to whether any duty can be created under the

Highway Act. Suffice it to say by common law the owner or occupier of land adjoining a highway is under no duty to fence so as to keep his animals off the highway

In order to succeed in this case the plaintiffs would certainly have to show that even assuming the owner of this horse had been guilty of any negligence in allowing it to get on to the highway, they would have to show that the horse was one which, to its owner's knowledge, was of a disposition likely to cause the particular damage complained of. . . . Not only did they fail to establish it, but the County Court Judge upon the evidence found against them upon it."

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

3½ h.p. and Sidecar.

? Please let me know whether a 1911 3½ h.p. Humber, free engine and two speeds, would take a sidecar anywhere, and will you also state the average speed to be obtained with sidecar? Is the Service Co., Ltd., of High Holborn, a reliable firm to deal with?—A. J. S.

No: the machine would not take a sidecar anywhere, but it would over most places. 3½ h.p. is not enough for sidecar work, even with two speeds to take you over any hill in the country. You should average about twenty miles an hour with this machine. The firm referred to is quite reliable and has a good name.

Ducks on the Highway.

? I was riding my motor cycle one morning near a village; there were about eight ducks on the road, and just at the moment when I was passing the ducks crossed the road and my machine went over one of them and killed it. The owner wanted me to pay for the duck. What is the law? Must I pay or not?

We do not well see how you can be held responsible if you used every effort to avoid the duck. Judges vary in their opinions, and only last week the King's Bench decided that owners of land adjoining the highway are not required by law to fence the land to prevent animals and poultry straying on the highway. If the case were brought before a magistrate, there is little doubt that you would have to compensate the owner.

Building a Motor Cycle with Second-hand Parts.

? I am thinking of building a motor cycle with the help of a friend, but being very much a novice I find it rather difficult to buy the various parts. I am thinking of getting an engine of about 2½ h.p. Is it safe to build a bicycle of second-hand parts?—D.H.G.

We think you will probably find it will cost you more to make the machine and buy new and second-hand parts to put into it than to purchase a cheap second-hand one. It is quite easy to buy a machine which will go fairly well for quite a few pounds. For instance, an outlay of £8 or £9, if you selected carefully, might put you in possession of quite a respectable machine, and one which always has a market value.

Machine Damaged at a Garage.

? I left a motor cycle and sidecar at a garage in Winchester for repairs to the frame, and a new member was ordered from the makers and put in place. I wrote the other day to the garage people to tell them to have the machine ready for the road on a certain day. On arriving at Winchester I found the machine considerably damaged. The story I was told was that they sent the machine out with one of their men to see if it was running properly, and the pulley-wheel came off, and in applying the brakes the machine skidded and overturned on to a bank at the side of the road. The manager of the garage proposes that I should pay half the cost of the damage caused by his employee. Will you please let me know whether he is legally responsible for making good all damage caused by his employee or not?—J.H.K.

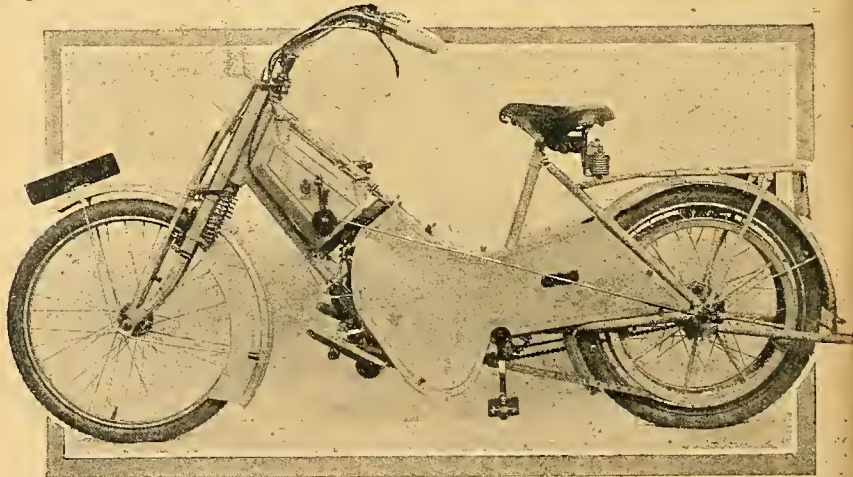
Our legal adviser writes in reply to above: "J. H. K." cannot insist upon the repairer making good the damage done, unless he can show that it occurred through negligent driving. I presume this would be very difficult to show. At the same time, if he is able to produce expert evidence showing that the motor cycle was in good condition when he left it, I should think that only slight evidence of negligence would be

required. Many garage proprietors protect themselves by stating that they will not be responsible for damage caused by employees when driving clients' machines. The above remarks are, therefore, subject to this not being stipulated."

More Power with Exhaust Valve Raised.

? We shall be very pleased if you can answer the following: We have a 5 h.p. Riley tri-car, and we notice that when we lift the exhaust valve very slightly on hills the engine gives off more power and runs more silently. Can you let us know why this is so? Do you think a 5½ to 1 gear on top with 28in. back wheel is too high, we mean with a passenger in front? Do you recommend a spring wheel sidecar in preference to a rigid one?—J. NABE AND SON.

This is a disputed point. The improvement may be for three reasons. First, that air is drawn into the cylinder when the exhaust valve is not quite closed and dilutes the mixture, and secondly that the compression is reduced, and thirdly, it may stop the valve chattering, or by bearing on the lifter lever the valve may rise higher. Try weakening the mixture by means of the carburettor, and it may even be worth while to reduce the compression. A 5½ to 1 gear should be about right. Yes, we think a properly designed spring wheel sidecar would be preferable to a rigid one.



LADIES' MOTOR CYCLES. The latest model open frame Hobart, with three-speed hub gear.

Powe ful Sidecar Turnout.

I propose going in for a Chater-Lea 8 h.p. engine for heavy sidecar work. (1.) Is it thoroughly reliable for hilly country? (2.) Would you recommend a free-engine clutch; if so, what make would be most suitable for a Chater-Lea (handle starting)? (3.) Would an 8 h.p. engine require a two-speed gear; if so, what make would be most suitable for that engine?—A.H.

(1.) Yes, we can thoroughly recommend the machine referred to. It is quite suitable for use in a hilly country with a sidecar. (2.) We should recommend the Chater-Lea three-speed gear and clutch, chain-driven, especially designed for sidecar work. (3.) Although an 8 h.p. can do a great deal without a two-speed gear, you would find a gear practically indispensable for general touring.

Broken Piston Rings.

Finding compression on my 4½ Fafnir engine motor cycle weak, I took the cylinder off and found the middle piston ring broken. This was replaced, and then, having valves perfectly ground in, I thought it was right, but, to my dismay, I found that the compression was no better. The valves were unaltered after a ten mile ride, so there was nothing else for it but to examine the piston head again. This time the other two rings were broken. I have fitted new ones again, which are a perfect fit, but I am naturally wondering how they will fare.—J.

As you have now replaced all your old piston rings it is probable that you will have no further trouble provided that those you have put in are of good quality. Piston rings do not often break, but nothing will last for ever.

Lubrication by Drip-feed.

(1.) My machine is a 4 h.p. J.A.P., fitted with the same firm's automatic drip feed lubricator. My trouble is to set this correctly. I am at present using Price's Huile de Luxe, and if I set the needle valve at half a turn, or at two complete turns, it makes no difference to the running of the engine, only, of course, increased oil consumption. As I am rather afraid of seizing up, I oil rather excessively than the reverse. As my machine is not fitted with pedals it is impossible to set the lubricator on the stand to so many drops a minute. (2.) What mileage should I obtain with a .030 jet from a gallon of petrol, average about 15 m.p.h. on level roads? I am using a B. and B. carburetter, 1908 or 1909 pattern, with no choke tube. Would a choke tube give less petrol consumption? (3.) Do you know if the B.B. people make a hot air inlet adaptable to their 1908 model?—P 3632.

(1.) If you set the valve open half a turn it should be quite enough, especially if there is a reasonable amount of oil in the crank case. If the engine shows signs of flagging immediately turn on more oil. (2.) The mileage should be about 80 m.p.g. A choke tube would not cause a larger consumption of petrol, provided you can govern the extra air to suit. To the best of our recollection, Messrs. Brown and Barlow, Ltd., do not make a hot air inlet adapter to this model.

Responsibility of Taxicab Driver.

On returning from a ride (motor bicycle and sidecar) about 7.30 p.m., I left the machine standing outside my house, and within ten minutes a taxicab rounded the corner and dashed in on it, doing damage to the extent, roughly estimated, of between £5 and £10. The driver is entirely at fault for careless driving, and this is admitted by an officer of police who viewed the place of the smash and was informed the circumstances. I have seen the owner of the cab, but he practically refused to discuss the matter, and disclaimed any responsibility of a claim for damages, stating that the driver was employed on commission, and that any claim would be against the driver. I should be greatly obliged if you would give me your advice on the matter. I am afraid it is very unlikely that the driver would be able to afford to pay damages.—A.E.

Our legal adviser's opinion of the above case is as follows: "I observe that no question is asked with regard to general liability. The only point put to you is as to whether the cab owner or the driver is responsible, the driver being employed on commission. This question is a difficult one to answer accurately, as so much depends upon the exact facts. The real point is, is the relationship between the parties that of master and servant or that of bailor and bailee? There are many cases which show that, so far as the public are concerned, very little is required in order that the cab drivers may be deemed to be the servants of the proprietors, but a case decided last year rather upsets the view. This was under the Workmen's Compensation Act, where it was held that the driver of a taxicab, who was paid no wages, but received one-fourth of the takings, less cost of petrol, was not a workman working for an employer within the meaning of the Act. This was held on the particular facts of the case, and the only way for your correspondent to

be properly advised is for him to ascertain the exact relationship between the owner of the cab and the driver thereof, and either write you again or consult a solicitor. The mere fact that the driver was paid by commission does not prevent him being a servant."

Swansea to Whitby.

Would you be good enough to give me the best route from Swansea to Whitby, and also about what time the journey should occupy? My mount is a late 1911 Kerry-Abingdon.—W.E.J.

Your best route would be as follows: Swansea, Merthyr Tydfil, Abergavenny, Hereford, Ledbury, Tewkesbury, Evesham, Alcester, Stratford-on-Avon, Warwick, Rugby, Market Harborough, Weldon, Stamford, straight up the Great North Road, through Grantham, Newark, Retford, Bawtry, Thorne, Doncaster, Malton, Weighton, Great Driffield, Scarborough, to Whitby. The journey, conservatively, it would take about two and a half days at this time of the year.

EXPERIENCES WANTED.

Readers desirous of obtaining the experiences of others with various motor cycles or accessories must enclose a stamped addressed envelope in which the replies may be forwarded. Answers to the queries below should be addressed c/o The Editor.

"Perplexed" (Perth). 76 x 85 mm. J.A.P. engine, slowest speed with cylinders firing regularly, and best carburetter.

"C.E.R." (Stonehaven).—Roc., N.S.U., and Fit-all gears with Triumph sidecar.

"R.C." (Bristol).—Armstrong, or Sturmev-Archer three-speed gear, fitted to 4½ h.p. single-cylinder with sidecar.

"B.L." (York).—Oscezi pneumatic saddle, comfort and life of air tubes.

"C.B." (Clapham, Yorks).—Any 8 h.p. J.A.P. engine, two-seated four-wheeled runabout, particularly with regard to hill-climbing, comfort, wear, and reliability.

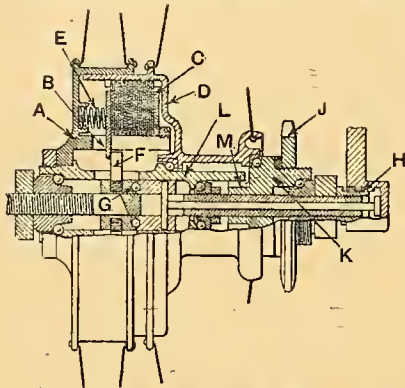
"A.W.T." (Lewisham). 1911 James for occasional use with sidecar, silence, advantages of magneto position, and heat to rider from engine.



The finalists in the New Brighton (New Zealand) race on the sands. W. H. Jones (3) h.p. Kerry-Abingdon) was first and made fastest time in the five miles race. There were twenty-five competitors and the race was watched by 5,000 people.

A Free Engine Hub.

This is a hub of the type in which the engine can be started by pedalling with the rear wheel stationary on the ground. The belt pulley is made in the form of a drum: A, having an internal sleeve B, of non-circular section, transmitting the drive to the driving members of a plate clutch C. The driven members of this clutch always rotate with the hub shell and are carried in an extension thereof,



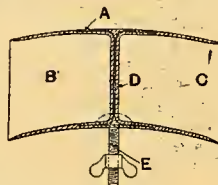
D. The plates are normally pressed into engagement by springs E, but may be withdrawn when required by pins F carried by a sleeve G, moved inwards



through the medium of a push rod, and actuated by the quick-screw and nut device H. To enable starting to be effected by pedalling, the chain sprocket J is mounted at K and connected to the sleeve L by means of a free-wheel clutch arranged at M.—J. C. Harris, No. 12,506, 1911.

An Interesting Tyre Improvement.

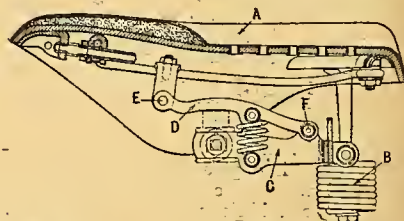
The principal defect of butt-ended air tubes is the liability of the ends to burst, due to the inability of the air to circulate during the rotation of the wheel. This is obviated by the reinforcing liner A which comprises two pockets B and C, between which is a supporting, but extensible partition D. The tube



ends are inserted in the pockets B, C, and the support afforded prevents the trouble referred to. With the reinforcing liner is combined a security bolt E.—C. S. and J. A. Challiner, No. 1,395, 1911.

A Saddle Improvement.

The object of this construction is to impart to the fore part of the saddle some proportion of the resiliency afforded at the rear. The seat portion A is sustained at the rear by compound springs B, the upper ends of which are carried by the frame members C. The fore part of the saddle is supported by a pair of



levers D pivoted at E and F, a coil spring being inserted between each movable lever D and the fixed frame member C. By this system a certain amount of vertical movement is afforded to the saddle peak.—J. B. Brooks and J. Holt, No. 24,517, 1910.

Seasonable Gifts.

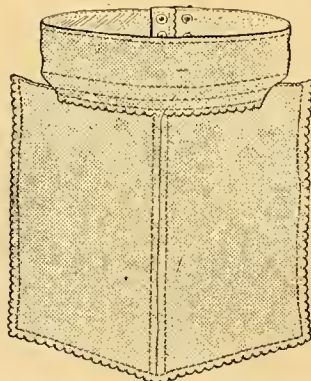
A. W. Gamage, Ltd., inform us that for the convenience of their motoring patrons a side entrance has been made in Leather Lane in order to avoid the crush at their Christmas bazaar.

To Swell the T.T. Fund.

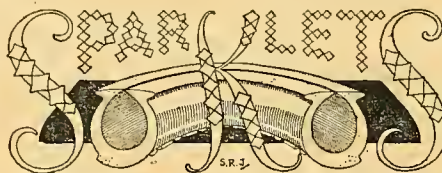
With regard to Mr. Hitchin's offer of exhaust whistles at a special price to swell the T.T. fund and recently referred to, we are begged to state that these may be had on approval if desired.

A Neat Throat Protector.

We have received from the A K. Manufacturing Co., 35, Swaine Street, Bradford, a serviceable throat protector, made of soft pliable leather, lined with silk cushion cord. It is the very thing for



winter riders, keeping this vulnerable part of the anatomy warm, and effectually warding off the wind. With a leather muffler it is claimed that one does not feel the cold so much as when discarding a heavy woollen wrap. It is sold in assorted shades with adjustable press button fastening, giving half sizes.



Adjustable Valve Stems and Connecting Rod Design.

We are requested to point out that the adjustable valve stem and design of connecting rod on the Blumfield twin-cylinder engines, referred to on November 20th, page 1322, are covered by provisional patents Nos. 25726 and 25727, 1911.

Catalogue Received.

The latest illustrated catalogue of the New Hudson motor cycles is to hand. This contains excellent half-tone pictures of incidents connected with competitions and tours in which New Hudson machines have taken part. The chapters on how to manage the machine in the garage and on the road, and some hints for sidecarists, are of practical use to riders of any machine, and copies can be obtained on application to the New Hudson Cycle Co., Ltd., Birmingham.

Lamps and Science.

The directorate of the Science Museum, South Kensington, have placed an Auto-clipse lamp with anti-dazzling mechanism amongst their exhibits under the head of lighting appliances for vehicles. The sole agents for these lamps, Brown Bros., Ltd., 15, Newman Street, Oxford Street, W., inform us that the report of the directorate is that they consider the scientific (hyperlenticular) principle (whereby the back of the flame is accurately focussed on the reflector, and the front on the lens) is the most perfect system of light projection. All Auto-clipse lamps are made on this principle.

Quadrants in London.

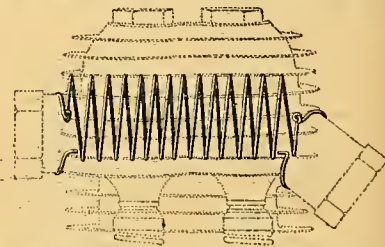
Messrs. Cass's Motor Mart, 5, Warren Street, Euston Road, W., inform us that they have been appointed sole London agents for the Quadrant motor bicycle.

Clean Hands After Repairs.

We have been trying a new motor soap known as "Savand," the invention of R. Thomson, chemist, Elgin, N.B. This is one of the best preparations for the hands we have yet used. Being a powder, it is clean, economical, and effective; and a little put on a nail brush will work wonders, even when the hands are at their grimmest. In our opinion, it would be still more satisfactory if it were sold in tins instead of cardboard boxes, which are liable to be crushed.

A Wire Trouser-guard.

The trouser guard illustrated is one introduced by J. B. Dall, Ladybank, Fife, and is the subject of a provisional patent. The spring is merely stretched in front of the valve chambers, and the



eyes provided are slipped over hooks on the rings fitting over the induction and exhaust pipes. The tension of the spring holds all securely. It is very neat, and a good point is the fact that it may be fitted to any make of single-cylinder without the aid of tools. Further, it offers the least possible resistance to cooling.

THE . . .

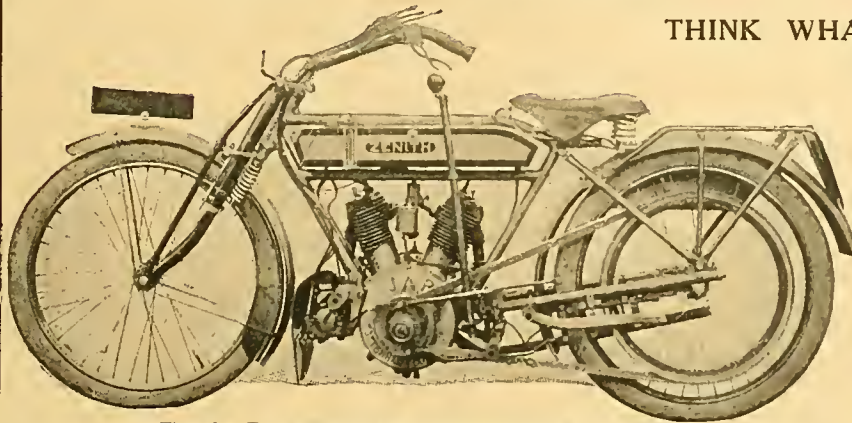
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WITH INFINITELY VARIABLE GEAR—

has over and over again proved itself the best of the bunch when it comes to hill-climbing. This is because of the remarkable simplicity of the Gradua Gear. Just a few turns of the actuating handle, and

You can suit the Gear to any Gradient.

THINK WHAT THIS MEANS.



The 6 h.p. Twin Zenith-Gradua fitted with Gradua Variable Gear.

No matter what variations of gradient occur you always have exactly the right gear. The advantages of this are shown by the numerous Zenith successes, and are appreciated by all Zenith Owners.

Write for full particulars of the 1912 models of these wonderful machines.

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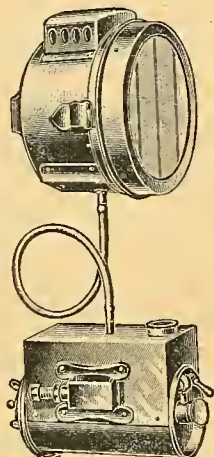
Ask your Newsagent to supply a copy each month if you wish to be well informed on all aviation matters. - - -

THE DECEMBER ISSUE

Now on Sale contains among other interesting features a report of the French Military Aeroplane Trials; a specially contributed article on *The Airships of the World*; *A Review of the Month's Progress at Home and Abroad*; *Gliding Notes*, etc.

It also contains many interesting illustrations, including a double-page original drawing representing the Italian army aeroplanes dropping bombs on an Arab encampment.

Rotax PILOT HEAD LAMP



Undoubtedly
the IDEAL Lamp for
motor cyclists.

Note the Special Features:

Projector stamped in one piece
and fitted with genuine
MANGIN MIRROR LENS.

Automatic Generator, which
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Burns 5 to 6 hours: Gas turned
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GIVES PERFECT
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BRITISH MADE
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30/-
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OF ALL AGENTS.

Wholesale only—

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WORTH REMEMBERING:

IT is the large body of the
Hobson-Pognon Plug
that gives the perfect
insulation not pos-
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size plugs; and
moreover, does
not soot up.
The first and
only self-
cleaning
plug on
the
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Patented
Inner Con-
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since the Show
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Type for High
Efficiency Engine.

Write for Price List
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29, Vauxhall Bridge Road,
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What, Lubrication!

*Watch your Drops (of oil) and the Gallons
will take care of themselves.*

Every drop of "RUSOLINE" Motor Oil
counts and has full oiling efficiency.
It gets right between the rubbing
surfaces of the closest fitting bearing,
reduces friction to a minimum, and
gives you an all-round good result. For
motor cycles and other fast revolving
engines try Russell Bros.' products. We
don't sell on our name alone, but on
the good quality of our goods.

Manufactured under the supervision of
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NATIONAL OIL WORKS.

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Successes!**

For many seasons our bands have been recog-
nised as the entirely dependable

Motor Cycle Detachable Bands.

The prices are moderate, and the lasting qualities
are unique. May we send you full particulars?

Roberts Belts are as good as their Bands
—further recommendation is unnecessary.
Illustrated particulars free on request.

THE ROBERTS MOTOR TYRE CO.,
Gripwell Works, St. Mary's Row, BIRMINGHAM.

1912 MODELS 1912

**PREMIERS. CHATER-LEA.
MATCHLESS. CLYNOS.
RUDGES.**

Early Deliveries—Best Exchanges.

TRIUMPH, 1909, two speeds	£37 10
PHANOMEN, 6 h.p. twin, two speeds	£35 0
TWIN REX, 6 h.p., accumulator ignition	£13 10
PREMIER, 1911, free engine, only run 100 miles	£45 0
MINERVA, Twin, 4½ h.p., spring forks	£16 10
N.S.U., 4 h.p., brand new, single-cylinder, ideal sidecar machine; listed £48	£36 0
REX DE LUXE, 5 h.p., twin, two speeds, handle starting, M.O.V., 1911 model	£48 10
REX DE LUXE, 5 h.p., twin, two speeds, 1910	£42 10
REX, 3½ h.p., spring forks, magneto, h.b. control, 1909 model	£22 10
HUMBER, 3½ h.p., 1909, two speeds, handle starting, h.b. control	£26 10
REX, 3½ h.p., 1908, spring forks, magneto, h.b. control, beautiful condition	£18 10
N.S.U., 3½ h.p., two speeds, magneto	£19 10
N.S.U., 3½ h.p., magneto, good order	£18 10
QUADRANT, 3½ h.p., magneto, spring forks	£18 10
REX, 5 h.p., twin, with forecar	£11 10
N.S.U., 3½ h.p., M.O.V., magneto	£15 10
N.S.U., 3 h.p., M.O.V., nice order	£10 0
REX DE LUXE, two speeds, magneto, handle starting, h.b. control	£28 10
ENFIELD, 2½ h.p., M.O.V., acc. ignition	£9 10
ARIEL, 2 h.p., Minerva engine, M.O.V.	£5 10
HOBART, 3 h.p., vertical engine, low	£8 10
ROYAL STAR, 2½ h.p., vertical engine	£5 10
KERRY, 2½ h.p., 26in. wheels, vertical engine	£8 10
OLYMPIC, 3½ h.p., vertical engine, 26in. wheels	£8 10
PREMIER, 3½ h.p., 1912, three-speed gear	£58 0
PREMIER, 2½ h.p., 1912, three-speed gear	£47 6
3 h.p. EXCELSIOR, good order	£5 10
ARIEL, 3½ h.p., vertical engine, M.O.V., 26in. wheels, nice condition	£8 10
PUSH CYCLES TAKEN IN EXCHANGE.	

TRICARS.

TWIN REX, air-cooled, belt drive, fit-all two-speed gear	£14 10
STEVENS 4 h.p., single-cylinder, air-cooled Roc two-speed gear, handle starting	£14 10
TWIN REX, 5 h.p., air-cooled	£11 10

CARS.

DARRACQ, 9 h.p., two-seater	£15 15
EAGLE, 14 h.p., four-cylinder, five-seater, two speeds and reverse	£27 10
HUMBER, 5½ h.p., two-seater, bucket seats, two speeds and reverse	£18 10
PHOENIX, 8 h.p., two-cylinders, magneto, hoods, screen, and lamps	£56 0

SPECIAL CASH BARGAINS.

3½ h.p. TRIUMPH, 1909, Roc 2-speed gear, handle-starting, rubber-studded tyres, complete with 6 guinea sidecar, P. & H., 27/6 lamp, horn	£36 10
5 h.p. TWIN REX, 1908, 2 speeds, handle starting, H.B. control, magneto, with £6 6s. brand new sidecar	£26 10

MISCELLANEOUS.

Carburettors—Longuemare and F.N.	4/6
New Amac Carburettor, H.B. control	15/-
Long Handle-bars, drop ends	5/6 and 6/6
Coronet Silencers, up to 5 h.p.	3/3 and 4/6
XLALL Spring Forks	9/6
Gripskin Belting: 3in. 10d., 3in. 11d., 3in. 1/-	
Wide Mudguard, 3in. 2/3; 3in. 2/11 pair.	
Handle-bar Watch, with holders	4/3
New Sidecar Frame and Wheel	35/-
Trembler Coils, 6/8. Plain	2/11
Powell and Hammer £1 Lamp	11/6
16 Guinea Lowen Sidecar	£5 0
Nearly New Coronet Sidecar	£3 10
New 4½ Screw-cutting Lathe	£9 10 or exchange.
New 3in. treadle lathe	£3 or exchange

Booth's Motories,

Keighley Mills, Bedford Street North, Halifax.
Tel. 1062.

MOTOR BICYCLES FOR SALE.

- 4½ h.p. 4-cyl. F.N., magneto, spring forks, h.b.c.; £16 12—15, Bradford St. West, Bolton.
- 1911 Brand New B.S.A., 3½ h.p.; £42 for quick sale.—A. Burnell, 26, Aire St., Castleford.
- LIVERPOOL Official Agents for Humber and Dot, Henry Whitlock and Co., 40, Hope St.
- PRESTON.—1911 Premier, nearly new, Dunlops, condition perfect; sacrifice £28.—43, Balfour Rd.
- HUMBER, 1911, new July, 2 speeds, free, handle starting; £40.—Blamire, Forshaw St., Barrow.
- 2 h.p. Minerva, in very good order, spray carburettor; £8, for cash.—L. Ward, Box Lane, Pontefract.
- FREE Engine Rudge, new July, done about 700.—Redfern's, Rudge agent, Westgate, Rotherham.
- 1907 Triumph, new belt, splendid condition; £20.—Redfern's, Humber agent, Westgate, Rotherham.
- 3½ h.p. Fafnir; a bargain, £14.—Redfern's, Clyno agent, Westgate, Rotherham.
- CLYNOS.—Booking fast for early delivery. Let me have your enquiry.—Potter, Leicester Grove, Leeds.
- GOURLAY, the great Douglas agent, now booking 1912 models.—Gourlay, Fallowfield, Manchester.
- TRIUMPH, late 1911, free engine, absolutely perfect, all accessories and spares; £42.—H. Pinck, Tadcaster.
- 3 h.p. M.M.C., accumulator, Clutchers, Whittle, low frame, guaranteed going order; £9.—11, Moorland St., Leeds.
- B.S.A., 1911, 3½ h.p., fastest in Lancashire, all accessories; first offer £40.—Roper, 2a, Station St., Burnley.
- 1911 P. and M., only been 2,200 miles, Triumph carburettor, will pull sidecar, extra; £45.—Ewbank, Castleford.
- TRIUMPH, 1910, late clutch, new heavy Kempshall non-skid back, new anti-skid front; £35.—Hill, 108, Bolton St., Bury.
- WILKINSON T.A.C., new March, 1911, 4-cyl., 3 speeds, excellent condition; offers.—Carrs, Raowsley St., Bury.
- 1912 Rudge in exchange for 1912 Triumph, or will buy Triumph for cash.—Carrs, Motors, Bury.
- 1912 Rudge, B.S.A., and Humber; early delivery; exchanges.—Carrs, Motors, Bury.
- 3½ h.p. Zenith, 1911, almost new, excellent condition; test offer.—Carrs, Motors, Bury.
- T. PARISH, Bradbury and Douglas agent, sidecar builder.—Orders being taken; exchanges.—81, Fishergate, Preston.
- DOUGLAS, 1911, 2 speeds, handle starting, footboards, securely ridden, £35; Humber, 2-speed, free engine, £27; Rex, 3½ h.p., £10.—T. Parish, Fishergate, Preston.
- 1911 2½ h.p. Royal Enfield Twin, run about 700 miles; owner giving up riding owing to health; unscratched, £38; new lamp, £17.—Smith, engineer, Bendle.
- 1911 Scott, in new condition, done 1,600 miles, perfect lamp and spares; £50.—Dr. Moore, Wilton House, Rotherham.
- 4 h.p. Quadrant, magneto, spring forks, 1911 B. and B., adjustable pulley, excellent machine; £15.—65, Hilden St., Bolton.
- PHLEON and Moore, 1909, as new; £30, offers; exchange twin, heavy or lightweight.—Andrassy, Thornes, Wakefield.
- 2 h.p. Precision, 1911 Brown and Barlow; £9, or 2 exchange 5 h.p. accumulator twin.—A. Pullen, Wigginton, York.
- 1910 Premier, 3½ h.p. twin, Lucas lamp, horn, tools; footboards, fine condition; £28.—Heashead, wheelwright, Stockport.
- 5 h.p. Twin Rex, accumulator, extra condition, and powerful, tyres, belt almost new; £15/10; exchange less power considered.—8, Beechwood, Charles-town, Heddon Bridge.
- 1912 3 h.p. Bradbury; delivered early in January; best offer accepted; placed order for twin.—G. Booth, 5, Camherwell St., Oldham.
- HALIFAX.—New unused 3½ h.p. Rex, cost £48; also new twin, cost £51; exchange offers liberally considered.—Motor Exchange, Westgate, Halifax.
- 1912 Bradburys supplied for cash, credit, or exchange.—Collier's Motories, Westgate, Halifax.
- 1912 Bradburys; any machine taken in part payment.—Collier's Motories, Westgate, Halifax.
- COLLIER'S Motories for new 1912 Bradburys; exchanges negotiated on liberal terms.—Westgate, Halifax.
- COLLIER'S Motories make exchanges in either new or second-hand machines.—Westgate, Halifax.
- F.N. Lightweight, magneto, h.b.c., B.B., easy starter, reliable, fast, hill-climber, tyres as new; £15; getting new machine.—Sanford, Oatlands, Harrogate.
- TRIUMPH, 1909, Mabon clutch, horn, generator, spares, fine condition, guaranteed sound; first cheque £32 secures.—Walker, Crow Lees, Mirfield, Yorks.

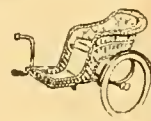
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SIDE CARS

EVERY POSSIBLE REFINEMENT

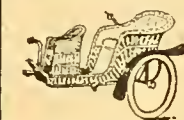
and improvement are to be found in the "Coronet." We make sidecars that satisfy, and stand by our guarantee. Our prices are 50% below some makes of inferior quality. Our experience has taught us exactly what is required. Decide to have a "Coronet" for your new machine.



MODEL C.—£7 2s. 6d.



MODEL A.—£5 5s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest car pattern mudguards. Wicker, cane, or coach-built bodies. Child's reversible seat. Excellent upholstery.

NOTE front arm which grips main tube of sidecar, which is the only correct mechanical method—nothing topsided about this attachment.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURY'S, etc. Discounts to Agents.



**TEE BEE
SEAT-PILLAR,
5/- each.**

GREAT CLEARANCE LINE.

New Dunlops, 28 x 2 and 2½, wired edges ..	10/6
Dunlops, 28 x 2, beaded, heavy treads	14/9
24 x 2 and 2½ Beaded Clipper Covers, new ..	8/6
Best Quality Butt-ended Tubes	7/9
150 New Tubes, 26 x 2½	5/11
Rubber-studded Covers, best make	25/-

ENGINES:

4 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
4 h.p. Twin N.S.U., with magneto	£9 0
1 h.p. CLEMENT GARRARD pattern	£7/6
3 h.p. FAFNIR, silencer, etc.	£3 10
Water-cooled FAFNIR with broken crank case ..	£1 10
9 h.p. DARRACQ, water-cooled	£12 10
10 h.p. CLEMENT, two cylinder	£12 10
3½ h.p. REX, M.O.V.	£3 10
3½ h.p. AUTOMOTO £2 0	2 CYCLONE, M.O.V. £1 15
1½ h.p. MINERVA £1 8	2½ h.p. BROWN .. £3 5
3 h.p. QUADRANT £3 0	2½ h.p. MINERVA £3 5

Exchanges entertained.

MAGNETOS. MAGNETOS. MAGNETOS.

We have a large stock of the best makes from 59/6. Your old coil and acc. taken in exchange.

NEW CARBURETTORS FOR OLD.

22/- and your carb. secures a new 1911 B. and B. with h.b. control.
20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control.
Delivery per return.

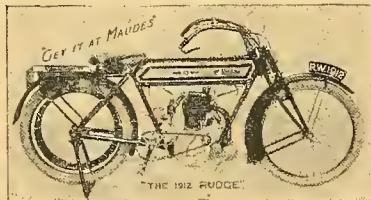
BOOTH'S MOTORIES,
KEIGHLEY MILLS, BEDFORD ST. NORTH
(off Pellon Lane), HALIFAX. Tel.: 1062.

MAUDE'S BARGAINS

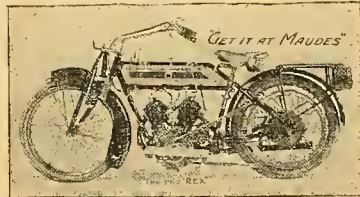
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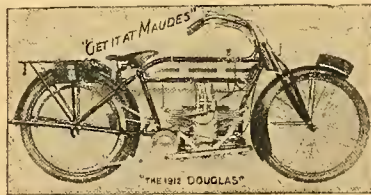
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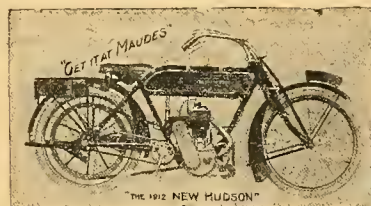
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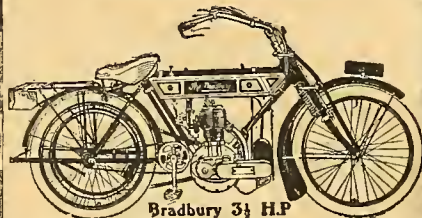
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DELIVERIES JANUARY.



DELIVERIES DECEMBER.



Bradbury 3 1/2 H.P.

DELIVERIES DECEMBER.

Best Exchange Allowances on above or any other makes.
Catalogues post free on request.

CASH OR MOTOR
MAUDE'S MOTOR MART
136 GT. PORTLAND ST. LONDON W.C.

MOTOR BICYCLES FOR SALE.

MANCHESTER Motor Exchange, 32, Downing St.—
3 1/2 h.p. Lincoln Elk, 2-speed gear, good sidecar machine, £21; 3 h.p. Lincoln Elk, £27; 3 h.p. Bradbury, £14.

GENUINE Bargain: 5-6 h.p. F.N., good condition; examination invited; £20; take small Drummond lathe, treadle motion, part exchange—Oddy, Lotherdale, Keighley.

SCOTT, 1910, 2 speeds, free engine, perfect mechanical condition; £36, or with Millford sidecar, £40; trial to prospective customer.—Cawthorne, chemist, Meanwood, Leeds.

P. and M., late 1910, exceptional condition, just overhauled by makers, new Palmer cords, geared rod sidecar; price £45; purchasing 1912 model.—Mitchell, chemist, Harrogate.

SEE, Write, or Wire, Geo. Merrick; he's the man for Bradburys, in stock, Rudge, B.S.A., A.J.S., N.S.U., and runabouts.—Merrick's Stores, Listerhills Bradford. Tel.: 2459.

1909: V.S., Bosch, Whittle, B. and B., adjustable pulley, horn, lamp, all spares, tyres and tubes practically new, good condition; £20, or offer.—48, Claremont Rd., Liverpool, 8.

1912 Douglas.—We are now booking orders for all models. If you want yours for Easter book now and save disappointment.—The Colmore Depot, 261, Deansgate, Manchester.

DOUGLAS, 1911, 2-speed, free engine, handle starting, every way as good as new, £39; also 1911 standard, £29; bargains.—The Colmore Depot, 261, Deansgate, Manchester.

3 1/2 h.p. 1910 Clutch Triumph, Palmer cords, lamp, 2 horn, fully equipped, a genuine and excellent machine; worth your inspection and enquiry; £38.—J. Harby, South Elmsall, Yorkshire.

HUMBER, 1911, 3 1/2 h.p., 2-speed, free engine, ridden under 2,000 miles, very good condition, belt just new, spare valve; £40 cash, or nearest offer.—Rev. Lee Nicholls, Attercliffe Vicarage, Sheffield.

MOTO-REVE, twin, new last August, Miller's lamp, Lucas generator, horn, spare valves, belt, tube, tools, like new; £30; wanted, 10 h.p. De Dion car.—W. Beaumont, Birds Royd, Brighouse.

1908 Twin Rex, just overhauled, B. and B. carburettor, Bosch magneto, 4-speed gear, new Whittle belt, 2 new Kempshall tyres, etc.; nearest cash offer over £25.—Dunwell, Wigan Motor Garage, Wigan Lane, Wigan.

1910 Enfield 2 1/2 h.p. Lightweight, £26; Roe, 4 h.p., magneto, in splendid condition, take sidecar anywhere, £15; 1911 5 h.p. twin Peugeot, magneto, Druid spring forks, Chater-Lea throughout, £27.—Allen Bros., cycle and motor engineers, 75, Wellington Rd. South, Stockport.

REX, 1910, 3 1/2 h.p., thoroughly overhauled, condition as new, offers wanted; Singer Velo, 1910, like new, £18; Triumph, new cylinder, piston, carburettor, and variable pulley, overhauled by Triumph, £18, to clear; new N.S.U., 1911, 2 1/2 h.p., twin, undergeared pulley, makers' price £43, ours £34.—Hartley Clegg, Ltd., Central Garage, Burnley.

TRIUMPH, 1910 free engine, little used, perfect condition; an examination, fitted out regardless of cost, new Palmer cords, 2 new belts, Cowey speedometer, Lucas headlight, spare valve, pulley, contact breaker, Brooks leather pannier side and frame bags, tube case, 2 spare tubes, plugs, etc.; owner purchased car; property of a doctor; £42, no offers.—No. 9,092, The Motor Cycle Offices, Coventry.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

FOR Sale, cheap, lightweight Motosacoche, faultless, complete.—Lily, Motors, Stafford.

F.N., 1909 1/2, 5-6 h.p., 4-cyl., magneto, perfect order; cash 20 guineas.—E. Smith, Rutland Sq., Bakerswell.

TRIUMPH, 3 1/2 h.p., 1909 model, perfect order; any trial; £30.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

TRIUMPH, 3 1/2 h.p., 1908 model, perfect order; any trial; £25.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

HUMBER, 3 1/2 h.p., 1911 model, as new; £35; any trial.—Hanley Garage, Ltd., Cheapside, Hanley, Stoke-on-Trent.

TRIUMPH, 1911 model, 3 1/2 h.p., new, free engine; £55, or nearest offers.—Hanley Garage, Ltd., Cheapside Hanley, Stoke-on-Trent.

TRIUMPH, late 1910, free engine, Duco lamp, horn, spare tyre, belt, perfect order; £40.—England, Orchard House, Shrewsbury.

1912 Bradbury, being delivered the 12th; best cash offers, or take Triumph in part.—Box 9,116, The Motor Cycle Offices, Coventry.

TRIUMPH, 1907, Sept., 1910, cylinder, piston, tank, new adjustable pulley, belt, tyres, perfect; £28.—Pinson, Codsall, Wolverhampton.

MAUDE'S BARGAINS

F.N., 4 1/2 h.p., four-cylinder, like new £30
REX, 5 h.p. de Luxe, new, 1911 models £60
BRADBURY, 3 1/2 h.p., vertical engine, spr. forks £18
PREMIER, 3 1/2 h.p., 1910, twin, very fast £32
MINERVA, 4 1/2 h.p., twin, spr. forks, good tyres £22
REX, 5 h.p., 1910, model de Luxe, two speeds £42
SCOTT, two speeds, magneto, Palmer tyres £28
REX, 1910, 5 h.p., M.O.V., gold medal winner £35
REX, 1911, 7 h.p., two speeds, excellent order £51
REX, 5 h.p., magneto, very fast £24
TRIUMPH, 1909, 3 1/2 h.p., standard model £32
ARIEL, 1910, 3 1/2 h.p., footboards fitted, F.E. £30
N.S.U., 1908, 5 1/2 h.p., two speeds, perfect £25
REX, 1911, 5 h.p., de Luxe, brand new. In stock.
TRIUMPH, 1908, 3 1/2 h.p., XL All saddle £34
REX, 1907, 5 h.p., free engine, spring forks £18
REX, 5 h.p., 1910, two-speed, M.O.V. £42
PEUGEOT, 7-9 h.p., Twin, magneto, pan seat £26
ARIEL, 2 1/2 h.p., lightweight model £10
MATCHLESS-J.A.P. 8 h.p., side valves £37
ANGLIAN, 2 1/2 h.p., good running order £25
KERRY ABINGDON, 1910, 3 1/2 h.p., clutch £32
REX, 1911, 7 h.p., tourist model, exceptionally fast £37
REX DE LUXE, 1908, 5 h.p., two speed £28
F.N., 1 1/2 h.p., magneto, nice lightweight £13
N.S.U., 3 1/2 h.p., 1910 model, like new £28
ANTOINE, 5 h.p., footboards, just overhauled £20
REX, 1908, 5 h.p., de Luxe, M.O.V., as new £42
KERRY, 3 1/2 h.p., vertical engine, spring forks £8
HUMBER, 3 1/2 h.p., 1909, two-speed £32
TRIUMPH, 3 1/2 h.p., 1909, footboards £34
N.S.U., 3 1/2 h.p., magneto, spring forks £22
REX 1912 de Luxe Models in Stock.
CALTHORPE, 3 1/2 h.p., 1911 model, as new £38
N.S.U., 3 1/2 h.p., two speeds, spring forks £25
REX, 1910, 3 1/2 h.p., tourist, magneto £24
ZENITH, 4 h.p., 1911 model £42
N.S.U., 3 1/2 h.p., very low, magneto £17
V.S., 7/9 h.p., two speeds, fine sidecar mount £38
SINGER, 3 1/2 h.p., 1911, only done 100. F.E. £47
TRUMP-JAP, gray finish, 1911 model £32

50/- deposit secures—
LLOYDS, 2 h.p. .. £10 **BARTER**, 2 1/2 h.p. £8
MINERVA, 2 h.p. £8 **L.C.**, 3 h.p. £10
CUNARD, 3 h.p. £10 **RIP**, 2 1/2 h.p. £8
QUADRANT, 1 1/2 h.p. £8 **ANTOINE**, 2 1/2 h.p. £7

Balance 5/- weekly.

CARS AND TRICARS.

F.N. Light Monocar, 5-6 h.p., four-cylinder, two speeds, plate clutch, wheel steering, very fine monocar. Offers.

REX Littletons, 1911 models, new £50
BROWN 3 1/2 h.p., two speeds, air-cooled £16
STAR Car, 9 h.p., three speeds, engine under bonnet £25
REXETTE, 6 h.p., latest model £22
REX Little, 5 h.p., free engine £22
BEDELIA Car, 1911 model, two speeds, magneto, only done 300 miles £45

GENUINE MICHELIN TYRES.

	Beaded.	Wired.	Tubes.
26 x 2	17/-	16/6	9/6
26 x 2 1/2	18/6	17/6	9/9
26 x 3	21/-	18/6	10/-
28 x 2	19/-	17/-	10/-
28 x 2 1/2	19/-		10/6

Butted tubes 2/- extra.

Carriage paid. All carry makers' guarantee.
Prompt delivery.

1911 REXES. 1911

We have a few 1911 REXES, all brand new and guaranteed to clear at special prices.
All Models. Write us for prices.
Special exchange allowances.

MAUDE'S MOTOR MART,
136 GREAT PORTLAND STREET,
LONDON W.
Telephone 552, Mayfair
Telegrams "Abdicare" London
(LISTS POST FREE)

SCOTTS, HALIFAX

Earliest possible deliveries of any 1912 Models.
Sole Halifax and District Agents for the **RUDGE**.
Sole Halifax and District Agents for the **ZENITH**.
Every 1912 Model we sell carries the maker's
Full Guarantee regardless whether sold for
cash or exchange.

SECOND-HAND BARGAINS.

RUDGE , 1911 Clutch Model, practically new, splendid order and condition	£48
RUDGE , 1911 Standard Model, condition as above	£40
BRADBURY , 1911 Standard Model, special machine, unscratched	£39
N.S.U. , 3½ h.p., magneto, several improvements, handle-bar control, very fast machine	£22
REX Tourist, 5 h.p., brand new, cantilever seat, 1911 model	£38
REX , 5 h.p., 1909 Model, Tourist, spring forks, adjustable pulley	Guaranteed £26
REX DE LUXE , 5 h.p., 1909, 2-speed gear, variable pulley, spring forks	Guaranteed £33
REX SPEED KING , 5 h.p., 1909, adjustable pulley, drip feed lubricator	Guaranteed £28
REX SPEED KING , 3½ h.p., all improvements, especially built for Isle of Man races, chain drive	Guaranteed £28
MINERVA , 8 h.p., Phelon & Moore, 2-speed gear, chain drive, handle starting, Bosch magneto, Brown and Barlow carburettor, Chater-Lea frame, and spring forks, complete with sidecar	Guaranteed £40
HUMBER , 3½ h.p., two speeds, magneto, handle starting, free engine, etc.	Guaranteed £29
DOUGLAS , 2½ h.p., 1911 model, standard throughout, splendid condition	Guaranteed £30
PORTLAND , 3½ h.p., 1911 model, all-weather finish, all improvements, and in first-class order	Guaranteed £32
REX SPEED KING , 3½ h.p., very racy	Guaranteed £22
REX DE LUXE , 5 h.p., Bosch, finish as new	Guaranteed £28
FAFNIR , 3½ h.p., two speeds, Druid forks, will take a sidecar	Guaranteed £13
N.S.U. , magneto, 3½ h.p., very powerful	Guaranteed £17
REX DE LUXE , free engine, twin cylinder, handle starting	Guaranteed £22
RIP , Peugeot, 3½ h.p., low built, racy	Guaranteed £12
REX , 1906, handle-bar control, good condition	Guaranteed £10
QUADRANT , 3½ h.p., complete with sidecar	Guaranteed £15

SIDECAR MACHINES.

HUMBER , 3½ h.p., two speeds, Roe gear, handle starting, and free engine, sidecar Portland Six-guinea Model	Guaranteed £34
REX DE LUXE , 5-6 h.p., 1909, 2-speed gear, variable pulley, complete with splendid sidecar	Guaranteed £38
MIDGET BICAR , 3½ h.p., 2-speed gear, variable pulley, automatic carburettor, nearly new sidecar	Guaranteed £18

CARS.

PEUGEOT , 9 h.p., 3 speeds and reverse, bucket seats, full specification on request	£25
LLOYD'S , 2 h.p.	£8
F.N. , 2½ h.p.	£8
REX , 2½ h.p.	£8
BOWDEN F.N.	£7

TYRES. TYRES. TYRES.

Avon , 26 x 2½ in., heavy rubber, studded	18/-
Avon , ditto, 26 x 2½ in.	18/6
Continental , 26 x 2½ in., rubber non-skid, basket pattern, heavy type	33/-
Continental , ordinary plain tyres, 26 x 2½ in., beaded	17/3
Avon , 26 x 2½ in. or 2½ in., beaded edge	18/6
Continental , 26 x 2½ in. tubes	5/6
Avon , extra heavy tubes, 26 x 2½ in.	8/6

MISCELLANEOUS.

50 Triumph Pattern Horns, perfectly new, each Coach-built 6-guinea Model Portland Sidecar, absolutely new, Continental tyre, double Cec springs, wide mudguard, doublestoved, enamelled	£6 10
Portland 6-guinea Model , as above, only fitted with basket-upholstered chair	£5 0
Lycett Toolbags , 9 x 6 x 3½ in.	4/6
Sidecar Aprons , green, red, or blue	5/9

MANY OTHER BARGAINS.

State requirements.

THE NEW FIRM—

SCOTTS, Victoria Motor House
Powell Street,
HALIFAX.

Telephone: 433 National. Telegrams: "Scott, Powell St., Halifax."

MOTOR BICYCLES FOR SALE.

2 h.p. Clement-Garrard, h.b.c., spring forks, 26 in. wheels, £8; also gent's 24 in. push bike, 26 in. wheels, £2/10; both good condition; offers.—Chas. Y. Linda, 67, Kingsway, Coventry.

1911 Scott, brand new, never been used, for immediate delivery, £60; splendid opportunity; also S.H. 1910 Scott, for £35; guaranteed.—Colmore Depot, 31, Colmore Row, Birmingham.

SINGER, 3½ h.p., 1911-12, with or without N.S.U. 2-speed gear, condition equal to new; price with spares and gear, £48; without gear £43.—No. 9,041, The Motor Cycle Offices, Coventry.

1911 Rover, free engine, Triumph clutch, Dunlop tyres, lamp, generator, and horn, complete kit, 3 months old, excellent condition; £40.—Mattocks, 83, Gleadstone Rd., Sparkbrook, Birmingham.

3½ h.p. Rex, magneto, free engine, back rest, all accessories, new November, 1909, little used, exceptionally good condition; bargain, £27, or nearest offer.—W. Cordock, 93, High St., Scunthorpe.

CHATER-LEA, 3½ h.p., m.o.v., magneto, spring forks, dropped frame, h.b.c. B. and B., Palmer, Shamrock, whole in new condition; £25, or exchange sidecar machine.—English, Asfordby, Melton Mowbray.

1911 3½ h.p. Bradbury, new April last, guaranteed perfect condition, just like new, ridden 2,546 miles only, tyres practically new, complete with exhaust whistle, speedometer, tools; £30.—Hodgson, Rock House, Louth, Lincolnshire.

QUADRANT, 3½ h.p., 1909, Bosch magneto, new Bates heavy tread Palmer cord, special spring forks, very comfortable, Auto-lipase lamp and generator, 2 spare inlet valves and exhaust, sparking plug; £16/10; buying Daocor.—Hinde, 307, Clifton Rd., Rugby.

1909 Triumph Motor Cycle, with Roe 2-speed gear and free engine, Clincher tyres, B.E. tubes, complete with lamp horn, in first-class condition, also spare wheel, special toolbag and exhaust pipe; £38.—F. Bunney, Castle Rock Cycle Works, Wilford St., Nottingham.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

3½ h.p. Rex, in splendid order; £7, or offer.—Bear, St. James's St., King's Lynn.

PARKER and Son—Early deliveries 1912 Triumphs, B.S.A., Rudge, Bradbury; free tuition to all purchasers.

PARKER and Son—1911 free engine Triumph, new, not ridden 40 miles on road, £48 cash; 1910 free engine Triumph, good order, any trial, £39; 1908 standard Triumph, very powerful machine, £25.

PARKER and Son, St. Ives, Hants.

LAMBERT, Thetford, for early deliveries of 1912 Triumphs, Bradburys, Matchless, HUMBERS, Ridges, B.S.A., etc.

B.S.A.! **B.S.A.**! **B.S.A.**!—Early deliveries of all models of these celebrated machines; second-hand machines part payment.—A. F. Garnham and Co., sole agents, Ipswich.

TRIUMPH, 1906, dropped frame, magneto, h.b.c., adjustable pulley, 6-jet Amal, Brooks B104P, 2 cd tyres, F.R.S. lamp; £20, or nearest.—Leicavre, 4, Clarkson St., Ipswich.

1912 F.E. Triumph, in crate; 1911 F.E. Bradbury, 2 speeds; Rudge, offers wanted over £30; twin Enfield, like new, £28; 3½ h.p. Minerva, low accumulator ignition, £9.—Triumph agent, King's Lynn.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

1909 Wolf, 2 h.p. Stevens engine, perfect order; £9/10 cash.—70, High St., Lye, Stourbridge.

TRIUMPH, 1909, in excellent condition, new Michelin non-skid and a.w. belt—Jones, Victoria Garage, Milford Haven.

B.S.A., new June, excellent condition, lately overhauled, £37; with L.M.C. Auto-varia pulley and free engine, £39.—Benn, Brookfield, Troedyrhiw, Glam.

2 h.p. Douglas, 1911, splendid condition, delivered 24 last April, spare non-skid, inlet valves, springs, etc.; £32.—Box L4,613, The Motor Cycle Offices, 20, Tudor St., E.C.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

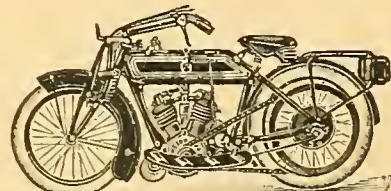
MOTO-REVE, 2½ h.p. twin, used 2 months; £27/10, near offer.—Randall, Andover.

SINGER Moto-Velo, 2½ h.p.; £20, offers.—Randall, Andover.

LINCOLN Elk, new, 3½ h.p.; offers.—Randall, Andover.

Collier's Motories, Westgate, Halifax, ENGLAND.

Brand New 1911 3½ h.p. Tourist REX	43 Gns.
" " 1911 2½ h.p. 2-speed REX Junior	50 Gns.
" " 1911 3½ h.p. Free-engine REX	48 Gns.
" " 1911 3½ h.p. REX DE LUXE	57 Gns.



Also 1911 New 2-speed Twin **REX DE LUXE** as per illustration 63 Gns.

Discount to Cash Buyers.

Exchanges entertained.

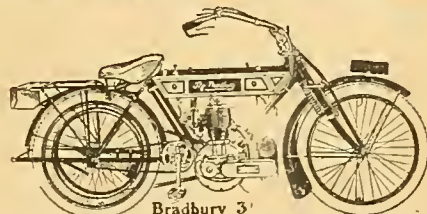
SECOND-HAND MACHINES.

CASH, EXCHANGE, OR EASY PAYMENTS.

1911 3½ h.p. Two-speed REX DE LUXE , NEW ..	47 Gns.
1910 7 h.p. Twin REX , M.O.V.	£37 10
3½ h.p. N.S.U. , free engine and sidecar	£33 10
Magneto TRIUMPH , spring forks, very smart ..	£25 10
Twin REX DE LUXE , and Montgomery Sidecar ..	£25 0
REX , 1910, 3½ h.p., "hot stuff"	£29 10
5 h.p. 1910 Twin REX , special machine	£29 10
1½ h.p. Four-cylinder F.N. , magneto	£19 19
1½ h.p. KERRY , runs well, spring forks	£10 10
1910 3½ h.p. T.T. REX , very fast	£27 10
Two-speed F.N. Lightweight , h.-b. control	£7 10
3 h.p. HUMBER , chain drive	£14 10
1 h.p. ANTOINE , M.O.V.	£24 10
1908 3½ h.p. Magneto REX , spring forks	£19 19
1907 3½ h.p. Magneto REX , spring forks	£19 19
1½ h.p. REX , vertical engine, fine condition ..	£8 10
3½ h.p. Speed King REX , brand new	£29 10
1910 Twin REX DE LUXE , two speeds	£42 10
New Twin REX , cantilever seat	36 Gns.
1910 T.T. TRIUMPH , almost equal to new	£38 10
Twin REX DE LUXE , and Sidecar	£27 10
MOTO-REVE , magneto, Druids	£19 19
MOTOSACOCHE Lightweight	£14 10
3½ h.p. MINERVA , torpedo tank	£14 10
F.N. Lightweight , magneto, spring forks	£19 19
REX Twin, 5½ h.p., spring forks, fast	£19 10
REX , 3½ h.p., spring forks, Dunlop non-skids ..	£15 10
1911 3½ h.p. Free-engine REX , NEW	38 Gns.
1911 Twin REX DE LUXE	£46 10
1911 Single-cylinder Two-speed REX , 300 miles ..	£32 10

A CALL WILL REPAY YOU.

Early deliveries of 1912 Bradbury machines.



Bradbury 3'

Exchanges Quoted. Distance no objection.

£8

deposit and 10/- weekly secures—	
Magneto Triumph	£25 10
5½ h.p. Twin Rex de Luxe , mag.	£24 10
Four-cylinder F.N. , magneto	£19 19
3½ h.p. Magneto Rex	£19 19
Twin Moto-Reve	£19 19
F.N. Magneto Lightweight	£19 19

MOTOR BICYCLES FOR SALE.

24 h.p. Motor Cycle, in good condition; £4/10, or near offer.—Reul, Woburn, Bucks.

1910 Clutch Triumph, good condition, Cowey, Lucas lights, set, watch, etc.; £40.—J. J. Edney, Fareham.

PREMIER, 1911. T.T., 3½ h.p., lamp, generator, horn, nearly new; private owner; £38.—Lawes, Triangle, Aldershot.

1910 Free Engine Triumph, faultless; £40, or nearest; 1911-12 exchange entertained.—Iona, Salcombe Rd., Newbury.

KERRY-ABINGDON, 1911, 3½ h.p., 2-speed, clutch, spares, used 2,700 miles; any trial; £42, or near offer.—Alston, Quarley, Andover.

1911 Nearly New Bradbury, unscratched, guaranteed perfect, original tyres and belt; accept £42.—E. B. Hawkes, Woodchester, Glos.

FOR Sale, 2½ h.p. Kerry, in splendid running order; trial anywhere; your opportunity for a cheap, no-trouble machine; lowest £10.—As under.

1910 Motosacoche, magneto, Whittle belt, had little wear; £20.—As under.

CONDAC Motor Depot, West Southbourne, Bournemouth.—The bargain house of the south for second-hand motor cycles.

SOLE Hampshire Agents for the Motosacoche (the gentleman's motor cycle); send for illustrated matter.—Condac Motor Depot, West Southbourne, Bournemouth.

F.N., 4-cyl., 4½ h.p., overhauled at considerable expense, mechanically perfect, also tyres; bargain, 17 guineas.—Heybourn, Motors, Maidenhead.

1911 Triumph, free engine, splendid condition, only run 600 miles, Palmer studded tyres, spare parts; £42; buying car.—Dr. Graham, Pinewood, Wokingham, Berks.

RUDGE, 1911, free engine, horn, tools, etc., Daplop tyres, machine perfect throughout, not done 1,000 miles; owner buying car, bargain, £40.—Seen at Morris Motor Cycle Garage, Oxford.

LADY'S Singer, 1911 model, 2½ h.p., Armstrong 3-speed gear and free engine, Dunlop tyres, all accessories, had little and careful use; cost £50 in April; private owner; accept £32.—Seen at Morris Motor Cycle Garage, Oxford.

HUMBER, 1911, 2-speed, P. and H. lamp and generator, horn, tools, spares, just been overhauled, excellent condition throughout, Cowey speedometer; great bargain, £32.—Morris Motor Cycle Garage, Oxford.

ZENITH-GRADUA, 1911, 6½ h.p., excellent passenger machine, in perfect condition, tyres and belt as new; open to an examination; F.R.S. lamp, P. and H. generator, horn, tools, etc.; £55; private owner.—Seen at Morris Motor Cycle Garage, Oxford.

ZENITH-GRADUA, 3½ h.p., 1911, absolutely as new, Palmer cord tyres, lamp, generator, horn, not done 500 miles; private owner; £42.—Morris Motor Cycle Garage, Oxford.

MORRIS Garage, Oxford, for all types of new and second-hand motor cycles, lightweight, single-cylinders, and passenger combinations in stock; buy from the firm with a reputation for fair dealing; list free on receipt of requirements.

MOTO-REVE Twin, 1909, magneto, spring forks, Continental and Kerry new footrests, condition good as new, new Lyso and V belt, tools, complete; £13 cash.—Westfield House, Western Rd., Wolverton, Bucks.

4 h.p. N.S.U. and Sidecar, 2-speed gear, free engine, very little used, £40; 3½ h.p. Bat, magneto, new Lyso belt, in good running order, £20; 3½ h.p. Premier, free engine, Standard 1911 model, £46.—R. E. and G. Marshall, Ltd., St. James's Sq., Cheltenham.

2½ h.p. F.N., 1910 model, with 1911 piston, shaft drive, 2 speed, magneto, Glare lamp, 2 accumulators, Cowey speedometer, 2 spare built-up tyres, one outer cover, Rom back tyre; £50.—Major Westmorland, Depot, Hampshire Regiment, Winchester.

1911 6½ h.p. Zenith-Gradua, Cowey, maximum hand speedometer, lamp, horn, College mudguards, latest C.A.P. carburetter, switch, etc.; cost complete last September £78; run under 900; sacrifice £64; exchange 2-seater.—D.B., 93, Victoria Rd. N., Southsea.

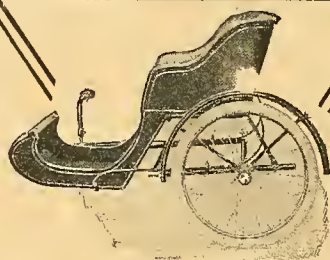
1911 Prize Winner for sale.—1911 Bat, 5-6 h.p., excellent condition, recently overhauled, back wheel just entirely re-built in order to fit 2½ in. motor tyre, new Whittle belt just fitted, spare Whittle belt, spare plugs, valves, etc., Phelon and Moore 2-speed gear and free engine; this machine won the gold medal (first prize) in the Oxford University Hill-climb Competition, 1911, comfort ensured at the highest speeds by the Bat spring frame, guaranteed to travel over 60 miles per hour solo, and over 45 miles per hour with sidecar and passenger; price £50.—Apply, No. 9,093, The Motor Cycle Offices, Coventry.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

5 h.p. 1911, Twin Rex, new last May; £35; perfect.—Seen at 16, Haverstock Hill, N.W.

5-6 h.p. F.N., 1910, perfect order, Cowey, lamp; £32.—S., F.N., Depot, Gt. Portland St.



— There's a picture for you —
it is the Coach-built

P.M.C.
SIDECAR

of P.M.C. make and merit.

Roomy, strong, and luxuriously padded; as comfortable as an armchair.

Very light (under 80 lbs.)

Double "C" springs.

Weldless steel frame.

Fitted with 26 x 2½ Michelin beaded edge tyre.

PRICE, complete, £7 12 6

Or with upholstered Wicker Body, £5 17 6

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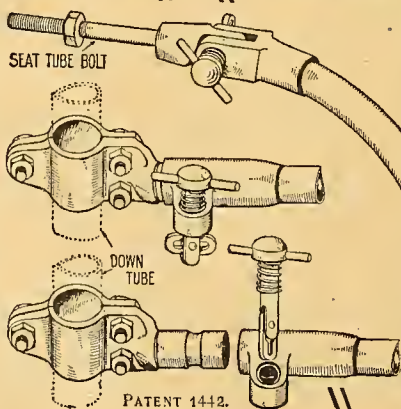
**THE PREMIER MOTOR
COMPANY, LTD.,
ASTON ROAD, BIRMINGHAM.**

Telegrams—"Primus, Birmingham."

Telephone—Central 4310.

Have you decided upon your 1912 Motor Cycle

we can supply **REX-J.A.P., TRIUMPH, ZENITH-GRADUA, REX, DOUGLAS, INDIAN, HUMBER,** or any other first-class make. Free driving lessons and instructions as to maintenance.



With our Quickfit Couplings any sidecar can be attached in sixty seconds, and detached in forty seconds. **SINGLE-HANDED. NO TOOLS REQUIRED.** SAFER than ordinary fittings—no nuts to come off or bolts to "strip." The strain on frame tubes is greatly reduced. Price 30/- the set of three couplings, to fit any make, 5/- allowed on old fittings—any make.

MOTOR BICYCLES FOR SALE.

WILTON Cycle Co., Victoria, S.W.

WILTON.—Clyno and Matchless sole S.W. agents; delivery from stock, and early 1912.

WILTON.—Bradbury, with 2-speed gear, sidecar, and accessories, quite new; £53.

WILTON.—Kerry-Abingdon, 2-speed gear, sidecar, and all accessories, 6 weeks old; £50.

WILTON.—Exchanges and instalments arranged.

WILTON.—4-cyl. F.N.'s, good order; £22 and £20.

WILTON.—1911 2½ h.p. F.N., 2-speed and free engine, as new, all accessories; £36.

WILTON.—Motosacoche, 1½ h.p., Palmer tyres, good order, accessories; £14.

WILTON.—1911 Triumph, clutch model, all accessories, as new; £48.

WILTON.—1912 Bradbury in stock; £48.

WILTON.—2½ h.p. Lincoln Elk, new; £27/10.

WILTON.—New 1911 Kerry-Abingdon, also new 1911 Moto-Reve twin, £39 each.

WILTON.—Sidecars, Clyno, Matchless, and Wilton in stock.

WILTON Cycle Co., 110, Wilton Rd., Victoria, S.W. Phone: Westminster 5115.

EAGLES.—Bradbury, 3½ h.p., 1911 model, new condition; £36/10.

EAGLES.—N.S.U., twin, 2½ h.p., Bosch magneto, m.o. valves, h.b.c., under-gear pulley; £21.

EAGLES.—Douglas, twin, late 1910, new condition, Brooks padded saddle, Rom tyres; £26.

EAGLES.—6½ h.p. Twin Sorella-Chater-Lea, 2-volt synchronised ignition, spring forks, h.b.c., Palmer cords, new condition; £18/10.

EAGLES.—Motosacoche Lightweight, Hellenides ignition, Whittle belt, good condition; £10/10.

EAGLES.—N.S.U., 3½ h.p., magneto, very low built, 1911 B. and B., 26in. non-skid tyres; £19/10.

EAGLES.—Rex, 3½ h.p., dropped frame, magneto, spring forks, h.b.c., fine condition; £18/10.

EAGLES.—N.S.U., 3½ h.p., single-cyl., magneto ignition, m.o.v., improved carburetter, 1911 spring forks, and other improvements, complete with tool case, full set of tools, brand new; £27; deferred payments arranged.

EAGLES.—Immediate delivery of the famous N.S.U. 2-speed gears, all sizes in stock; £25/15; for Triumph, £6/15.

EAGLES and Co., High St., Acton.—N.S.U. West London district agency. Early delivery of 1912 models; liberal allowances for machines in part payment. Tel.: 556 Chiswick.

BAT, 3½ h.p., spring frame, Clincher tyres, good order; £7/10.—50, Manor Rd., Brockley.

ZENITHS.—Why wait? I have two 1912 3½ h.p. models in stock.—785, High Rd., Leytonstone.

RACING N.S.U., late model, 6½ h.p., 2 carburetters, recently overhauled by makers; £34/10.

PUCH Motor Cycle, 2½ h.p., only used for demonstration, automatic lubrication; £34.—Paul Schmidt, 2, Laurel Rd., Barnes.

2 h.p. Minerva, m.o.v., £6/10; 3½ h.p. Lancaster, torpedo tanks, fast, £8.—8, Crief Rd., Wandsworth.

1909 5-6 h.p. Rex, magneto, free engine, spring forks and seat; £22.—108, Manor Rd., Brockley.

P. and M., 3½ h.p., 2-speed, magneto, perfect order; £31.—Solicitor, 17, Bury St., New Oxford St.

MINERVA, 3½ h.p., Chater-Lea No. 6, new in September; 14 guineas.—2, Trewant St., Earsfield.

1911 Humber, 2-speed, free engine, in good condition; £36/10.—285, High Rd., S. Tottenham.

HUMBER, 3½ h.p., Palmer, Clincher tyres, good, low, powerful; £10.—Allison, 46, Church Rd., Acton.

TRIUMPH, 1908, engine recently overhauled by makers; what offers?—H., 33, Bridge Rd., Uxbridge.

3½ h.p. Advance, magneto, B. and B., h.b.c., new 32" studded tyres; £15.—84, Greenside Rd., Croydon.

F.N., 3½ h.p., magneto, single-cyl., latest F.N. spring forks, perfect; £14/10.—1, Ebner St., Wandsworth.

SINGERS, 1912; immediate delivery; free engine model; list price £54.—Wrench's, 120, Hampstead Rd.

MINERVA, 2½ h.p., m.o.v., vertical, 26in. wheels, low built; £5/10.—441, Coldharbour Lane, Brixton, London.

LIGHTWEIGHT, 2½ h.p. vertical engine, just overhauled, tyres good, belt drive; £6/10.—12, Broadway, Muswell Hill.

1911 Premier, free engine, 3½ h.p., not ridden 200 miles; £39 secures.—Parkhurst, East Peckham, Kent.

MOTOR BICYCLES FOR SALE.

KERRY-ABINGDON, from stock. Show models, 1912; exchanges, cash, and gradual payments.—Wrench's, 120, Hampstead Rd.

GET Wrench's Quotation for next season's motor cycle, all best models and makes; quick deliveries; best terms.—120, Hampstead Rd.

MOTO-REVE, 2-cyl., magneto ignition, excellent condition; £18.—Wrench's, 120, Hampstead Rd.

WRENCH'S, 120, Hampstead Rd., motor cycle department; send for particulars of second-hand motor cycles; clearance prices.

3 h.p. Fafair, Triumph frame, 2 accumulators, new belt; £12.—Butt's, 17, Martens Rd., Walthamstow.

MOTOR Cycle for sale, Royal Enfield, 2½ h.p.—Apply by letter, P.L. c/o Browne's, 21, Tot Hill St., Westminster.

TRIUMPH, July, 1910 hardly ridden, all accessories; £55; appointment.—Foxwell, 29, High St., Wimbledon.

NEW Hudsons, Triumphs, Bradburys; order now for early deliveries.—Godfree's, 124, Romford Rd., Stratford.

3½ h.p. Rex Motor Cycle, m.o.v., new condition, just overhauled; bargain, £10.—Howard, Hazelton, Merstham.

ZENITH Gradua, early delivery of 1912 models; exchanges arranged.—Storey's, 337, Euston Rd., London, N.W.

1912 Douglas, Model K, Olympia Show model; immediate possession; £50.—23, Dale Rd., Kentish Town, N.W.

TRIUMPH, clutch, 1910, horn, lamp, generator, splendid condition; £35, bargain.—Avondale, Beattie Rd., Putney.

TRIUMPH, 1907-8, 3½ h.p., 1911 sidecar, accessories; £28/10; excellent condition.—Seen, 4, Gutter Lane, E.C.

REX, 3½ h.p., vertical engine, new tyres, B. and B. carburettor, h.b.c.; sacrifice £8/15.—7, Trewint St., Earlsfield.

2½ h.p. J.A.P., Chater frame, Pulmers, lamp, carrier, stand, and spares; £10/10.—224, Wood St., Walthamstow.

TRIUMPH, 1907-8, Bosch, 1911 B. and B. and sidecar; must sell; perfect; £25.—Fordham, 28, Dalston Lane.

NYE'S Offer a nearly new 1911 T.T. Rex, 3½ h.p., latest model, for £31; Dunlop tyres, horn, pump, etc., guaranteed.

NYE'S—A genuine 1907 Triumph, good tyres, good running order; only £22; guaranteed.

NYE'S—A genuine 1907 Triumph, fitted with 1908 cylinder, just overhauled; £23/10; guaranteed.

NYE'S—A genuine 1909 3½ h.p. Minerva, grey finish, Continentals, magneto, round tank, horn, guaranteed; £20.

NYE'S—A genuine 1910 4 h.p. 2-speed Roca, beautiful condition, handle starting; a bargain, £26; guaranteed.

NYE'S—A genuine 1911 Scott, w.c., cylinders, etc., Cowey, lamp, horn; the cheapest Scott offered; £40/10.

NYE'S—A genuine 1910 2½ h.p. Douglas, Dunlops, splendid running order; £23/10.

NYE'S—A genuine 1911 P.E. Bradbury, splendid order; great bargain, £39.

NYE'S Offer the Above Machines subject to their being unsold; all ready for riding away.—Apply, 138, Gray's Inn Rd., Holborn, London, E.C. (opposite Holborn Town Hall). Tel.: 6299 Holborn.

TRIUMPH, 1911, free engine model, run 460 miles, as new; £48.—Caplin, 5, Elms Buildings, Seaside Rd., Eastbourne.

LATE 1910 Douglas, run about 1,000 miles, slightly soiled, lamp, accessories; £28.—Brooklyn, Cooperale, Epping, Essex.

1911 Bat, 6 h.p., in perfect condition, Cowey speedometer, F.R.S. lamp, etc.; £54.—Highcroft, Musswell Hill Rd., N.

MOTOSACOCHE, magneto, free engine, h.b.c., new Whittle, Rom tyres; write appointment.—25, Oxford Rd., Putney.

1908 Standard Triumph, 1909 improvements, excellent condition, all accessories; £24.—12, Market Sq., Horsham, Sussex.

2 h.p. Minerva, B.S.A. frame, fittings, sound, tyres, low, fast, reliable; must sell; £6.—Elham, 60, Coomer Rd., Fallow.

MOTOR Cycle (Brown), 3½ h.p., splendid condition; £20, or near offer.—Apply, 39, Grosvenor Rd., Westcliff-on-Sea, Essex.

1910 Wolf, 2 h.p., fine condition, lamp, heater, tools, and spares; £15/15, no offers.—Bentley, Melfort Rd., Thornton Heath.

3½ h.p. Premier, free engine model, in stock (5% extra for easy payments); £54/17.—J. Barker and Co., Kensington High St., W.

Have you made up your mind

what your new model for 1912 is going to be? If you have, let me quote you. If not, get my advice. It will cost you nothing, and I can assure you it will be valuable to you. If you want a perfect machine, you cannot beat either of the following: 1. Rudge, Douglas, and B.S.A. Here you have the cream of the world's motor cycles, and you won't be disappointed in delivery. I can give you a specified date for any of the above motor cycles. Why pay premiums for scarce makes? Because the output is small. It is a big point to you to save your money. You can have your first year's running free if you save it in first cost. Send me on your enquiry now. I have 200 1912 models of the leading makes to book up for specified dates, so you won't lose your tempo if you order through me. I won't disappoint you. What I say I do I will do. Prove what I state by sending your order now. If you want a good second-hand machine I am your man. Every motor cycle sold by me has our reputation behind it, and we won't lose our good name for all the trade in the world. We guarantee every machine we sell to be in perfect condition. We are the only firm who do this, and why we can do this is because every machine we take in exchange is seen by us before approval. We don't take any rubbish. For a good machine we give a good price. We do not entertain accumulator machines. Good Magneto Motor Cycles bought for cash.

I have a splendid stock at present. A glance through will convince the most sceptical that we are sellers of only good motor cycles.

ACTUALLY IN STOCK—

1912 MODELS.

	List price.
RUDGE, T.T. Model, special	£48 15
SINGER, 4 h.p., 2-speed bracket gear	£65 0
BRADBURY, 3½ h.p., 2-speed	£55 0
NEW HUDSON, 3½ h.p., 3-speed gear	£59 17
PREMIER, 3½ h.p., 3-speed gear	£58 0
CLYNO, 5-6 h.p., the sidecar machine	£68 0
ENFIELD, 6 h.p., two-speed, with sidecar	£84 0

1911 MODELS, Brand New.

Owing to late arrival, we have the following new machines left over. Same are not shop-soiled. Only just received from makers.

PREMIER, 3½ h.p., free engine model; list, £54 17s.

BRADBURY, 3½ h.p., fixed engine model; list, £48

What Offers? What Offers?

No Reasonable Offer Refused For Above.

High-class Second-hand Motor Cycles.

1911 6 h.p. ZENITH, free engine and Gradua gear, complete with lamp, horn, tools, spares, etc., guaranteed as new, and not run 800 miles; owner bought car

MONTGOMERY, £12 10s., Sidecar included.

1910 3½ h.p. TRIUMPH, T.T. model, perfect

1911 3½ h.p. BRADBURY, T.T. model, a gift

1910 3½ h.p. TRIUMPH, free engine model

1911 3½ h.p. IVY-PRECISION, just as new

1911 3½ h.p. RUDGE, splendid order

1910 3½ h.p. SCOTT, new tyres, B.E. shoes, good order

1909 VINDEC Special, 5-6 h.p., two speeds, magneto, complete with sidecar

1909 3½ h.p. MINERVA, magneto

1911 7 h.p. Speed King REX, as new

1910 2½ h.p. ROYAL ENFIELD

1911 3½ h.p. RUDGE, variable gear, as new

Our Rossendale Sidecar cannot be equalled for value.

Standard. £4 10s. Special. £5 5s. De Luxe. £6 6s.

DELIVERY FROM STOCK. SEND FOR LIST.

We are Cash Buyers of good magneto machines.

I am Agent for Rudge, Bradbury, Clyno, Matchless, Enfield, Premier, Rover, B.S.A., New Hudson, Singer, and Douglas. All known makes. Guaranteed deliveries of all models.

OUR SPECIALITY 'EXCHANGES.'

All first-class makes, multi-speed models, free engine models, etc., for immediate delivery. Send particulars of your requirements to "the firm with a thirty years' untarnished reputation."

J. S. CORDINGLEY,
The Motor Cycle Mart,
HASLINGDEN, Lancs.

Wires: "Cordingley, Haslingden." Phone: 2v Haslingden.

MOTOR BICYCLES FOR SALE.

1911 Triumph, clutch model, new (in crate); nearest offer to £55.—Box No. L5, 127, The Motor Cycle Offices, 20, Tudor St., E.C.

3½ h.p. Brown, Bosch, Rom combination tyres, Whittle and neat, new dry battery, splendid tyres.—George, 13, Model Cottages, Mortlake.

DOUGLAS, 2½ h.p., Bosch magneto, carburettor, h.b.c., Brooks saddle, thorough order; £20.—M., 98, Meadevale Rd., Ealing, W.

£7—1½ h.p. F.N., powerful, genuine lightweight, low and neat, new dry battery, splendid tyres.—George, 13, Model Cottages, Mortlake.

TRIUMPH, 3½ h.p., magneto, late 1907, splendid condition; nearest offer 20 guineas.—Moyse, 15, Barby Rd., N. Kensington, London.

HUMBER, 3½ h.p., 1912, Roe 2-speed gear, delivery in December, extra heavy driving tyre for sugar work, and special inch Service belt.

PEUGEOT 5½ h.p., excellent condition, just overhauled, very fast and powerful, new Service belt, lamp, horn, spares, etc.; £20.

VINDEC Special, 5 h.p., 1 current engine, Truffault forks, good condition, free as if required, lamp, horn, tools, spares, etc.; £22.—Jenkinson, 108a, High St., Notting Hill Gate.

4 h.p. Zenith-Gradua, new 3 months ago, all accessories, condition as new; £42.—Seea, Harvey, Hudson and Co.'s, South Woodford.

FAFNIR-CHATER-LEA, 3½ h.p., excellent running order, new tyres, belt, etc.; photo on application; £17.—Faze, 86, Manor Park, Lee, Kent.

DOUGLAS, late 1910, brand new June, 1911, done 1,800, guaranteed perfect, lamp, spares, etc.; £29, or offer.—Procter, 7, Theobald Sq., Rochester.

7 h.p. Wilkinson T.A.C., 4-cyl., clutch, 3 speeds, lamp, speedometer; £34 for quick sale.—Box L5, 169, The Motor Cycle Offices, 20, Tudor St., E.C.

5 h.p. Roe-Peugeot, 1910, 2-speed, Dunlops, Bosch, Whittle, B. and B., F.R.S. lamp, horn; £30.—Garaged, Meeks, 140, Archway Rd., Highgate.

3½ h.p. Rover, free engine, chain driven, just overhauled, Palmer coils, battery ignition; accept £14/10.—Dover, Rectory, Worcester Park, Surrey.

3½ h.p. Triumph, 1912 improvements, free engine 32 model, in stock (5% extra for easy payments); £55.—John Barker and Co., Kensington High St., W.

6 h.p. Twin, Antiope, gear driven, magneto, adjustable pulley, 1910 forks, good tyres, piston broken; going cheap; photo.—Sayers, Sharnley Green, Oldfield.

VINDEC Special, 5-6 h.p., Bosch ignition, B.B. carburettor, 1910 model, 2-speed free engine, adjustable pulley, carrier, stand; £28.—Upfield, Catsfield, Sussex.

3½ h.p. Triumph, winner of Circuit du Rhone, 1911, 32 complete with tools, spares, and in excellent running order; £33 cash.—St. Mawes, Brighton Rd., Purley.

SWIFT, 2½ h.p., 2-speed free engine, h.b.c., B. and B. (1911), Dunlops this year, just overhauled, Lucas lamp and horn, spares; £12.—243, Fore St., Edmonton.

5-6 h.p. Twin, Rex, just overhauled at big expense, good tyres, accessories, and spares; must sacrifice, £18/18, first cheque; offers.—222, Battersea Bridge Rd.

N.S.U., brand new, 6 h.p., twin cyl., magneto, 2-speed; list price £60/15, for quick sale £50 will be accepted.—The Motor House, 318, Euston Rd., London, N.W.

1911 2 h.p. J.A.P., ball bearing, Chater No. 9, B. and B., Bosch, 650x65 Dunlops, spring forks, very low, unenamelled; £38.—36, Englefield Rd., Kingsland.

REX, 5-6 h.p., twin, 1909, Chater-Lea frame, tyres nearly new, magneto, h.b.c., in good order; £25; also Chater-Lea sidecar, 24.—39, West St., Bromley, Kent.

5 h.p. Twin, Rex, 1910, torpedo tank, speedometer, 10 of accessories; £35, or any reasonable offer for quick sale.—Chabot, c/o The Club Cafe, 156, Lewisham High Rd.

1911 P. and M. and Sidecar, castor wheel, lamps, horn, exhaust whistle, etc., had very little use, in new condition; 48 gas.—Ben-Hur, 67, Greenside Rd., Croydon.

TRIUMPH, 1911, free engine, perfect, unspratched, all accessories, Whittle, Kempshalls, new extra heavy non-skid back; £45.—Wright, Ayot, The Avenue, Coulsdon.

2½ h.p. F.N., with improvements; £35, or near offer; can be seen any time at Bonds, 53, Willesden Lane, Kilburn.—Enquiries to Bach, 134, Maida Vale, London, W.

TRIUMPH, 1910½, horn, carrier, kit, magneto cover, etc.; reason sale, bought free engine same make; bargain; £34; first cheque.—Triumph, 16, Belvedere Rd., Norwood, S.E.

IF You Want Bargains in second-hand motor cycles, you can get them at Wauchops'—Wauchops's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

1911 Rudge, free engine, in perfect condition, Cowey speedometer, F.R.S. lamp and generator, full set of tools and spares; £42.—W. H. Elce, 5, Eastern Rd., Romford.

MOTOR BICYCLES FOR SALE.

TRIUMPH, 34h.p., free engine, with sidecar complete, perfect condition, price £30; also **Miserva**, 24h.p., in good running order, £6/10.—Newham, 223, Hammer Smith Rd., W.

34h.p. Brown Frame, 21in., 1908, stand, carrier, tank, wheels, tyres, footrests, brake, £6; 24h.p. Quadrant, new tyres, £4; 24h.p. Brown, perfect, £6.—Clayton and Mitchell, Wallington.

YE Knuts, look!—1911 T.T. Triumph, in new condition, brand new Kempshall non-skid back wheel, will do 63 m.p.h., horn and pump, etc.; £37.—Axiord, 9, Church Rd., Croydon.

TRIUMPH, 34h.p., Bosch magneto with guard, spring forks, head lamp, horn, tools, sundry spares, excellent running order; supplanted by car.—6, Star Rd., North End Rd., London.

MINERVA, 22h.p., splendid condition, spring forks, fast, reliable, Amac, h.b.c., Whittle, etc.; Kerry, 24h.p., good condition, low, very cheap; offers.—13, Eleanor Rd., Waltham Cross.

1910 T.T. Centaur, 34h.p., adjustable pulley, drip feed lubrication, new back cover, powerful mount, P. and H. lamp, spares; any trial; £28.—Moore, 51, Randolph Rd., Gillingham, Kent.

1910 24h.p. Motosacoche, magneto, free engine, in perfect condition, with spare belt, cover, valves, also watch, cyclometer, lamp, horn; £20, lowest.—Morgan, 3, Fenchurch Buildings, E.C.

1911 Triumph, with Jones speedometer, lamp, horn, suit of clothes, etc., purchased September, ridden 600 miles only, absolutely as new; £42, cost upwards £60.—E. McGrath, Gillingham, Kent.

4h.p. N.S.U., magneto, spring forks, in perfect running order, overhauled this summer, new magneto, cylinder and back tyre; £22, or near offer.—Write, Chalmers, 33, Hyde Park Gate, S.W.

1911 34h.p. B.S.A., nearly new, ridden very little, all tools and spare valve, lamp, horn, generator, Mahon free engine clutch; £45, or somewhere near it.—Harry Basball, Elm Grove, Ockham, Surrey.

MOTO-REVE, 1910, twin, spring forks, magneto ignition, Hutchinson tyre, exceptionally fast and reliable, recently thoroughly renovated; £17/10, for immediate sale.—130, Brixton Rd., S.W.

QUADRANT, 34h.p., spray carburettor, h.b.c., recently overhauled at cost of £6, new front tyre, very fast, good hill-climber, spring forks; bargain, £10.—Lloyd, Backwoods, Lindfield, Sussex.

1911 34h.p. T.T. Roadster Triumph, Lucas lamp, horn, spares, been 60 miles, practically new, guaranteed perfect; best offer inside 4 days gets this machine.—Lt. A., Artillery Mess, Woolwich.

34h.p. Chater-Lea, Nohle, perfect condition, h.b.c., new tyres, new Lyso, Price's stands, spare belt, accumulator, coil, etc.; £12, or nearest offer.—Lovell, "Sherwood," Brunswick Park, New Southgate.

1907 Triumph, complete overhaul by makers, with Brooks saddle, B. and B. cylinder all 1911, adjustable pulley, absolutely reliable, 8 to 45 m.p.h.; £25, lowest.—Swadling, 9, Electric Parade West Norwood.

5h.p. Peugeot, Chater-Lea, magneto, Amac, carrier, stand, lamp, horn, studded cover on rear, Palmer front, very fast, and condition as new; £26.—F. Cox, "Feradale," Buckingham Rd., South Woodford, N.E.

TRIUMPH, free engine, new October, 1911, little used, complete with Lomax steel-studded band, carrier bag, lamp, horn, all spares, £48.—Box No. L5150, The Motor Cycle Offices, 20, Tudor St., E.C.

MATCHLESS, 6h.p., 1911, perfect condition, bought July, engine ticks over at 5 m.p.h., extraordinarily flexible, new back cover, grand machine; bought 1912 Matchless; £49.—Hall, 4, The Avenue, Brondesbury, N.W.

ZENITH, 1911, noder 3,000 miles, Autoclipse lamp, Cowey, Vivid sidecar, watch, spares, Serpentine horn; actual total cost £70, take £52, or minus sidecar and Cowey £46.—Letters, W. C. Ellis, 18, Aldermanbury, E.C.

TRIUMPH, 1909 model, free engine, Mahon clutch, magneto, spring forks, Whittle belt, Dynalops, machine very little used, and in beautiful condition, really trustworthy and reliable; accept £35.—101, South Norwood Hill, S.E.

3h.p. Advance, perfect condition, enamel and plating as new, Stanley, Michelins, adjustable pulley, foot brake and boards, fixed toolbox and bag, lamp, long and low, 26in. wheels, suit gent; price £17.—Manager, 2, Station Rd., Acreley, S.E.

1911 N.S.U., 7h.p., been 100 miles only, £38/10; also 5h.p., 1911 Zedel, Chater-Lea, good as new, £30; and 5h.p. Peugeot, Chater-Lea, just been rebushed last week, £22; all the above seized for debt.—653, Rosendale Rd., West Dulwich.

TRIUMPH, 1909, overhauled and re-bushed by makers in June, magneto re-wound and re-magnetised last month, not a loose bearing on machine, condition and tyres perfect; £30, or nearest.—Apply by letter, K. Greig, 2, Ravenna Rd., Putney.

KERRY-ABINGDON, 34h.p., late 1910, lamp, tools, spare valves, B. and B., Rom back, fine condition; £30; any trial; or would exchange with cash for 7-8 h.p. free engine, 2-speed Matchless, or Bat-Jap.—Mott, Kenton, St. Leonard's, East Sheen, S.W.

New Accessories indispensable to the Motor Cyclist.

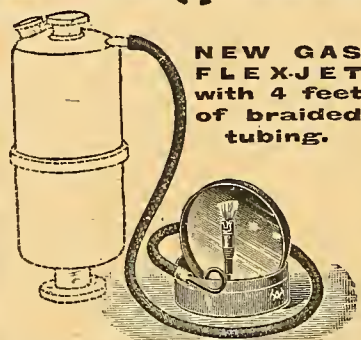


Fig. 375. This handy accessory provides a portable light at night for use on the road or in the garage; the light is reflected in any desired direction by means of the mirror; the whole apparatus can be coiled up in tin neatly and carried in the pocket or toolbox. Price 1/9 complete.

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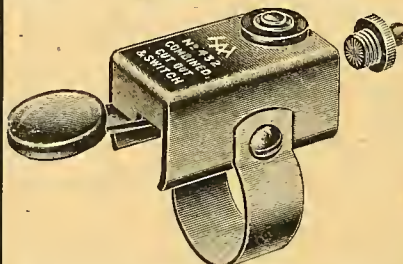
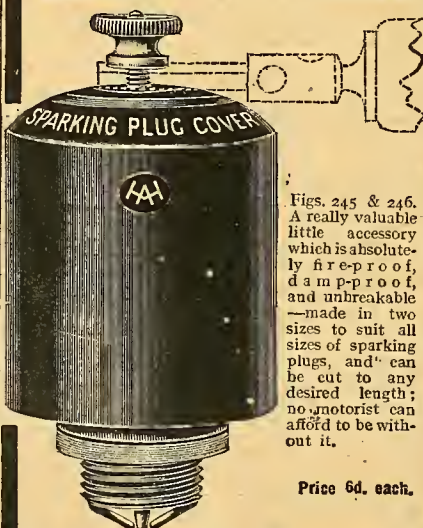


Fig. 432. An entirely new type of handle-bar combined switch and cut-out—extremely simple—cannot get out of order—never gives trouble. It is perfect to the last degree. Suitable for magneto and coil ignition. Price 2/6 each.

SPARKING PLUG COVER.



Figs. 245 & 246. A really valuable little accessory which is absolutely fire-proof, damp-proof, and unbreakable—made in two sizes to suit all sizes of sparking plugs, and can be cut to any desired length; no motorist can afford to be without it.

Price 6d. each.

Write for new 12 page list—No. 80—just issued—post free, from

A. H. HUNT, 116-117, Cannon St., LONDON, E.C.

MOTOR BICYCLES FOR SALE.

MOTOR Cycle, 24h.p., h.b.c., new Michelin, all complete, perfect, new Bowden cable brake, new lamp and generator, pair spring forks; bargain, the lot £7/10; owner giving up riding, doctor's orders; appointment.—W., 3, Downhills Park Rd., Tottenham.

A ZENITH-GRADUA (September, 1911), 34h.p., in perfect condition, not ridden 1,000 miles, complete with horn, Lucas lamp, generator, watch, mirror, exhaust whistle, Cowey speedometer, and spare tube and cover, all as new; £48 quick sale.—Seen, 18, Ladbroke Grove, W.

REX, 1910, Isle of Man T.T.; this machine was sent over as spare for the race; twin 5h.p., as new, tyres, belt perfect, very fast, tremendous acceleration power, winner of many hill-climbs, overhead inlet, Bosch, ready for road; £30.—Stanley Collier, The Shrubs, London Rd., St. Albans.

1911 34h.p. Rex Tourist Model, used trial runs only, new condition, magneto, spring forks, Cantilever saddle, lamp, generator, horn, spare valves, spare tubes, etc., full kit tools; will ride 100 miles to genuine purchaser; bargain, £35; consider accumulator machine part.—"Rex," 101, South Norwood Hill, S.E.

1911 34h.p. Bradbury, free engine clutch, specially fitted up Cowey speedometer, Lucas best lamp set, magneto control on handle-bar, Rom tyres all wheels (combination non-skid back), spare belt, butt tube, valves, etc., horn, carbide carrier, everything perfect condition, seen little use; cost over £60, accept £41; also rigid sidecar to suit, £4.—"Ivydene," Dukeshorpe Rd., Sydenham, S.E.

TOTTENHAM—1912 Models; definite deliveries; Bradburys—2-speed, T.T. free engine; Humbers—lightweight twin, 3-speed 34h.p., 2-speed, 34h.p. standard; Rudge-Whitworth—34h.p., standard, 34h.p., free engine; all from stock; Triumphs, February; Clyno, four weeks; early deliveries Bats, Matchless, and A.C. Sociables; cash or exchange.—Below.

TOTTENHAM—1911 models in stock for immediate delivery, new; heavy reduction on shop-soiled machines; Bradbury, free engine, 2-speed, and standard models; Triumph, standard; Rudge-Whitworth, free engine.—Below.

TOTTENHAM—1911 models, second-hand—34h.p. Hummer, 2-speed gear, £42 (July); ditto, £42; 1910 models—2-speed Hummer, 34h.p., £35; ditto, £33; Roc, 4h.p., 2-speed, £32; F.N. lightweight, 2-speed, £32; Motosacoche, P.E., £24; miscellaneous—34h.p. M.M.C. magneto, £20; 4h.p. Fafnir, magneto, £27; 5h.p. twin Kerry, free engine, and sidecar, £20; 5h.p. twin Kerry, magneto, £20; N.S.U., twin, 6h.p., variable gear, £28; ditto, 2-speed gear, £28; Triumph, 34h.p., £17; triars, 4h.p. Riley, 34h.p. Triumph, 4h.p. White and Poppe, all good, £12 each to clear; cash, easy terms, or exchange.—Stamford Hill Motor Co., 128, High Rd., South Tottenham. 'Phone: 1982.

1912 New Hudson, Premier, Enfield, Bradbury, Rover, Hummer, and Triumph motor cycles for early delivery; Matchless in 6 weeks from order; cash or easy terms; exchanges for any machine arranged; best value allowed; Chater-Lea Duo cars built to order; speed gear conversions, overhauling, and repairing carried out; all work guaranteed; moderate charges; estimates gladly given; 10 years' motor cycle experience.—Wallace Motor Cycle Co., 36, Clarence St., Kingston-on-Thames.

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

DOUGLAS, 1912, all models; any date delivery given; list post free.—Moffat, Yeovil.

1911 34h.p. 2-speed Hummer, 38 guineas; perfect condition.—T. E. B. Jourdan, Tiverton, Devon.

1909 Douglas, splendid condition, spare belt, spares; £22/10, or offer.—Vivian Gerish, Bathaston, Bath.

1911 Fafnir, 80mm., Chater-Lea, with accessories; £26.—Bryant, 15, Claremont Crescent, Weston-super-Mare.

BROWN, 1908, 34h.p., 2-speed gear, Bosch magneto, h.b.c., N.A.B. saddle pillar, reliable machine.—Baker, Beaworthy.

34h.p. Magneto Machine, h.b.c., just thoroughly overhauled and enamelled, tyres good; £17.—Mumford, Bankside, Sturminster Newton, Dorset.

DAN GUY, Weymouth.—1911 Triumph, Mahon free engine, as new, guaranteed not ridden 1,500 miles, lamp, tools, Cowey, perfect order; £44, no offers.

DAN GUY, Weymouth.—Lightweight Douglas machine, engine thoroughly overhauled by makers; £10.

DAN GUY, Weymouth.—34h.p. Rex, accumulator, good running order; any trial; £8.

DAN GUY, Weymouth.—1910 Douglas, Roc 2-speed gear, guaranteed condition; £32.

DAN GUY, Weymouth, sole Triumph agent, gives definite and early date delivery of 1912 models.

DAN GUY, Weymouth, sole Bradbury agent, Weymouth, Dorchester, and district; early delivery new models.

DAN GUY, Weymouth, sole Douglas agent, Weymouth, Dorchester, and district; deliver all models December.

DAN GUY, Weymouth, sole Bat agent; definite dates of delivery new 2-speed chain model.

DAN GUY, Weymouth, sole Zenith agent, Weymouth, Dorchester, and district; deliver all models December.

THE MOTOR CYCLE

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A French Awakening

THE popularity of the motor cycle in France has been waning for some time past, but there are distinct evidences of a revival if one may judge by the winter competitions inaugurated by the Motor Cycle Club de France and the Auto Cycle Club de France. The first-named body held a road race on the 10th inst., which was described in our last issue, and the latter a winter hill-climb last Sunday, in which several British competitors took part, we are pleased to say, on British-made motor cycles. The awakening of French motor cyclists and makers appears to date from the inter-club event between the Motor Cycle Club de Lyon and the North-west London M.C.C., when a British rider and machine won the principal trophy. At the time articles were published in the French motoring and sporting press, and repeated after the Olympia Show, commenting on the advanced condition of the motor cycle industry in this country, and comparing the British and French motor cycles without applying too flattering remarks to the latter.

Without being accused of egotistical remarks, we can also claim to have assisted in this revival through the medium of numerous articles on the French industry which have appeared in our pages, and our criticisms of motor cycles at the Paris show.

Some years ago the French were quite invincible on their racing machines, and the International Cup was only wrested from them by the Austrians after a very keen struggle at Dourdan, not many miles away from last Sunday's hill-climbing competition. The victories gained on road and track were not taken advantage of by the majority of French makers, who expected their clients to be satisfied with the same

description of mount as provided for racing. These machines were practically uncontrollable in ordinary hands, and the French, not finding the same advantages placed before them as the British buying public, did not take to the motor cycle. Such items as free engine clutches and change speed gears are even now practically unknown in France, and when the North-west London men were over last summer the Lyons riders were very much impressed with the clutch starting of some of the machines belonging to members of the party.

There is no reason why the pastime should not become as popular in France as it is here, if the French makers resolve, as we believe they have already done, to put on the market reasonably quiet, controllable, and comfortable machines, provided with those adjuncts to reliability and cleanliness which have caused our British-made mounts to be in demand by French riders, even in face of the stiff tariff which renders their export to France almost prohibitive.

The above remarks do not apply, of course, to one or two French firms having agents in this country, who have succeeded in getting them to see the error of their ways.

However, a handful of French makers have had the courage of their convictions, and adhered steadily to the industry, with the result that we hope they will reap the benefit of their persistence in pushing a type of motor which many motor cycle makers abandoned, either in favour of cars both large and small or other engineering goods. We offer our congratulations to the two French clubs who have had the courage, in face of some opposition and difficulty, to run the two events referred to above.

ENGLISH-DUTCH RELIABILITY TRIAL.

Regulations governing an International Team Trial to be held next August.

WE have already announced that the Dutch Motor Cycle Club, or to use its proper name, the Nederlandsche Motorwielrijders Vereeniging, will next year organise the first of a series of international reliability trials, the date for the 1912 event being fixed for August Bank Holiday Monday. We have received from Mr. A. Citroen, the hon. sec. of the Dutch body, an outline of the rules which will govern the trial. The event is open to English and Dutch motor cyclists, but not more than twelve entries will be accepted from each country. These twelve representatives will be composed of six trade riders and six private owners, and all must ride touring machines, equipped with an efficient motor cycle lamp and generator, at least one tool-bag, two efficient brakes, mudguards, stand, carrier, a loud-toned horn, and silencer. Dropped handle-bars are strictly forbidden, also the use of a cut-out. Trade riders will pay an entry fee of £1; private owners may compete without charge.

Distance and Route.

The distance of the trial is approximately 160 miles, and the start will be made at 8 a.m. from Amsterdam. The route is *viâ* Soestdyk to Apeldoorn (luncheon stop) and "The Grebbe"—the only really severe hill on the course—at the foot of which tea will be taken. Any competitor who fails to climb the Grebbe, or who assists with his feet in any manner, will be penalised to the extent of five marks. For every minute early or late at controls one mark will be deducted. The finish of the trial is at 7 p.m., and as lighting-up time is not until 8.30 any riders who are delayed need not trouble to light their lamps. The control will be closed at 8 p.m. All competitors who finish the trial within schedule time will be awarded a silver medal, whilst a bronze medal will be presented to the entrant whose total errors in time do not amount to more than twenty minutes. The running is calculated on the basis of nineteen miles per hour. Competitors will start in pairs, viz., one Dutch and one English rider, at intervals of one minute, so that there will be no advantage to the Dutch riders in knowing the route, and they will in this manner be able to assist their English *confrères*. The Dutch M.C.C. proposes to select its team in the following manner: Three places are being kept open for the three leading Dutch motor cycle manufacturers, and for the other three the club will invite entries and decide upon the actual team nearer the date. Private owners will be divided into three sections:

- A.—Machines with a maximum capacity of 340 c.c.
- B.—For machines with a maximum capacity of 500 c.c., with or without sidecar.
- C.—For machines with a capacity of 500 to 1,000 c.c., with or without sidecar.

Entries are being invited from all the members, and, as in the trade class, the actual riders to represent their country will be determined in good time. The trial is in the nature of a regular running contest, and, although adjustments and replacements will not disqualify, nothing whatever may be touched during the luncheon and tea controls. The winning country

will be the one whose team loses the least aggregate number of marks.

Four Days in Holland.

Mr. Citroen recommends an enjoyable week-end for the British participants as follows: Start from Harwich on August 3rd on the night boat arriving at the Hook of Holland at 6 o'clock next morning. Two members of the Dutch M.C.C. Committee and the hon. secretary will be at the landing stage, and will conduct the English party to the Hague (eleven to twelve miles), where breakfast will be taken. After a short visit to the Hague the celebrated bathing place, Scheveningen, will be visited, whence, at 4 p.m., the ride will be continued to Amsterdam *viâ* Haarlem. Here the Dutch M.C.C. has kindly offered to arrange garage and hotel accommodation. The trial proper commences at 8 a.m., Monday, August 5th, finishing at 7 p.m. Next morning Volendam, that well-known fishing town, will be visited. Here luncheon will be taken, the competitors afterwards returning to Amsterdam, and further *viâ* Haarlem to the Hague again, or, if preferred, from Volendam to Zaandam, the country of the windmills, then to Velsen, Haarlem, and the Hague. Dinner will be taken here, and at 7.30 p.m. a start will be made for the Hook of Holland, where no time must be lost in getting the machines on the steamer. The Dutch M.C.C. recommends the Great Eastern Line, starting from the Hook at 11 p.m. The total cost of the trip will be about £5, depending upon the riders' personal inclinations. *The Motor Cycle* has been requested to act as the intermediary of the Dutch M.C.C. in this country, and we shall be willing to receive entries for the trial on the Dutch club's behalf. Entries from experienced British motor cyclists owning reliable machines may be forwarded at any time, trade entries to be accompanied by a fee of £1, as stated above. Each member of the British team should have at least three non-stop runs in observed trials to his credit.

The Dutch M.C.C. will award a special prize to lady motor cyclists who complete the course and arrive at the different controls within schedule time.

Motor cyclists who send in their names to compose one of the team, and are not chosen, are invited to accompany the English competitors on the trial, although they will not be allowed to take part in the actual competition.

NEDERLANDSCHE MOTORWIELRIJDERS VEREENIGING.

Goedgekeurd bij Kon. Besluit van 2 November 1904, No. 37

Amsterdam, 1911
Kalkersstraat 1.

*For the Motor Cycle
(Christmas - number)
The members of the Dutch M.C.C. Club,
who, last summer, paid a visit to
the Island of Man, wish all their
English motorcyclists a merry
Xmas and a Happy New Year and
sincerely hope to meet them again in
August 1912, on occasion of the
English-Dutch Reliability Trial*

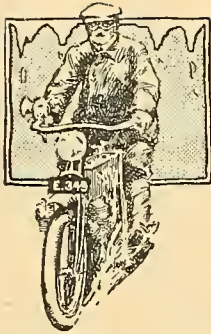
THE DUTCH MOTOR CYCLE CLUB'S CHRISTMAS WISHES TO
BRITISH RIDERS.

HIS WAY OF LOOKING AT IT.



Angus : Grand thing, these motor bikes, Donald.

Donald : Aye, Mon, but I'm thinking it 'ud be a bit draughty wi' a kilt, the noo.



MY SENSATIONAL CHRISTMAS!

For obvious reasons our contributor describes certain persons and localities with considerable vagueness in the following article. Certain things happen from time to time in this country which for international reasons are carefully kept out of the papers.

TIME heals all wounds, and I have the permission of very high authorities to seek tardy publication for the thrilling experiences detailed in the following narrative. They befell me one day in Christmas week, 1910. I may explain at the outset that I am a very humdrum individual, employed in a City bank, and that I am a bachelor. On the very rare occasions when I take a brief holiday, I invariably spend it on my motor cycle. This will explain why I was found on the road at a period of the year when most motor cycles are rusting in their sheds, and more fortunate owners than myself are basking at their firesides in the bosoms of their families. I live in lodgings, I have neither kith nor kin, and except for an annual fortnight in August my leisure seldom permits of long rides.

A Trip Up North.

Last Christmas, as readers will remember, the roads were frozen hard and smooth, and the sun shone warmly for eight hours a day or thereabouts. I may have been rash, but, as I had never toured in Scotland, I chose this rigorous season for a trip North. The ride to Edinburgh occupied two days, and was accomplished in tolerable comfort. The going was good, though the wind was abominably cold except at midday when the sun was strong enough to temper the bite in the atmosphere.

On the third day of my brief leave the wind dropped, and, as is usual on a calm day with the thermometer below freezing point, a thick fog soon descended, and blotted out the landscape.

I dare not divulge the exact locality in which I was riding. Suffice it to say that I was well north of Edinburgh, and was crossing a low range of hills not far removed from the coast. Circulation had long since ceased in my lower limbs, and nothing but the difficulty of restarting my machine on a rising grade had prevented my dismounting to stamp some semblance of a glow into my chilled feet. As I breasted the shoulder of a dumpy range, a rift in the fog proved that I had attained the summit, and with a sigh of satisfaction I was preparing to dismount and give myself a cabman's hug when, to my intense surprise, I sighted a powerful N.S.U. twin with a sidecar attached, reposing close to the ditch.

A Guttural Voice hailed me.

The prospect of company during my stoppage was attractive, but for a moment I could see no signs of a human being. I had already got my machine on its stand, when a guttural voice hailed me, and I saw the owner of the sidecar outfit regarding me from over the wall. He vaulted nimbly over the low mortarless wall, and revealed himself as a pleasant-looking

young foreigner of about my own age, with a heavy moustache. He spoke English excellently, though his gutturals provided absolute proof of his nationality. We exchanged smokes, and chatted in true comrade fashion about motoring matters. He was evidently an expert, and gave me two or three invaluable hints with regard to the N.S.U. gear. I happen to have this gear fitted to my own English roadster.

In the course of our conversation I began to be rather puzzled. His manner was contradictory. On the one hand, he evidently desired to be cordial and friendly. He offered me some excellent cherry brandy from his flask, pressed a cigar on me, and when I admired its flavour he insisted on my accepting two or three more. He even presented me with a most ingenious little tool of his own design and construction, which was most useful for making sundry adjustments to the gear.

On the other hand, he was equally anxious to be rid of me. He spoke of the extreme cold, exaggerated the distance to my destination for the night (of which I had informed him), and finally got quite brusque and rude when I suggested that we should join company for a few miles. At first he said he had to be in Edinburgh by tea-time, but when I offered to return there with him, as I was tired of the cold and the fog, he grew positively abusive, and said his plans were not at all definite. In fact, he seemed quite angry and suspicious, as if he fancied I intended to sandbag and rob him. I am the last man to press my company where it is unwelcome, and before long I drew on my gloves and prepared to proceed north and be quit of this surly companion.

A Glimpse of Red over the Low Wall.

As my valve dropped and the engine fired, I thought I caught a gleam of red over the low wall, and the curious object I sighted through the low wreaths of mist looked remarkably like a pile of red petrol cans, with two or three spars lying across them. However, the circumstance scarcely excited my curiosity at the moment, for I was exercised about the German's curious manners, and was wondering whether such a burly and soldierly individual could really be fearing personal violence from a scrubby little undersized bank clerk like myself.

These surmises soon merged into more urgent attention to the road, for its twists and gradients were very baffling in the thick fog. I had travelled as nearly as I could say some five or six miles from the scene of the meeting place, when my loneliness was removed by the sound of a distant exhaust. At first I mistook the sound for the low hoarse call of some moorland bird crying to its mate; but my

My Sensational Christmas.—

motorist's instinct was not long to be deceived, and I presently recognised it for the raucous crackle of a multi-cylinder engine being run rather slowly on the open exhaust.

My mechanical instincts were swiftly alert, and two things puzzled me extremely. The first was the intermittency of the crackling. It came in fits and starts, resembling the dot and carry one of a powerful motor cycle driven on the valve lifter by a timid rider; and one knows that powerful six-cylinder racing cars are not driven in this fashion. At first I thought the engine was missing badly, but careful listening discarded the suggestion; either the engine was being frequently cut out on the switch, or else the cut-out was being opened and closed in truly crazy fashion.

Then again I could form no estimate as to the whereabouts of the mysterious car. I could not decide whether it was behind me or in front of me, overtaking me or approaching me dead on. Offhand I should have guessed that it was on a parallel road not more than 800 feet away, but I knew there was no other road anywhere at hand in this desolate moorland district, and, even if there had been, my ear could not have decided whether the queerly-driven engine was on my right or left.

The Strange Noise Dies Away.

Finally, the sound died away altogether, and I drove on in distinct confusion, wondering whether I had been the victim of some strange hallucination, or whether I had been deluded by some weird multiplex echo. Some peculiar formation of the hills, I finally decided, had caught the beat of my own noisy engine, which had ricocheted back, multiplied five or six times in fainter cadences. I was sharply and unpleasantly aroused from these speculations into stern reality.

Fancying I had the road to myself, I took a corner a trifle faster than I dare have done in summer, and much faster than I ought to have ventured in the fog. The highway curled round to the right, hugging a long shoulder of moss-grown crag, and as I swept round I encountered head-on a gigantic car tearing up the easy slope at over fifty miles an hour. I caught my breath, spied for one frightful second a white, strained face snatching madly at the steering wheel, and then I was past.

On went my Brakes

and I was out of the saddle in a moment. The splendid car—a magnificent Rolls-Royce—in its frenzied swerve to avoid me, had charged the rock wall on my right, and its bows were a crushed mass of bent and splintered metal. All its wheels had been torn clean off by the impact and strain, and it lay drunkenly half over on its side against the wall of rock, its occupants strewn across the road to the left, each in a queer distorted heap. In my distress I barely noticed that its crew consisted of two naval officers and three blue-

jackets. The driver was dead, lying crushed behind the damaged steering wheel. The three tars were spread in the road, struggling to rise, but so badly injured that they had no command of their limbs. The fifth passenger was evidently an elderly officer of exalted rank in his mess tunic, over which a rich fur cloak seemed to have been hastily flung; and, strangest of all, out there on the lonely road lay a bent and buckled machine gun, distorted by its impact with the frozen road.

I pulled out my flask of "Three Star," and bent over the officer, whose head was cut and bleeding, and from whose lips was proceeding a stream of that special profanity of which the navy is credited with the monopoly. But he had his wits about him. "In the King's name, young fellow," he gasped, spitting blood and teeth from his mouth; "never mind us! A — German aeroplane's been over our new naval base at R— while we were at lunch, and has photo-



"As I swept round I encountered head-on a gigantic car. . . . I caught my breath, spied for one frightful second a white, strained face snatching madly at the steering wheel, and then I was past."

graphed all the works. They are heading south towards Edinburgh; tanks must be nearly empty if they've come over the sea; secret stores on the hills seven miles off, probably. After 'em; raise the countryside on them! If they get those plates home, we're done!"

Armed with Service Revolvers.

One of the tars was on his legs by this time, and, thrusting a brace of automatic revolvers into the pockets of my leather coat, he shoved me towards my machine.

"After 'em, sir!" he spluttered, eagerly. "Mark 'em down when they land for petrol. "There's help coming. We were the first car after them. There's lots of help coming along!"

I mounted, getting the engine off first time by a gigantic heave, and, as I roared uphill through the fog

My Sensational Christmas.—

on full spark and throttle, my scattered wits began to collect themselves. The mysterious noise was explained—I ought to have recognised it at once, for I had heard the Gnome engine at Bournemouth during a whole week in the summer.

My strange acquaintance, the N.S.U. rider, was obviously on the look-out for the spying aeroplane, with a supply of petrol and a few spare parts; probably there were other German riders out on the hills, too.

Steering by compass, the aeroplane had slipped quietly across the North Sea in the calm and fog, hoping to achieve a task which precautions render impossible in ordinary weather, and to return to Germany, leaving England unconscious that her closely-guarded naval secrets were common property in Berlin. I am never a timid rider, but, my word! I shirked no risks in that dare-devil sprint through the mist. I drove as if I had Brooklands track to

just below the summit, and lifted my valve. Hiding my machine in the ditch, I ran up the road, keeping close to the wall and stooping furtively. As I approached the plateau, I saw the twin and sidecar just where it had been threequarters of an hour before, but there was no sign of its owner or of the aeroplane.

Lifting my head cautiously, I peered over the wall, and, thinking I heard voices out on the moor, I edged further and further up towards the derelict sidecar. The fog was thick, but as I drew nearer the summit certain indistinct lines, dimly sighted through it, took shape and definiteness. At last all was plain. There lay the huge aeroplane amid the stones which were scattered over the rank brown moor-grass, no longer graceful, but like some crippled dragon-fly, one wing hopelessly buckled by a foul landing. Twenty yards nearer was a stack of petrol cans, and a group of three men, excitedly chattering in German.

One of the men was my acquaintance of the forenoon; the other two, heavily swathed in furs and aviation helmets, were obviously the two intrepid pilots of the damaged aeroplane. Even as I gazed, their plans evidently took shape. One of the aeronauts clambered hurriedly up into the boat-shaped body of his machine, and extracted a small black oblong case; even the fog could not prevent me from recognising a folding camera. He thrust this into the hands of my acquaintance, with emphatic orders and gesticulations.

My friend of the forenoon stowed it hastily in an inside pocket, and, waving a reassuring message to the airmen, turned his back on them, and ran for the sidecar. I kept my head over the wall long enough to see the two airmen disappear into the fog, abandoning their useless plane, and then I lay down in the ditch. I heard the German motor cyclist vault heavily over the wall, haul his machine round with its nose towards Edinburgh, and spend a moment or two, turning on taps no doubt. I occupied the brief interval in pulling out one of the Mauser pistols the sailor had given me, and as soon as the echo of the exhaust broke on the soundless air I slipped back to my own machine, and, with cut-out closed, headed hard after him.

A Stern Chase in the Fog.

The German's machine was being driven fairly fast on the open exhaust, and by keeping my silencer shut I was able to ride within earshot in the fog without his being aware of my proximity. In this way we covered perhaps a couple of miles, and then, with never a hoot from behind, a Prince Henry type of Vauxhall racer drew silently up to my shoulder in the mist. It was manned by naval officers, and the admiral I had already seen was in the rear body. They slowed down, and I gave them all my information without dropping below twenty-five miles an hour. "Hang on to us," said the sporting young lieutenant at the wheel; then bang went his foot down on his accelerator, and we simply fell off the hills into the fog of the valley below. There was some pretty shooting when we caught up my friend with the sidecar. The sailors perforated his back tyre, and mangled his rear frame and mudguards and carrier into bent iron work with revolver bullets, before he stopped, and then he only stopped because a



"The fog was thick. . . . There lay the huge aeroplane . . . no longer graceful, but like some crippled dragon fly, one wing hopelessly buckled by a foul landing."

myself for an hour record, and a strange exultation glowed in me as I saw that I, who pass for a dull humdrum clerk in City circles, had a distinct chance of dying for my country, and of making my name famous wherever the British National Anthem is sung.

The faithful speedometer told me when five miles of the return journey towards the ridge-summit had been covered, and I thought it wise to close my cut-out, so that I might approach the summit silently if the giant plane had sunk to rest on the top of the moor.

Spying out the German Aeroplane.

The dial on my handle-bar registered the sixth mile from the point where I had left the disabled car, and then it began to tick off the tenths of the seventh and last mile. I recognised the sharp corner

My Sensational Christmas.—

broken chain stay and a flat tyre sent him swerving into the ditch. The bluejackets were on him in an instant like tiger cats, and his camera was waved aloft in triumph. They had the spy lashed up like a mummy in two minutes, and when another car came up he was sent back in it to R—to await his trial.

I never heard his fate, and only know that this aspect of the affair, like many secret service matters, never got into the papers. For myself, I can only add that the admiral and the young officers on the Vauxhall stood me a royal feed at the Carlton in Edinburgh that night, and made me swear to keep my mouth shut—a promise from which I have only just obtained a partial release.

How I kept the Secret.

When I reappeared at the office, I answered queries as to what sort of Christmas I'd spent with a grumpy reticence, and my fellow clerks have no notion that I am the man who saved England.

Perhaps the sternest test I faced over the matter was when all London was mystified by certain newspaper paragraphs early last January, referring to a bad motor smash in which certain naval officers were involved, and to the towing of a damaged aeroplane into Edinburgh for repairs. I think both were commonly ascribed to over-indulgence in the wassail bowl; I know the son of a Scotch cotton millionaire was freely accused of taking his initial flight on a racing Blériot when overfull of champagne. But I managed to hold my tongue through it all. X.Y.Z.

OCCASIONAL COMMENTS.

By "IXION."

Tricars and Light Cars.

A correspondent of *The Scotsman* remarks that he was unfavourably impressed with the three-wheeled carrettes exhibited at Olympia. His criticism consists of vague generalities, but, when analysed, resolves itself into two assertions:

1. Carrette designers proceed on the assumption that small car design is all wrong, and attempt to improve on it.

2. The ideal of a cheap, light, *fast* motor is impracticable.

The first of these contentions is ridiculous nonsense. Nobody questions the fact that a 6 h.p. Rover, to mention an actual sample, is about as fine a compromise as is possible, considering the nature of the demand which has to be met, and the sum of money available for the purpose. The carrette designer faces a demand for a much speedier vehicle at less than two-thirds of the price. He does not criticise small car design; it does not affect him any more than aeroplane design. He is faced by a totally distinct proposition.

As regards his second contention, our gloomy critic has a better case. For five years past the trade has been endeavouring to produce a carrette to sell at £85 or so, which shall be as reliable and as economical in unkeep as a 6 h.p. car, besides being 30% faster and weighing about half as much. It cannot be pretended that the trade has as yet solved this problem. Scores of designs have been marketed and sold, but up-to-date none of them has established a very eminent position.

This year, among others, the Morgan runabouts, the A.C. sociables, and various sidecar outfits sold in tolerable numbers, without any single pattern achieving the popularity of a first grade motor bicycle.

Personally, I regard these compromise vehicles as being less fully evolved than the motor bicycle or the small car, but I see no reason why the fittest should not survive and secure a wide and remunerative niche in our market. It is some years since I owned a sample of the type in question, but four years ago two or three outstanding representatives were full of promise and well worthy of perseverance.

A slight addition of reliability, and a slight reduction of running costs (and especially of tyre costs), should enable them to hold their own against the second-

hand and new small cars. Hence, I think *The Scotsman's* correspondent may have to eat his words in the near future.

Bowden Wires and their Fitting.

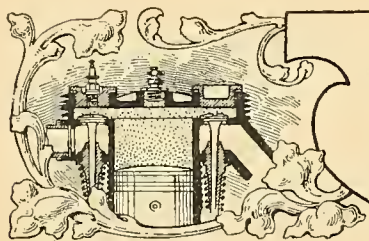
My note on the need of more accurate fitting of Bowden wires has provoked a number of letters, and I should like to emphasise one fact in particular, viz., that whenever a Bowden wire is fitted without a screwed adjuster, its omission is contrary to the Bowden Co.'s instructions. It is impossible to construct either a flexible casing or an internal stranded wire which shall be absolutely inextensible. For instance, whenever the wire is taken round a sharp curve the casing is bound to "gape" a little; its coiled threads separate a trifle, and so the relative lengths of casing and wire are affected, and adjustment immediately becomes essential.

Many riders fancy that the warning against sharp bends in the control is directed against breakage, and when they find the casing does not snap they grow callous about these bends, and twist the control in and out anyhow. The warning is based on the fact that the coils of the casing gape, and the strands of the inner wire bed down differently, around such bends. Control wires that are laid straight or led round easy curves of big radius seldom require adjusting. In addition, the licensees of Bowden Wire, Ltd., are not always fair to the devices they fit. The crucial points of the fitting are three in number, viz.:

1. The proper soldering of the nipples.
2. The inclusion of an adjuster.
3. Exactness in cutting wire and casing of the correct relative or proportional lengths.

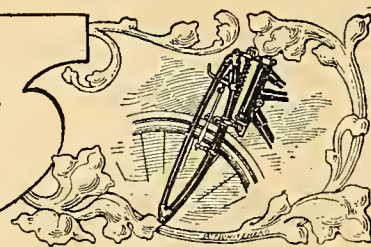
These requirements suggest that each factory should have one man or more whose sole duty it shall be to fit, repair, and oversee control wires.

Some makers appear to think that any jugglers armed with a pair of cutting shears and a soldering iron can be trusted with Bowden wires. As a consequence, machines are assembled with the wire and casing of incorrect relative lengths. The tester takes out the completed machine, and has to let out half the adjustment to get the wires to work. The machine comes back, and in many instances the maladjustment is not reported, and the machine is sent out to a luckless customer with only half the adjustment range available.



Lubrication Systems.

Some Examples of Current Practice
on Motor Cycles.



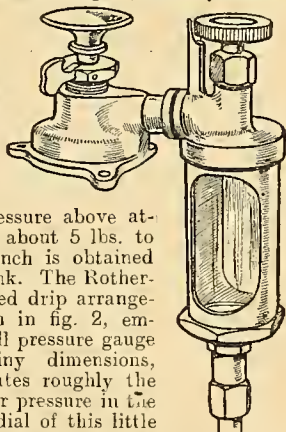
(Continued from page 1365.)

Types of Sight-feed Oilers.

Fig. 1 represents the Best and Lloyd drip feed lubricator, which is used to give constant feed on a large number of machines in which the lubrication system is otherwise ordinary splash. The device consists of a pump with a spring behind the plunger, so that oil is gradually forced through an adjustable drip, giving a visible feed. The pump is contained in an oil tank, on the top of which it is screwed, and differs from the ordinary pump in having its plunger inverted so that it is filled by pressing the rod down instead of, as is more usual, pulling it up. The thumb nut, which operates the needle valve is fitted with a spring ratchet, which enables it to be locked in any position. Also the sight feed can be set at any angle so as to be easily visible to the rider, which is certainly a great convenience.

The Rotherham constant feed lubricator achieves much the same end, though in a different manner. This latter device is shown in figs. 2 and 3, and consists of a drip feed through which oil is driven by pressure. Let into the oil tank is an air pump with an ordinary non-return valve, as shown in fig. 3, and by means

Fig. 1.—Best and Lloyd drip-feed pump.



of this a pressure above atmosphere of about 5 lbs. to the square inch is obtained inside the tank. The Rotherham sight-feed drip arrangement, shown in fig. 2, embodies a small pressure gauge of quite tiny dimensions, which indicates roughly the amount of air pressure in the tank. The dial of this little gauge is marked in three points, and indicates when the pressure is right off, when it is half on, and when it is full on. The drip feed is of the usual visible type, and is furnished with a horizontal needle valve for fine adjustment. The feed pipe is taken through the tank so that the drip feed device is protected from the ill effects of a fall by being on the top of the tank and not at the side. It will be realised that, owing to the comparatively small displacement of oil in the tank, the original pressure is, if there be no leaks, maintained for a considerable time; or, at all events, there is sufficient pressure to maintain a fairly constant flow.

Inspection Windows.

On the F.N. four-cylinder machines the lubrication is of the usual splash type, the feed being by means of a spring-propelled

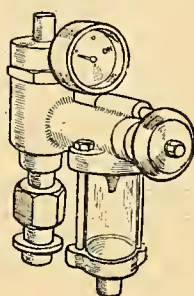


Fig. 2.—Rotherham adjustable drip-feed and gauge.



Fig. 3.—Rotherham pressure pump.

pump, through the piston rod of which passes a milled-headed adjusting screw. There is no visible drip on the pump itself, but the feed pipe is, when it reaches the engine, branched out into four pipes which enter the crank chamber immediately in front of the series of inspection windows, of which there is one for each cylinder. The flow of oil can, therefore, easily be inspected, though not, of course, while the machine is running.

Fig. 4 is a sketch of the F.N. window in the side of the crank chamber, and shows the situation of the oil pipe which enters from below.

On the Douglas machines the device shown in fig. 5 is used. The inclined hand pump has a spring plunger which forces oil through the adjustable and visible drip feed to the crank chamber through a pipe which passes through the oil tank. The plunger has a cut-off valve and the handle of the rod has to be turned through about a right angle to give the two different positions, viz., for pumping oil from the tank and feeding

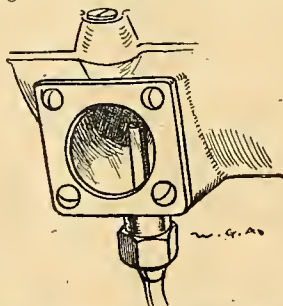


Fig. 4.—One of the F.N. crank case windows and feed pipes.

it to the drip. A very good point is that the drip feed can easily be seen whatever the rider's position may be.

An Unusual Method.

The A.C. Sociable has its lubrication device arranged on a quite individual plan, although in this case again lubrication is by splash method, the feed being by constant drip under pressure of gravity. Fig. 6 shows a section of the rear end of the crank chamber, which is cast in one with a box which forms an oil vessel holding a considerable amount of lubricant. The division between the crank chamber and the oil container is a wall which is open at the top. As shown in the section, there is a plunger working inside a tube and uncovering the port which admits oil from the container into the crank chamber proper. This plunger adjustment is made at the works, and should never require any alteration. A simple means, however, is provided whereby additional lubricant can be supplied when necessary. The plunger is carried by a rod working against a spring, and upon pressing a

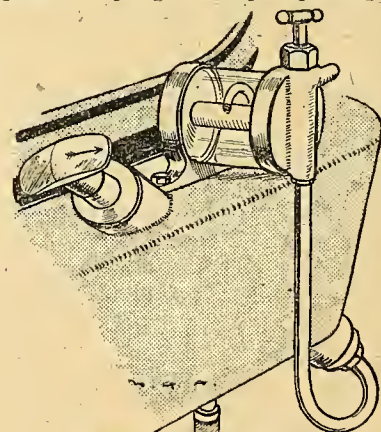
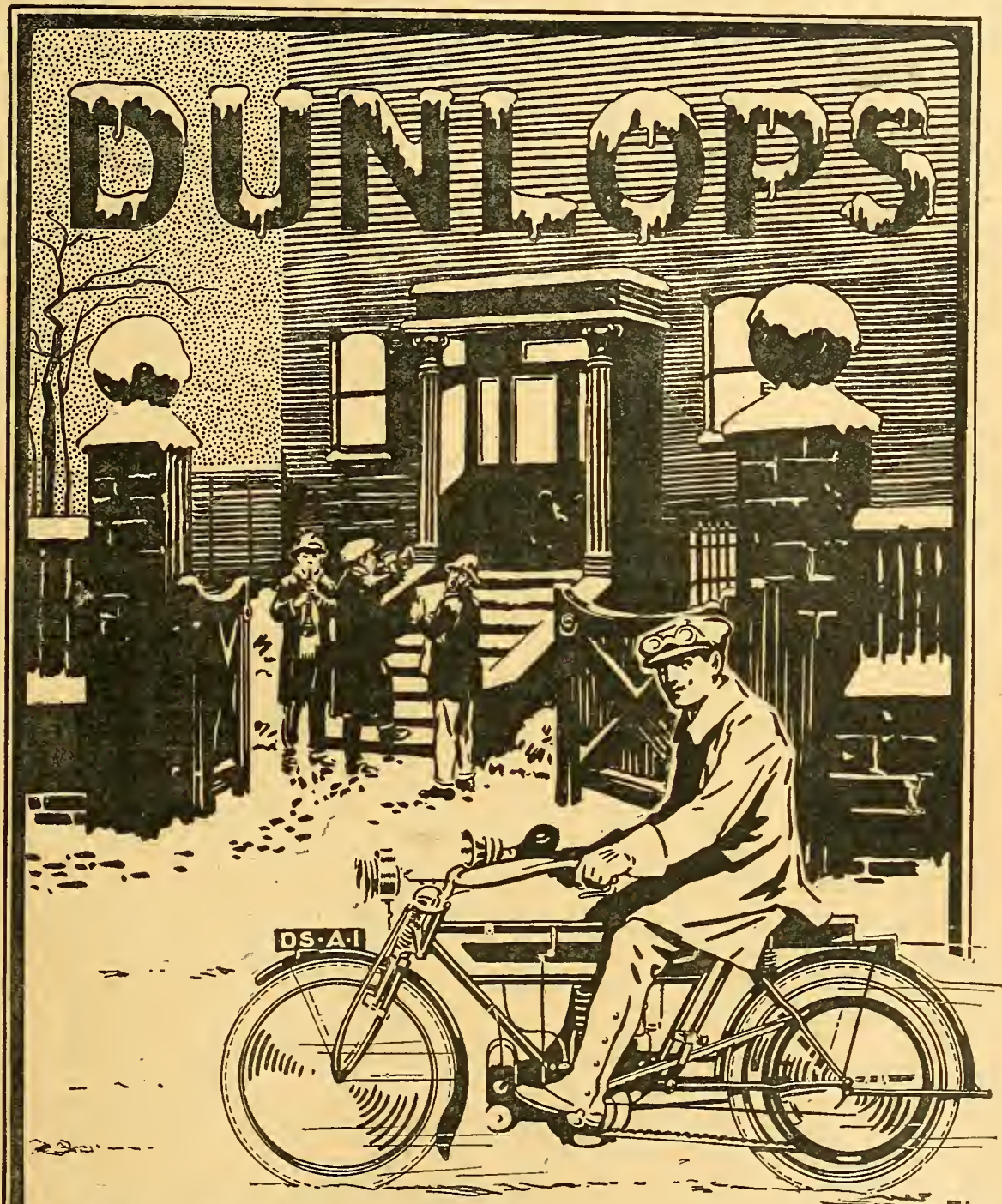


Fig. 5.—Sight-feed drip on the Douglas.

small pedal the driver can cause this rod to be depressed, so that the position of the plunger, relative to the outlet hole, is altered, and a much larger feed of oil can be given. An ingenious precaution is taken to prevent over-lubrication. The connecting rod carries a scoop on its end which serves not only to direct oil to the big end bearing, but also clears any excess of oil out of the crank chamber by throwing it over the partition wall into the oil container again. This system works extremely well, and is certainly commendable for its extreme simplicity, and—to a limited extent—its automatism.

An automatic oil feed is fitted on the Rex machines, fig. 7 showing the device used. This has a hand-adjustment, and



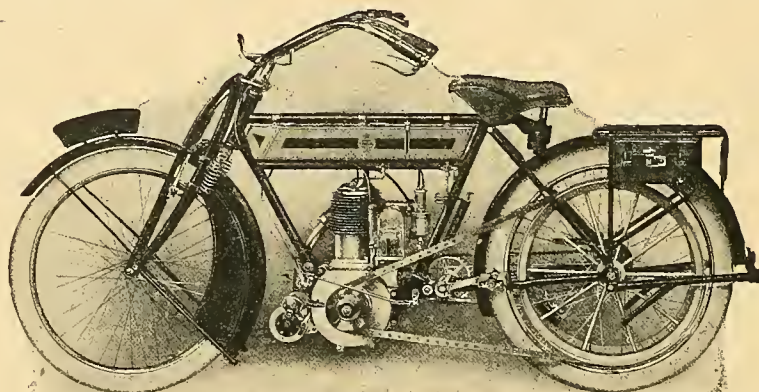
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Lubrication Systems.—

is worked by the vacuum in the crank chamber upon the exhaust and compression strokes of the engine. In addition to splash, oil vapour is conveyed into the combustion chamber by means of a pipe

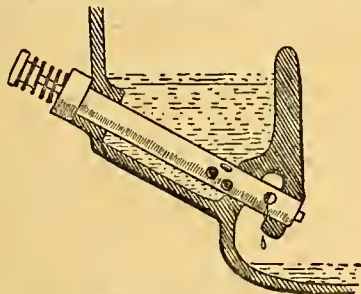


Fig. 6.—A.C. sump and oil vessel with plunger feed.

which connects the crank chamber to the inlet port. A certain amount of oily vapour is thus drawn in with the charge, and distributed over the cylinder walls.

Excelsior Lubrication.

The new Excelsior engine is provided with an improved system of splash lubrication which should prove very effective. The oil feed from a Best and Lloyd visible drip pump is branched into two pipes, one of which goes directly to the crank chamber, whilst the other is taken to a small lug cast on to the side of the cylinder, as shown in fig. 8, and opening into a port which comes exactly opposite the hollow gudgeon pin when the piston is at the bottom of its stroke. Oil is therefore fed not only to the walls of the piston, but also directly to the gudgeon pin bearing. The other branch pipe is taken to the timing gear case, after leaving which the oil runs on to the main crankshaft bearing, and passes thence inwards to a recess turned in the side of the flywheel, as shown in fig. 9. From this depression oil flows to the crank pin along a

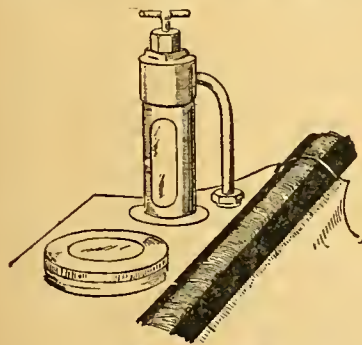


Fig. 7.—Rex sight feed lubricator.

diagonal hole drilled in the crank pin itself to the centre of the big end bearing, being expedited by the action of centrifugal force. Excess of oil from both sources drips into the base of the crank chamber, whence it is sprayed on to the cylinder walls by the connecting rod in the usual way. It should be noted, however, that this lubrication system would operate with practically no oil in the crank chamber at all.

The above is somewhat similar to the system employed in the Blumfield engines. In this case the oil is admitted directly to the timing gear case, whence it passes into the crank chamber through the main bearing bush, the crankshaft having a helical groove cut in it. Additional holes for its passage are drilled in the bush housing, and allow the oil to pass to an undercut annular ring turned in the flywheel, from which centrifugal force propels oil into the hollow crank pin, and so to the big end bearing. In the wall between the timing gear case and the crank chamber proper a large hole is pierced which allows a considerable quantity of the lubricant picked up by the flywheel rims to return to the timing case.

The Combined Method.

One of the most ingenious automatic systems is that on the Scott machine, there being also an auxiliary direct hand pump feed. This hand pump is shown in parts in fig. 10, and consists primarily of an ordinary double-acting plunger pump. The spindle carries a small pin, for the passage of which a nick is cut in the pump cap, and when the pump is not being used for hand operation, the aforesaid pin lies under the cap and keeps the pump plunger down. At the base of the pump

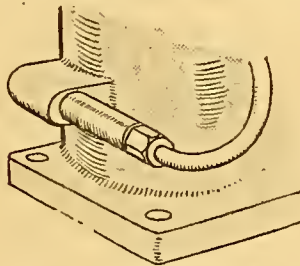


Fig. 8.—Cylinder oil port of 3 1/2 h.p. Excelsior.

is a small mushroom valve kept on its seat by a spring. This little valve is shown enlarged in the sketch, and is secured in position by the cylindrical filter which screws on to the base of the pump. It allows oil to be delivered to each crank chamber through the two branch pipes shown. Adjustment of this needle valve is accomplished very ingeniously. The pump spindle is extended downwards with a rod that just touches the head of the mushroom valve spindle. The cap of the pump is screwed to the cylinder and is provided with a small folding thumb lever, by means of which it can be screwed a short distance up or down. In thus moving, the pump cap carries with it the

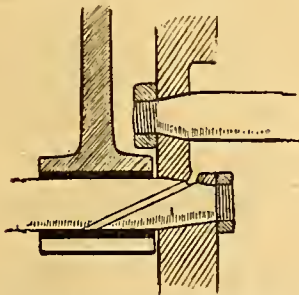


Fig. 9.—Arrangement of drilled crank pin and recess in flywheel of Excelsior engine.

plunger rod, and therefore brings about an adjustment in the opening of the mushroom valve. It will be seen that the latter in no way interferes with the use of the pump in the ordinary way. The feed, however, is nominally carried out automatically, in this manner: The engine draws its charge of gas into the crank chamber, but before the ports for this purpose open there is a slight suction inside the crank chamber which is used to draw in a charge of oil. A special packing ring is fitted to maintain a gas-tight joint in the crankshaft bearing, and this has a flat face which is pressed against the side of the outer race carrying the main roller bearings. The packing ring rotates with the crankshaft, and is held up to its work by a spring, as shown in fig. 11. In the face of the roller bearing race is a hole, opposite which, once in every revolution, comes a nick in the packing ring, thus throwing the hole open to the suction of the crank chamber. This hole is in direct communication with the oil feed pipe, and thus at every revolution a small quantity of oil is drawn into the crank chamber.

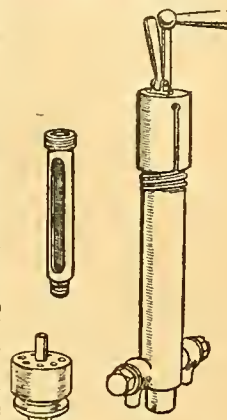


Fig. 10.—Hand pump and adjustable valve on the Scott engine.

Another Two-stroke Lubrication.

On the Levis two-stroke machines care has been taken to keep the crank chamber

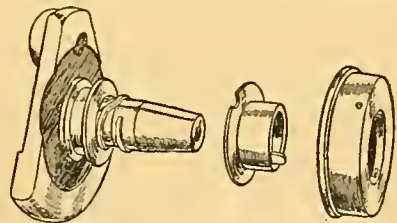


Fig. 11.—Scott lubricating device.

as clear as possible from oil, this resulting in a clean mixture and considerable freedom from overheating, to which most air-cooled, two-stroke engines are admittedly somewhat subject. Oil from an adjustable gravity drip feed is taken to the side of the cylinder, where it passes through a port which comes opposite the gudgeon pin at about half-stroke. The gudgeon pin is hollow, and conducts the oil to its bearings. Most of the oil, of course, feeds to the sides of the piston and cylinder walls. The excess of lubrication from this source, however, does not fall down into the crank chamber, but is arrested by a groove or gutter machined in the baffle between the cylinder and the crank chamber. This gutter collects all the oil that drips from, or is thrown off, the piston, and takes it to the main bearing on the open side of the engine, whence it flows through the hollow crankshaft to the other main bearing, and also to the big end.

Lubrication Systems.—

Mechanical Lubrication.

On four machines shown at Olympia a mechanical feed was fitted. The arrangement on the Indian is already well known. In addition to an auxiliary hand pump there is a worm-driven, direct-acting plunger pump driven from the crankshaft, which draws oil from the tank and delivers it through two branches, at the union of which is an adjustable needle valve. A prime adjustment of the feed is also provided by altering the throw of the mechanical pump. One of these branches proceeds to the timing gear case, whence oil flows into the crank case and is splashed in the usual way. The other branch is taken direct to a port on the back wall of the front cylinder. The whole arrangement is very simple and reliable, and the adjustment such as gives very wide limits to the oil feeds either to the front cylinder or to the crank case.

In the Veloce engine, which was certainly one of the best designed little units to be seen at Olympia, the lubrication system was extremely complete. The rotary oil pump used on this engine is shown in fig. 12, and is carried on an extension of the magneto timing wheel. This pump is of the double-bladed eccentric type, and throws a very large volume of oil, which it draws from a deep sump under the

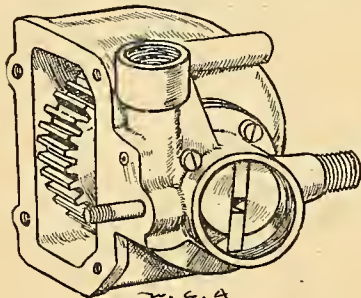


Fig. 12.—Oil pump of Veloce engine.

crank chamber, the feed pipe for this purpose being fitted below a large filter. The oil is then delivered to an indicator, which consists of a small piston, the rod of which is taken vertically upwards and extended above the petrol tank, thus forming an effective tell-tale. At the same time, this plunger acts as a safety release, for as soon as a certain pressure is reached the plunger passes a hole cut in the side of its guide, and through this hole oil is directly returned into the sump. Under normal conditions this hole is closed by the indicator plunger, and in these circumstances oil is forced through a duct drilled in the side of the crank chamber to the main gearshaft, which also acts as the camshaft. This gearshaft is hollow, and is drilled transversely so that the gear clutches, pinions, and cams are effectively lubricated, whilst a hole in the cam is so arranged that oil is sprayed therefrom and is collected by a scoop fixed to the end of the connecting rod, thus lubricating the big end and also, by splash, the cylinder walls and the gudgeon pin. The sump in the base of the crank chamber is of sufficient capacity to do away with the necessity for an oil tank, and it is furnished with a glass window through which the height of oil therein can be seen. The gear box is

contained within a casing separate from the crank chamber, which is kept always supplied with oil, so that the gear pinions and clutches run in an oil bath.

A New Machine.

The W.D. motor cycle, which made its first public appearance at the Show, is furnished with a very complete forced feed system which operates as follows:

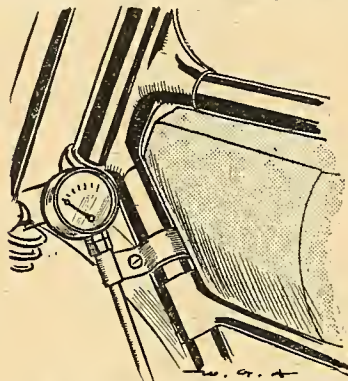


Fig. 13.—The W.D. oil pressure gauge.

The crank chamber is cast in one with a large oil sump holding sufficient for about 200 miles. In the base of this sump is an Albany type pump, which is driven by skew gearing from an extension of the timing pinions. From this pump oil, after passing through a filter, proceeds to an adjustable regulator fitted with a by-pass valve, so that the feed of oil to the various bearings can be adjusted with great nicety. From this point the oil is directed through leads drilled in the crank chamber walls to the two main bearings of the crankshaft. One of the crankshaft halves is hollow and is furnished with a duct communicating with the big end bearing, the crank pin being also drilled. The connecting rod, instead of being hollow, is fitted with a pipe which effects a connection between the big end and the gudgeon pin bearings. On the pulley side of the engine leakage of oil from the crankshaft bearing is prevented by an oil ring which collects any excess of lubricant and throws it into a gutter, whence it is free to return to the sump. After leaving the gudgeon pin the oil falls on to the flywheels, and is thrown on to the cylinder walls, but not by the ordinary splash system, as the flywheels are well above the oil level of the sump. An auxiliary oil tank is carried behind the saddle tube, and is fitted with a pump by means of which the sump can be replenished.

On the Wooler two-stroke engine the

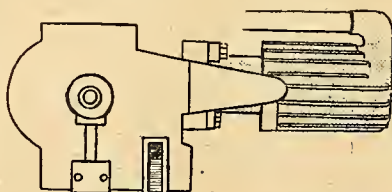


Fig. 14.—Arrangement of oil pump and sump window on the Wooler engine.

lubrication system is as follows: A direct acting plunger pump is screwed to the side of the crank chamber, and is worked by a cam on the crankshaft. This pump

draws its oil from a deep sump forming the bottom of the crank chamber, and forces it through ducts cast in the crank chamber walls to the piston and the hollow gudgeon pin, which, contrary to usual practice, is loose in the piston, and is made fast with the ends of the forked connecting rods. Another branch of the main oil pipe is led to such a position that it discharges oil directly on to the big end, when the piston is at its rearmost dead centre. The big end is cast with a cup which collects this oil and ensures its getting to the crank pin.

The Puch machine has its lubrication arrangements on similar lines to those on the Indian. A direct acting plunger pump draws from the tank and delivers to the crank chamber in which there is a circular window so that the level of the oil can easily be seen. This oil pump is driven by a worm gear formed on an extension of the skew gear driven camshaft, which also drives the magneto and forms a very compact and interesting mechanism, as shown in the sketch (fig. 15).

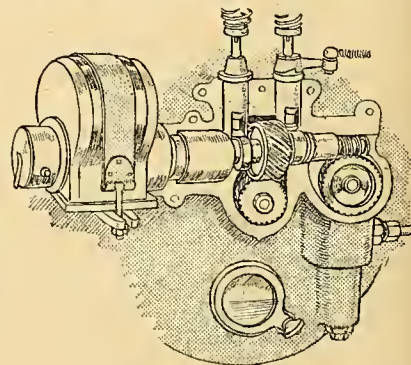


Fig. 15.—Puch mechanical oil pump.

NEXT WEEK'S WINTER TRIALS.

Competitions arranged for next week are almost as numerous as during the summer months. The programme is as follows:

Tuesday and Wednesday, December 26th and 27th.—The M.C.C. winter reliability run to Exeter and back, starting from the Bulstrode Hotel, adjoining Heston-Hounslow Station, at 7 p.m.

Wednesday, December 27th.—The Birmingham M.C.C. open reliability trial to York and back, starting from Corporation Street, Birmingham, at 9 a.m.

Wednesday, December 27th.—Sheffield and Hallamshire M.C. run to Bridlington and back, starting from the Town Hall, Sheffield, on Tuesday at midnight.

Wednesday, December 27th.—Harrogate and District M.C.C. trial over the Spring Quarterly Trials course (146 miles).

Saturday, December 30th.—The North West London M.C.C. open twelve hours' reliability run to Gloucester and back, starting from Jack Straw's Castle, Hampstead Heath, at 7.15 a.m.

Saturday, December 30th.—Coventry and Warwickshire M.C. run to Dunchurch, starting from the railway bridge, London Road, at 3 p.m.

Letters To the Editor



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Saddles and Side-slip.

[6153].—In discussing the prevention of side-slipping it is often pointed out that wide handle-bars give the rider increased power to hold up his machine on greasy roads. In my opinion the breadth and lateral rigidity of saddles has also a marked influence in this direction. It should be a simple matter to hinge the front end of the saddle in a manner that would prevent twisting.

B. GRIMWOOD.

Are Provincial Shows Wanted?

[6154].—I was glad to see letter No. 6090, and, like many hundreds more, would welcome a Show in the North.

There are many who, even if they could afford the ordinary return fare to London, could not get away for the time necessary to see the Olympia Show. The only excursion from St. Helens was a two-day one, leaving early on Monday morning, and that was not even advertised by the railway company.

There are enough interested people in Liverpool and Manchester alone to make a success of a show, but if held in Manchester it would be more available for the Eastern Counties.

LANCASTRIAN.

[6155].—Why cannot manufacturers see their way to hold a show of motor cycles in the North? I feel sure it would prove profitable to them, despite its expense. If it pays car manufacturers to hold a show in Manchester, it should doubly pay motor cycle makers, for as a body motor cyclists are not so wealthy nor have as much time as those who own cars. There are thousands in the North who had no possible chance of attending the Show at Olympia. I saw in your valuable paper that quite a number of firms were crushed out at Olympia for want of space. I feel sure that if manufacturers would only give it a trial—if only once—they would find the results astonishing. Though one hears of about six or seven firms being booked up for next season, this is all the better—there is a chance for others, who I wish would try and get us a show up in the North.

C. B. ROBINSON.

Straying Cattle.

[6156].—The short paragraph in last week's issue on the straying cattle problem reminds me of a method I put to the test a few weeks ago, and I feel sure if other motor cyclists try the same remedy for straying horses they will get much more satisfaction than any they are likely to squeeze out of the High Court.

Of course, down here (Devonshire) we get a lot of strange stragglers on the high road, and one afternoon I was stopped on a hill by two horses, evidently dissatisfied with the pastures allotted them. However, by the time I had started again, and on the first few explosions of the engine, the horses tore on ahead.

Being rather sick of my enforced halt, I gathered up speed, and kept them at it until we came to a side road, which luckily they took.

Those horses were left at least six miles from where they started, a farewell "honk" on the exhaust whistle sending them on a Devonshire lane.

I hope the owner enjoyed his walk. He does not seem to be desirous of taking any more exercise, for when I last passed the horses they were standing the other side of a 5ft. barbed wire fence. Good luck to him!

[We cannot altogether approve of this method, as damage might be done to a valuable horse for which motorists could be held responsible.—Ed.]

Winter Mudguarding.

[6157].—May I beg a little space in your columns to reply to "M.D." [letter 6151]. In the first place "M.D." makes a general statement that the present motor cycle cannot be ridden for ten minutes without making its rider covered with mud. He next says that he rides his machine all weathers, but has to wear so-called petticoats to keep clean. Finally, he complains of belt slipping. The first two statements I can answer in one reply. I have ridden a motor cycle for several years, but for the last two I have owned a Scott. This machine is so efficiently guarded that I ride in all kinds of weather with absolutely no extra motor clothing on except a top coat. My boots and trouser ends seldom get more than a few spots of mud, which can be brushed off one's boots on a door mat, leaving the rider clean enough for an afternoon tea party. The third complaint is simple to answer. The Scott machines have a well-guarded chain drive.

"M.D." then gives a definition of a motor cycle up to his ideals. Might I ask if he attended the Show? Again, might I ask if he saw the Scott? MUDGUARDED.

Pillion Seats.

[6158].—Being an interested reader of your valuable journal, and noticing recent photographs of married couples who cycle, I am sending photograph of how my fiancée and myself ride about on my 1911 F.E. Triumph. I have a neat seat fitted with footboard on the carrier with rail fitted round, which makes a very comfortable seat, and it is really surprising how the little machine will travel with



our combined twenty-two stones up. I use this machine for business and pleasure in all weathers, and as I am a traveller it gets many a gruelling. The F.E. clutch I find a great help and simply perfect in action.

TOM SNOOK.

Space at the Show.

[6159].—A correspondent in your last issue, signing himself "An Intending Exhibitor," complains of the amount of room occupied at the Olympia Show by the offices of big manufacturers, and of the size of their stands. There is, no doubt, a good deal of truth in what he says. But what seems to me even more unjustifiable is the fact that valuable space is allotted to certain vendors of goods which have nothing to do with a motor cycle show.

(REV.) F. R. J. EASTON.

[We understand that the spaces referred to were let on the understanding that motor cycle or cycle goods were to be exhibited, and we are led to believe that the same sort of thing will not occur again.—Ed.]

Proposed Abolition of the Cut-out.

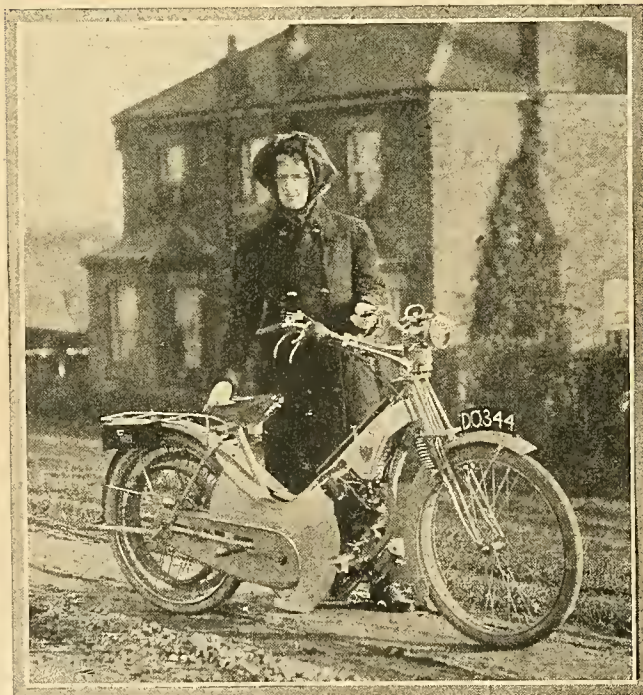
[6160].—With regard to the question of silencers and cut-outs, it seems to be taken as a foregone conclusion that a silencer which is sufficiently closed up to render the machine really quiet must necessarily affect its efficiency. Whilst it is not a question entirely of size, there is no doubt that the majority of machines on the road to-day are fitted with silencers which are very much too small for the power of the engine, and therefore cut-outs are necessary. The cut-out is, however, undoubtedly the cause of the prejudice with which the average person regards the motor cycle, and there is not the slightest reason why a machine should not be equipped with a silencer which renders the machine unobjectionable to other users of the road without in any way impairing its efficiency.

Although we have been manufacturing motor cycles for eleven years, we have never yet supplied a machine to the public, fitted with a cut-out, and we have many instances of machines being driven both with and without sidecars for twenty miles on a 9 to 1 gear without the slightest symptoms of overheating.

PHELON AND MOORE, LTD.

Ladies and the Motor Cycle.

[6161].—I enclose photograph of myself and my 2 h.p. Moto-Réve. I am the only lady motor cyclist in this district, though I believe there is one other in Lincolnshire. I began motor cycling last May, and enjoy it immensely. I have ridden many miles, but have never seen another lady motor



cyclist, though I have no doubt many more will join the ranks before another season. If only they knew how simple it was!
Sutton Bridge, Lincs. (Miss) AGNES S. HOBSON.

Multi-pole Sparking Plugs.

[6162].—With reference to the letter [No. 6139] signed E. P. Thomas, in your last issue, the suggestion he makes is a perfectly feasible one, and a double-pole plug can be made with parallel poles as shown by his diagram, but in order to obtain sufficient insulation between the two poles it is, unfortunately, impossible to construct such a plug to fit the ordinary standard plug thread.

In your footnote to Mr. Thomas's letter you mention the possibility of using a double spark magneto, but there is really no need to go to the expense of this, as precisely the same result can be obtained with an ordinary magneto and a double-pole plug. We have on the market a well-known patent double-pole plug which is used in exactly the same way as your correspondent describes, two sparks being obtained at precisely the same moment at two different places in the cylinder from the one magneto. The insulation difficulty is overcome by utilising pole pieces and insulators of concentric construction; and thus the Lodge double-pole plug is made with the ordinary standard plug thread, and fits every engine.

LODGE BROS. AND CO.

[The Lodge system was described and illustrated on March 14th, 1910.—Ed.]

Single-cylinder Machines and Sidecars.

[6163].—"T. 1,111" has read more into my editorially-abbreviated letter than I intended. What I inferred was that a $3\frac{1}{2}$ h.p. (so called) is not nearly as satisfactory for sidecar work as a good 5-6 h.p. twin. The $3\frac{1}{2}$ h.p. cannot possibly be equal. If geared "up" to equal speed, it cannot climb equally. If geared "down" to climb equally, it cannot equal speed.

Put the twin in the hands of the ultra-expert $3\frac{1}{2}$ h.p. man, and he could of course easily beat his own $3\frac{1}{2}$ h.p. performances. Hill-climbing is a question of work, power, time, and resolves mainly into one of gear ratio. Sutton Bank has been climbed by $3\frac{1}{2}$ h.p. with sidecar and passenger, and could be climbed by $1\frac{1}{2}$ h.p. with sidecar and passenger if geared low enough.

Re route 746. I certainly do not think the average $3\frac{1}{2}$ h.p. capable of traversing the route with sidecar and passenger, even on a much lower than ordinary touring gear. On the other hand, I by no means say the route is an impossible one. However, if "T. 1,111" or others are going that way I should be most pleased to accompany them, and hope they will drop me a line c/o. the Editor.

H.P.B.

M.C.C. Winter Run.

[6164].—As there was a considerable amount of unnecessary inconvenience caused to many taking part in this run last year may I address a few remarks to those who are competing this year. First, with reference to the night portion of the ride. It is very disconcerting to have another competitor riding close up behind, especially if his lamp is a very powerful one. Apart from this, there is considerable danger to both in case the front rider suffers a skid. If you are overtaking another competitor and wish to pass do so as soon as possible, but do not attempt it when negotiating curves. After passing keep on at the same pace as when overtaking; at least until you have a substantial lead. There is only one thing as bad as riding on a man's back wheel, and that is to keep just in front of him.

Will the drivers of sidecars please remember that the solo riders have a rough time of it in grease? It is up to them to give as much room as possible and not cut in immediately after passing, as was so frequently done last year.

If you have to do anything to the machine, get it right off the road and do not turn the machine round so that the light shines in the faces of approaching competitors.

At the controls at Salisbury and Exeter the early starters should turn their machines round and keep them near the entrance, to avoid having to back out through the later arrivals.

Lastly, study the route cards and map carefully, and with these few hints things should run a good deal smoother than they did last year. Don't ride fast where loose stones are about.

HAROLD KARSLAKE.

Sunrising Hill and $3\frac{1}{2}$ h.p. Sidecars.

[6165].—Re "Observant's" letter in last week's issue with regard to the above.

As an eye witness I can vouch for the fact that H. G. Dixon, driving a $3\frac{1}{2}$ h.p. New Hudson and sidecar, ascended

Sunrising Hill in the recent Midland trial on the second round unaided, but he walked alongside the machine for the last 100 yards on the first round. Dixon was No. 25, and followed me round, and as I, unfortunately, failed both times I was stuck near the top and saw him pass.

S. RODWAY, No. 21.

[6166.]-For the information of "Observant" [letter 6146], it was on the occasion of the P. J. Evans trophy that I climbed Sunrising Hill with my $3\frac{1}{2}$ h.p. three-speed New Hudson and sidecar with passenger.

I believe Mr. P. J. Evans, the donor of the trophy, was observing at the hairpin corner, and Mr. G. Bell at the top, whilst Mr. K. Clark, one of the competitors, rode up the hill with me.

It is a pity "Observant" was only observing the first ascent of the hill, when, it is true, I failed near the top, owing to a partially choked jet, but perhaps he was like the gentleman in the song, "Afraid to go home in the dark," so did not witness the second ascent after tea.

If he is still doubtful, I should be very pleased to make a small sporting wager that I could repeat the performance.

H. G. DIXON.

Waterproof Motor Cycle Clothing.

[6167.]-I read with interest your footnote to letter No. 6144, and willingly bear with you in your statement that competition riders generally don an oilskin when in for a soaking, and no wonder. I have ridden in a pouring rain (more or less) from 7.30 a.m. to 9.30 p.m. not with an oilskin new for the ride but with one that I had used for wild-fowling the previous winter, and anyone who goes in for that kind of sport will know the test waterproof clothing has. As to the proofing chipping off, oilskins do not do that now, as they are not made sticky, but are soft and pliable, and sold in any shade.

AB 275.

[6168.]-With reference to letter No. 6144, I quite endorse your remarks about rubber-proofed material becoming sodden after continuous rain. I am an ardent motor cyclist, and am wearing a suit which has no rubber in it, and I have found it takes a lot of rain to go through it.

Another advantage is that I can dry it before a fire in about ten minutes. You cannot do this with a rubber-proofed suit. Another point is that the material is porous, and therefore quite healthy to wear. Motor cyclists use their overalls in wet or fine weather, and therefore want something suitable for both. When you are walking or starting a motor cycle you are apt to catch the overall (at the fastening) on the footrest, and with a rubber-proofed garment it is ripped to the top in a second, but with the cloth I am using I find it only pulls the studs undone.

IT 49.

Will the Ultra-lightweight Return?

[6169.]-Mr. Roy Walker in your issue of November 23rd gave it as his opinion that an ultra-lightweight would not be worth riding if made. If by riding he means riding at an average speed of twenty miles per hour he is, probably, correct, but if one be content to average twelve miles per hour then the machine would be as well worth riding as the push-cycle is.

My specification for such a machine would be: strong roadster frame, such as the Rudge-Whitworth de Luxe roadster, 1 $\frac{1}{2}$ in. tandem tyres, engine developing 1 h.p. actual, chain drive using largest size push-cycle chains, Sturmey-Archer three-speed gear. Probably, the push-cycle gear, which is amply strong enough for tandem work, would be suitable. The gears, with ratios 8, 10, and 13 $\frac{1}{2}$ to 1, would give, using 28 in. wheels, and with engine speed 1,500 revs. per minute, speeds of sixteen, twelve and a half, and nine miles per hour.

It would be interesting if the Sturmey-Archer Company could tell us if their push-cycle gear would stand up to the work; the gear would have to be made without a free-wheel, or a special starting gear like that used on the early Humber machines, would be required.

J. HART-SMITH.

[Sturmey-Archer Gears, Ltd., evidently do not consider their push-cycle gear suitable even for an ultra-lightweight, as they have brought out a three-speed motor cycle gear for lightweight.]-Ed.]

A Schoolboy's First Tour.

[6170.]-I notice in your last issue an account of a boy riding a distance of 190 miles in one day. During the summer my boy, who is fifteen years of age, rode from Edinburgh to Bridlington, a distance of 264 miles according to the Cowey speedometer, in one day. We left Edinburgh at 8 a.m. and reached Bridlington at 9.30 p.m., he on a light-weight Humber (2 h.p.).

A.N.C.

Lubricating Pumps.

[6171.]-With reference to the lubricator illustrated in your last issue as introduced by Mr. Sarolea, I would like to point out that this is just my "tapless pump," designed and put on the market by me in 1908. The details are just a replica of this with the exception that the discharge hole in the plate is elongated into a slot and a pointer fixed to the handle.

Any of my tapless pumps will act in the same way if the discharge is only turned partly on. As we have been experimenting on the same lines for some time, but were not sufficiently satisfied with the device in this stage of progress to market it, I am advising you so that I may not find myself in the position of being accused of copying one of my own devices a little later on, an occurrence not unknown to me.

A. C. DAVISON.

Petrol Charges in Oxford.

[6172.]-I see "Oxonienists" in letter No. 6147 complain of the high price of petrol in Oxford. It may be interesting to know that in Cambridge this term I have frequently paid 1s. 4d. for Shell, and the minimum has been 1s. 3d. for Pratt's. It is a well-known fact that fancy prices exist for many things in the Universities, and it would be interesting if you would let us know the standard price of petrol in London and other towns during the last three months.

CANTABRIGIENSIS.

[The price of petrol in London is published every week in our sister publication *The Autocar*. The price has been 1s. 2 $\frac{1}{2}$ d. for several weeks. The fact that both University towns are far from a distributing centre may account for the comparatively high prices.—Ed.]

Carbon Deposits.

[6173.]-I see that a correspondent, writing under the name of "Archibald," thinks that he has scored off Mr. W. Elder. Perhaps he does not realise that the results of Mr. Elder's analysis are just what might be expected in vegetable ash. Any of your readers with a slight knowledge of chemistry and an hour to spare could demonstrate the presence of these substances in his tobacco ash. "Archibald" had better be more certain of his facts before next making a public exhibition of his foolishness and discourtesy.

R. FISHER.

[6174.]-I am quite sure you do not intend your columns to be utilised for the exploiting of despicable practical joking of the type of which "Archibald" appears so proud.

Very probably Mr. Elder, as a professional man, is fairly fully employed. Notwithstanding this he has offered, in the interests of motor cyclists in general, to devote his expert knowledge to the solution of a matter which has considerable bearing on the design and efficiency of motors.

It may probably be instructive to "Archibald" to learn that the analysis which Mr. Elder sent is exactly what one would expect to find as the deposit resulting from the slow distillation of many vegetable products.

Tobacco is well-known to contain a very large proportion of volatile oil, and almost any plant will be found in its own tissues to contain all the ingredients detailed by Mr. Elder in his analysis.

His deduction that these mineral matters, silica, ferric oxide, alumina, lime, etc., constitute road dust, is only natural, seeing that he has been misled by the implied statement that the deposit was from the cylinder of a motor engine. He is therefore perfectly justified in his remark that the material might be considered to be road matter.

I feel so much sympathy with Mr. Elder in the matter that I have trespassed on your space to this extent, and I am quite confident the disgust I feel in regard to this despicable trick is shared by the average motor cyclist, who, I am sure, will equally resent the misuse of the pages which you so kindly place at our disposal in the interests of the pastime and industry.

H. J. POOLEY.

Lubrication Systems.

[6175.]—I read the article in the last issue on lubrication with the greatest interest, and in reading it it has occurred to me that the idea of regulating the oil supply to engine requirements could also be effected where the lubrication is automatically forced to the engine by a spring pushing on the plunger of an ordinary oil pump. I would like to suggest that there is probably no insuperable difficulty in connecting up the throttle with a by-pass from the pump, so that, as the throttle is shut down, superfluous oil is passed back to the oil tank. The automatic plunger pump has the disadvantage of depending on the carefulness of the rider, but it has the advantage of simplicity. Some may object to a spring action instead of a positive action, but so long as they employ engines with spring worked valves, moving 500 to 1,000 times in a minute, I do not see that they can logically object to a mechanism in which a spring is compressed to the full, say every twenty minutes. A.B.

[The suggested idea has been used for months on racing machines, but not inter-connected with the throttle.—Ed.]

A Motor Cyclist Over Seventy Years of Age.

[6176.]—As the summer is past and races and hill-climbs are quiet, perhaps it would interest some of your readers (especially those who wrote congratulating me a year ago on taking to a motor cycle at my age) to know that I am still riding and have had a good year, my mileage reaching 10,000, and if I had the leisure it would be double. I changed my single-gear Douglas for one of lower build, as I am short in the leg, and tried a two-speeder with gears 5 and 8, and found it first rate. I am now changing for one of the Douglas latest models, and placed the first order given in the Show with the Colmore people, who always treat me well, and am promised early delivery. I have not ridden for a year without meeting some difficulties. Once the engine went wrong, but I was near a railway station, and got home without trouble. Another time, half way between Bridgnorth and Cleobury Mortimer, and in the middle of a steep hill, a large nail made four punctures, and, in putting two large patches on, I left one hole uncovered. I thought then I was certainly stuck up for the night, seven miles from any station. As I never have a companion or stay away from home at night, my anticipations were decidedly depressing. However, I had another try, and faced the difficulty to get going on a stiff hill. I ran, but the engine would not fire. I tried again, when it fired and stopped, and my wind stopped, too. After a rest, and cleaning the jet with a bit of thin wire, with a run and a strong heave it fired all right, and I reached home before lighting up time.

Once the exhaust lifter wire broke two miles from Lich

field. I was in trouble then, but another motor cyclist came along who had ridden some of the early makes; he knew what the trouble was and how to mend it. He said, "Can you ride with throttle control only?" Yes, I could. "Get on then and pedal hard while I push." In ten minutes I was in the garage. My gratitude to that motor cyclist is great. Punctures I have got used to, having had twenty in the year. Once a cow suddenly came out of a field and knocked me into a ditch with cycle on top; once I skidded on the tramlines and hurt my leg a little; and I had other mishaps which make up the harmony of every cyclist's life. Still, I say, though time is getting short with me, I am looking forward to the pleasantest year of my life. *My motor bicycle and I!* And I hope that many who in life are tired and dull will try the new and safe sensation of motor cycling. Wishing you a happy Christmas. THOS. ABLE.

Touring in South-west. Wales

[6177.]—I am sorry I caused Mr. Evans's "hair to rise" by my letter. He writes about the Llanybyther-Llansawel Road, which is a good main road, and well within the powers of his 4 h.p. Stevens. I wrote about the mountain road from New Inn, *via* Bryn Llwllyn—the "New Quay Road," as the mountain signposts describe it. I am satisfied that no single-gear machine could be ridden across this road in the condition it was in three months ago, unless the machine was geared about 8 to 1, for the simple reason that the rider would not be able to steer and keep his seat at the speed it would have to be driven, with a standard gear.

I expect that I am as well acquainted with the roads of Wales as Mr. Evans is. I am a Welshman, "whateffer"!

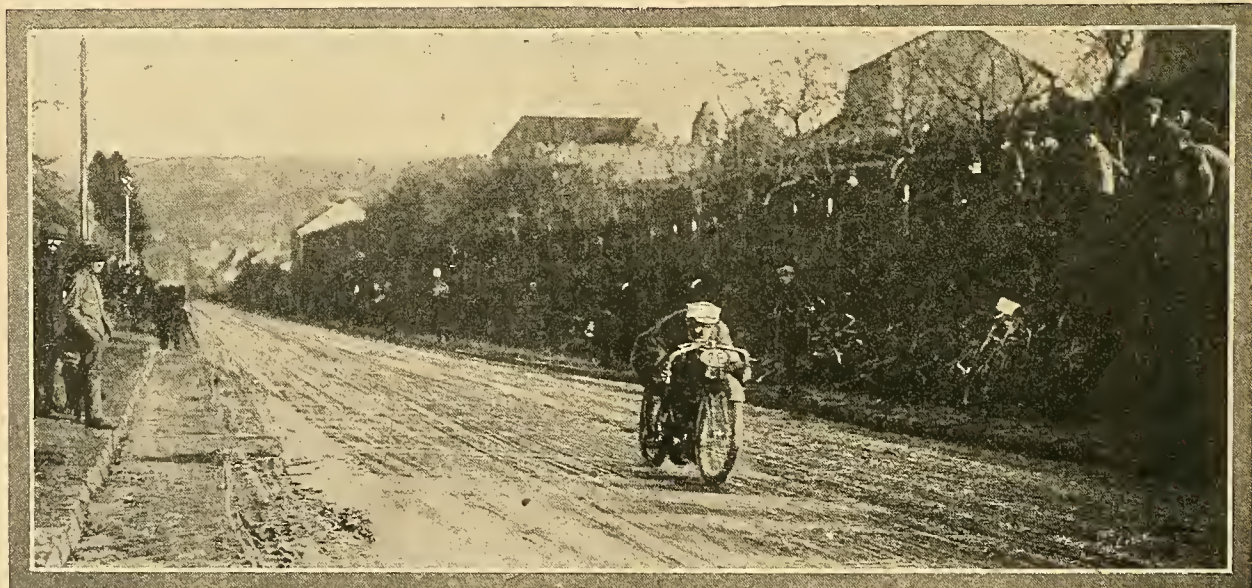
In reply to Mr. Robbins, my point was that, when touring, one does not expect to stop at the foot of a steep hill to cool the engine. Why do so in a "trial," which is, I take it, supposed to find out the best touring machine?

Re your footnote to letter 6144, my experience agrees with yours. Rubber-proofed suits will keep rain out for two or three hours; after that, one becomes damp, especially about the knees. Oilskins, though uncomfortable, unsightly, and unhygienic, are the only garments I have found to keep one dry, when out all day long in the rain. BD 50.

SUMMARY OF CORRESPONDENCE.

Will the motor cyclist who lent a T.T. Norton rider a new Reliance plug, on the Birmingham-Bristol Road, on the 4th inst., please communicate with R. E. L. Saunders, c/o the editor?

"J.W.J." points out that the A.I. mud screen is an excellent device not mentioned in the article "Mudguarding," published in the issue of December 7th.



W. H. Bashail (8 h.p. Matchless-Jap) at speed in the Gometz-le-Chatel (France) hill-climb on Sunday last. He accomplished fastest time of the day.



French Winter Hill-climb.

IT was indeed a merry party which left the shores of dear old England on Saturday last to participate, either as competitors or spectators, in the A.C.C. de France hill-climb at Gometz-le-Châtel. The 2.20 express from Charing Cross was as crowded as ever; people fought for places which were far outnumbered by their applicants. Twelve seats were engaged by the Royal Automobile Club Touring Department for the Auto Cycle Union, but six other members availed themselves of the cheap tickets, and disposed themselves as best they could in the train. W. Cooper left his Bradbury sidecar behind, as the price of the freight frightened him. F. W. Barnes, however, took his Zenith sidecar and represented the English passenger motor cycles. Among the passengers the train was taking to the sunny Riviera and to the glistening Alps, not a happier party could be found than the A.C.U. members, who were out to show their French *confrères* in the sport what their British-built machines could do.

The first part of the journey was soon over, and then came the sea crossing. The motor cycles, handled mainly by the competitors themselves, were stowed aboard the *ss. Empress*, and a good crossing was enjoyed.

On French Soil.

At Boulogne there was somewhat of a rush. There are two trains by this service, the *Rapide*, which is due in Paris at 9.16, and another which does not arrive till 11.25 p.m. All the party were naturally anxious to travel by the former. Each man, therefore, flew to his mount, all helped one another with a will, and in less time than one can imagine the red Indian, the ruddy-hued Matchless machines brought by Carter, Witham, and Webster, the green-tanked Ridges of Gibson and Spencer, Cooper's Bradbury, and McMinnies' Triumph were bundled into the *douane*, to the consternation of the Customs officials, who were asked to be good enough to pass them, as everyone wanted to be off. The *douaniers* threw up their hands and said, "*Impossible!*" but Major Stevens's man, the R.A.C. agent, talked to them persuasively, and the international pass question was put off till Paris was reached.

The machines were put in the van, the whistle and the tin trumpet gave their old familiar notes, and we were off—off to gay Paris. One man alone was unhappy, and that was Barnes, whose machine was missing at Folkestone, but on being told not to worry, but to wait and see, he calmed down somewhat.

A Little Difference of Opinion.

Then one member of the party who knew the book of the words, gently told the others that their tickets were not available by the *Rapide*, and an official of the Northern Railway quickly confirmed his statement. The party pretended for the time being that they knew no French, but were told that the official said, "Very well, then, out you get at Abbeville." Then came the

guard and the interpreter of the party—the latter on this occasion chanced to be ourselves—and we were hard put to it for ten minutes. "Nineteen francs each to pay," said the guard, and matters looked truly serious. Happily, a letter from the R.A.C. Touring Department was produced, telling us that a supplement of 6 francs 25 c. each would suffice, and, to make a long story short, it worked. The guard got a little *pourboire* on each excess fare, and left our compartments a deal happier man than when he entered them.

At the Gare du Nord, Messieurs Debailly (president), Cheilus (vice-president), Robert Lecomte, and Gream Fenton, of the Auto Cycle Club de France, met the competitors, and rendered them valuable assistance, and while we went ahead and engaged the rooms at the Hotel des Colonies, the machines were taken off the train, and, as the customs examination was of the scantiest, the men were soon pushing their mounts, among which was Barnes's missing Zenith and sidecar, towards the hotel.

The Day of the Competition.

As the party had to be early away in the morning, and so much had to be seen in such a very short time, several members had little rest. We were all up at 5.15 a.m., and just on six were on the way to the Luxembourg Station, under the able guidance of Gream Fenton.

The 1 in 20 gradient in the Boulevard St. Michel, just before the station was reached, proved quite enough for the majority, especially after their previous exertions, and on arriving at the station their tempers were not improved on being told that they would have to push to the second station down the line, as the machines could not be taken on board at the terminus. Eventually we were all *en voiture*, and a start was made for Orsay, the nearest station for Gometz, which was reached in about an hour, and, getting petrol in the town, the men were soon *en route* for the hill, four kilometres away. Greatly to their surprise they found the hill was practically the main street of the village. Imagine it, good readers! A hill-climb in a village, in a ten kilometre limit (6 m.p.h.), including a cross road danger sign. Believe, if you can, that a Paris street sweeper with gaily revolving brush removed all the grease possible just before the start, and picture to yourself the gendarmes, the Garde Champêtre, and other officials of the Government calmly looking on in a spirit of *camaraderie* almost incomprehensible to the English mind.

Gometz-sur-le-Châtel is a picturesque village, the predominant feature of which is the old church, a noble pile standing on the hill, from whose summit the whole of the absolutely straight course and a pretty rural scene could be discerned, bathed in brilliant sunshine.

At the foot of the hill MM. Bardin and Plazolles looked after the sealing, MM. Buissard and Migault

French Winter Hill-climb.—

(treasurer of the A.C.F.) officiated at the start, while M. Bazin took the times at the foot, and M. Carpe officiated in a similar capacity at the finish.

Preliminary Canters.

Incidents during the preliminary preparations were fairly frequent. McMinnies and Spencer opened the ball by riding up the hill on the wrong side of the road, and a smash-up was narrowly averted. Moorhouse went up like a rocket, and returned to the foot covered with mud, and well-nigh unrecognisable. His front mudguard had been omitted, and a jury-rigged affair had hastily to be improvised. The English riders created an impression at once. "*Regardez, les Anglais. Qu'ils sont fantastiques, ces gens-là!*" enthusiastically ejaculated a spectator. Among the French machines was an old International Cup Peugeot racer and a four-cylindrical René-Gillet (two pairs of V twin-cylinders opposed). The ignition was by accumulator and two contact-breakers. The carburetter was a Claudel-Hobson, the transmission by two belts, and the bore and stroke 90 x 100 mm. This machine, however, was totally unable to attain any speed, chiefly through misfiring.

The course was eighty feet short of half a mile, and the gradient, which was almost entirely without variation, about 1 in 12½.

There was some delay at the start, which did not take place till forty minutes after the advertised time, and when all was ready at the summit the officials were exercised in their minds as to how to communicate the good news to those at the foot. "Has anyone a revolver?" said an official. M. Carpe was ready in an instant, and drawing a weapon fired a shot. "*Encore!*" shouted the crowd, and four more shots were fired, but the desired result was not obtained, and a car had finally to be sent. The crowd was enthusiastic and generous to the English, and one of its members, a soldier of the 31st Regiment of Infantry, held in his hand a copy of *The Motor Cycle*.

The Results.**MOTOR BICYCLES.****CLASS I.—225 c.c.**

- | | |
|----------------------------|----------|
| 1. Brunet (Griffon) | 3m. 0½s. |
|----------------------------|----------|

CLASS II.—300 c.c.

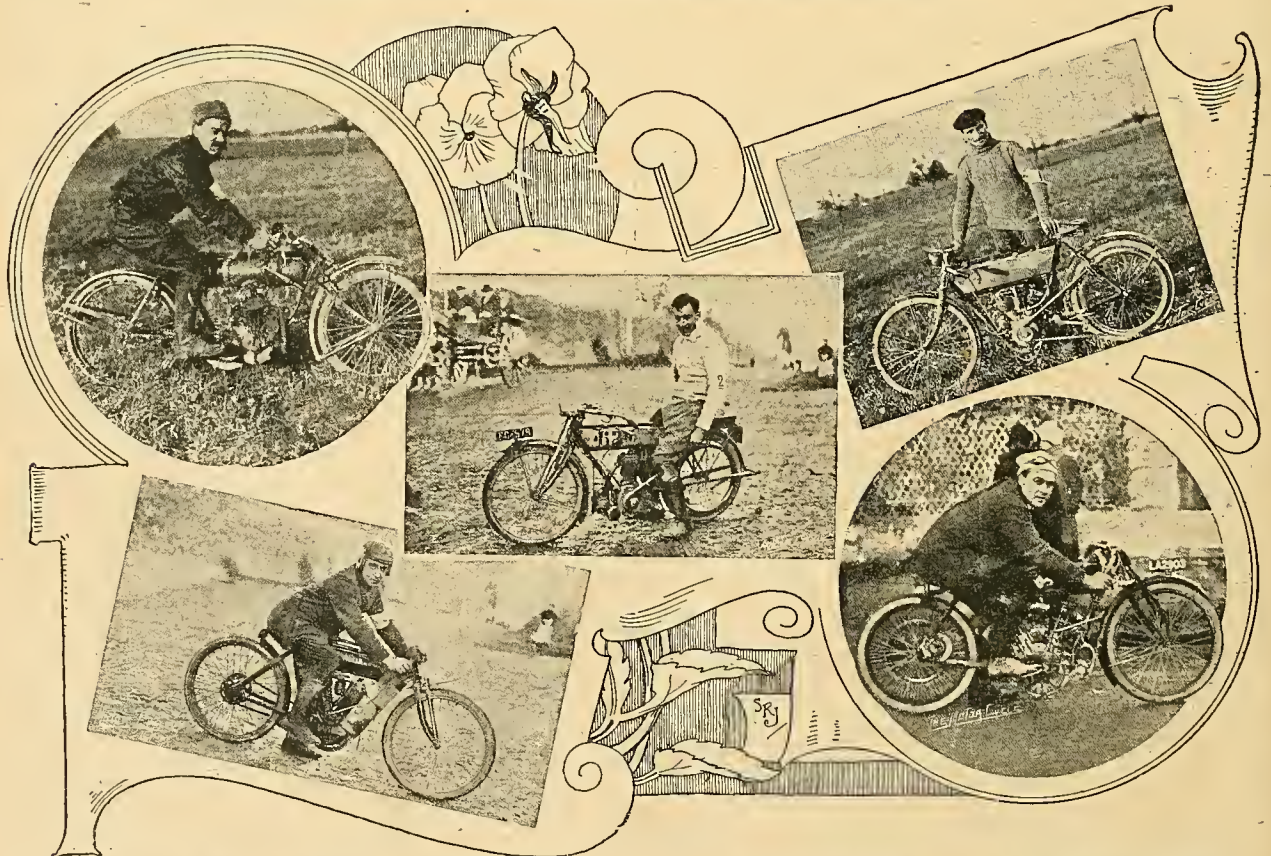
- | | |
|------------------------------|-------|
| 1. Canale (Alcyon) | 40s. |
| 2. Dacier (Alcyon) | 43½s. |
| 3. Grapperon (Alcyon) | 48½s. |

CLASS III.—400 c.c.

- | | |
|-----------------------------|-------|
| 1. Péan (Peugeot) | 47s. |
| 2. Lacroix (Peugeot) | 48½s. |
| 3. Bellot (N.S.U.) | 54½s. |

PASSENGER MOTOR CYCLES (MAXIMUM BORE 90 MM.).**CLASS I.**

- | | |
|------------------------------------|-----------|
| 1. Rivière (Mototri-Contal) | 1m. 53½s. |
| 2. Dubois (Mototri-Contal) | 2m. 3s. |

SUCCESSFUL COMPETITORS IN THE FRENCH WINTER HILL-CLIMB.

(1) Canale (Alcyon), winner of the 300 c.c. class. (2) Péan (twin Peugeot), first in the class for 400 c.c. engines. (3) W. G. McMinnies (Triumph), first in the 500 c.c. class. (4) A. J. Moorhouse (7 h.p. Indian), second fastest time of the day. (5) W. H. Bashall (8 h.p. Matchless-Jap), winner of three classes and fastest time of the day.

French Winter Hill-climb.—**VOITURETTES, CLASS I.—SINGLE-CYLINDER UP TO 90 MM.**

1. Dupre (La Ponette)	1m. 26 $\frac{1}{2}$ s.
2. Peltier (Cohendet)	1m. 35 $\frac{1}{2}$ s.
3. Guerry (Guerry-Bourgignon)	1m. 40s.

VOITURETTES, CLASS II.—FOUR-CYLINDER UP TO 65 MM.

1. Granvaud (La Ponette)	53 $\frac{1}{2}$ s.
2. Fort (Ronteix)	2m. 2s.

VOITURETTES, CLASS III.—OPEN.

1. Bourbeau (Bedelia)	44 $\frac{1}{2}$ s.
2. Coudert (Lurquin-Coudert)	2m. 23 $\frac{1}{2}$ s.

CLASS IV.—500 C.C.

1. McMinnies (T.T. Triumph)	32 $\frac{1}{2}$ s.
2. Gibson (Rudge)	34s.
3. Gabriel (Triumph)	39 $\frac{1}{2}$ s.
4. Spencer (Rudge)	43 $\frac{1}{2}$ s.

PASSENGER MOTOR CYCLES.**CLASS II.—Unlimited.**

1. Barnes (Zenith-Gradua)	43 $\frac{1}{2}$ s.
2. Rayer (René Gillet)	49s.
3. Sandfort (René Gillet)	1m. 1s.

MOTOR BICYCLES.**CLASS V.—Unlimited.**

1. W. H. Bashall (Matchless)	28s.*
2. Moorhouse (Indian)	28 $\frac{1}{2}$ s.
3. Barnes (Zenith)	30 $\frac{1}{2}$ s.
4. McMinnies (Triumph)	31 $\frac{1}{2}$ s.
5. Péan (Peugeot)	32 $\frac{1}{2}$ s.
6. Gibson (Rudge)	34s.
7. Naas (Grifon)	37 $\frac{1}{2}$ s.
8. Théry (René-Gillet)	39 $\frac{1}{2}$ s.
9. { Meuriot (René-Gillet)	43 $\frac{1}{2}$ s.
{ Spencer (Rudge)	
11. Cooper (Bradbury)	43 $\frac{1}{2}$ s.

*Fastest time of day.

AMATEUR CLASS.

1. Bashall (Matchless)	28s.
2. Moorhouse (Indian)	28 $\frac{1}{2}$ s.
3. McMinnies (T.T. Triumph)	35s.
4. Guillon	35 $\frac{1}{2}$ s.

In the general classification the positions in Class V. were repeated.

Some Remarks on the Competition.

The French machines were far and away behind the English, which is not surprising, since the industry is just arising from a lethargic state. The organisation was also a little inferior, as the A.C.C.F. has not held a purely motor cycle hill-climb for four years. The Frenchmen, however, behaved in a thoroughly sportsmanlike manner, and took their

beating like sportsmen. Canale, the Alcyon rider, the winner of Class II., rode in the T.T. Race this year. Spencer's machine was off colour, as the carburetter was starved. Rivière (Mototri-Contal) competed in the A.C.U. trials of 1905. To W. H. Bashall, it will be seen, belongs the honour of making the fastest time of the day, while Moorhouse, who was only $\frac{2}{5}$ s. behind, pressed him very hard.

Reviewing the wins, it will be noticed that Class I fell to that well-known French make the Griffon, the Alcyon—so successful both in England and France—won Class II., and the famous Lurquin-Coudert won Class III. In Class I. of the passenger machines our old friend M. Contal deserves congratulations. Classes I. and II. of the voituresses were won by the La Ponette, lately described in these pages, while Class III. of this category was won by the Bedelia, guided by its designer, M. Bourbeau.

Now we come to the British wins. Class IV. was won by McMinnies (Triumph), the passenger Class II. was won by Barnes (Zenith-Gradua), the like of whose sidecar machine, to judge by the critical examination it received, had never been seen before in France. Class V. was won by Bashall, whose Matchless this time gained a glorious victory, with Moorhouse (Indian) second. The amateur class resulted in the same way.

Turning the Tables.

The whole trip has been an unqualified success. The Frenchmen, who on the occasion of the last International Cup Race in France, beat the English, though they themselves were conquered by the Austrians, have been vanquished by us on their own ground. Their defeat, however, will, we trust, have a beneficial effect, as, since they are a fighting nation, it will give them an incentive to do greater deeds, and next time we hope to meet them on more even terms. This week end trip, in the running and organisation of which the A.C.U. has taken such a prominent part, has done much good; it has opened the eyes of many prominent English riders, and has again helped to revive international competition; while it may do more, namely, rouse the motor cycle industry in France from the lethargy into which it has fallen.

SUTTON COLDFIELD A.C.**TWO-DAYS' RELIABILITY TRIAL.**

The annual reliability trial for the "Sutton" Challenge Cup and gold medals was held on Saturday and Sunday last. The weather on both days was terrible, and the muddy state of the roads made it a most difficult task to hold the machine up. At Tamworth the river had overflowed and covered the whole of the road for about fifty yards with water nearly a foot deep. This had to be ploughed through on all three circuits, and was the means of spoiling several non-stop runs. Only seven of the thirty competitors finished the whole course, and these must be congratulated on their really fine performances. The winner of the cup and Murratti "Ariston" Trophy was to be decided at a meeting last evening (Wednesday), and will be announced in our next issue. List of survivors:

F. A. McNab (2 $\frac{1}{2}$ Trump-Jap)	J. J. Woodgate (4 Singer)
W. B. Gibb (2 $\frac{1}{2}$ Douglas)	H. Pickering (2 $\frac{1}{2}$ A.J.S.)
T. Pollock (3 $\frac{1}{2}$ James)	W. H. Sheldon (3 $\frac{1}{2}$ Regal-Precision)
H. C. Newman (3 $\frac{1}{2}$ Ivy-Precision)	

Thanks are due to the hard-worked officials, including Messrs. Alec Ross, P. Mosedale, Gordon Owen, R. Duke, R. Collins, Howard Smith, S. Rowlandson, W. Busby, and W. Gilbert. Mr. James St. John was the trials hon. secretary.

LONDON-GLOUCESTER AND BACK.

Below we give the entries to date for the N.W. London M.C.C. open reliability trial to Gloucester and back by way of Birdlip on Saturday, 30th inst.

Glyn Rowden (3 $\frac{1}{2}$ Triumph)	F. Applebee (3 $\frac{1}{2}$ Scott)
D. Grey Blakey (3 $\frac{1}{2}$ Quadrant)	R. Lord (Rex Sidette)
E. Gwynne (3 $\frac{1}{2}$ Triumph)	J. Hilyer (3 $\frac{1}{2}$ Premier)
E. Pond (3 $\frac{1}{2}$ Rudge)	Eric Rose (3 $\frac{1}{2}$ Triumph)
W. Cooper (3 $\frac{1}{2}$ Bradbury)	E. Laurence (3 $\frac{1}{2}$ Triumph)
W. Oldman (8 Bat)	J. W. Thomas (2 $\frac{1}{2}$ Douglas)
H. C. Mills (3 $\frac{1}{2}$ Premier)	Frank Thomas (6 G.O.K.)
Hal Hill (3 $\frac{1}{2}$ Centaur)	F. W. Applebee (2 Centaur)
R. Scott (3 $\frac{1}{2}$ Triumph)	E. Pither (3 $\frac{1}{2}$ Rudge)
O. Hill (8 Jap-G.N.)	D. Berne (3 $\frac{1}{2}$ N.S.U.)
A. E. Hawkis (2 $\frac{1}{2}$ A.J.S.)	E. G. Westacott (3 $\frac{1}{2}$ Zenith)
H. H. Berlandina (3 $\frac{1}{2}$ P. and M.)	H. J. Pooley (3 $\frac{1}{2}$ Premier)
	R. L. Printz (5 B.A.T.)
	Rex G. Mundy (3 $\frac{1}{2}$ Singer)

Entries definitely close to-morrow (Friday).

The start of this trial is at 7.15 a.m. from Jack Straw's Castle, Hampstead Heath, and the route is *via* Stanmore, Pinner, Rickmansworth, Amersham, High Wycombe, Oxford, Faringdon, Cirencester, Birdlip, and Gloucester, returning by the same route, the first pair being timed away from Gloucester at 2.2 p.m.

CURRENT

CHAT

TIME TO
LIGHT CAMP

SPECIAL FEATURES

Dec. 21st	...	...	4.51 p.m.
" 23rd	...	...	4.52 p.m.
" 25th	...	...	4.53 p.m.
" 27th	...	...	4.55 p.m.

To Our Readers.

The Editor and staff of this journal seize this fitting opportunity of wishing all readers at home and abroad "A Happy Christmas and a Prosperous New Year."

English Motor Cyclists in France.

It was W. Cooper who first arranged with McMinnies to go over to the Auto Cycle Club de France winter hill-climb, the classes and details of which had appeared in *The Motor Cycle Show Report Number*. There the matter rested until the M.C.C. dinner, when Cooper mentioned it to several well-known riders as well as to ourselves, and the party was soon increased to half a dozen. In the end seventeen journeyed to Gometz-le-Châtel, and their bag of five firsts is a proof of the efficiency of the English-built motor cycle. In the unlimited or open class, riders of English machines occupied the first four places.

Through French Spectacles.

In its description of the hill-climb held at Gometz-le-Châtel last Sunday, one of the French sporting dailies says: "The English team, which arrived with perfectly tuned engines possessed of remarkable speed and power, made an extraordinary impression. This team won on general classification, its members being first, second, third, and fourth; it also won several other classes, and a member made fastest time of the day. All this because England has never allowed the sport and industry to decline." The same paper says: "If our compatriots respond to the impetus which they have received, an international contest next year would prove interesting. This year's event has only proved our inferiority, which, however, we hope will be only momentary." We echo our contemporary's wish; nothing would please us more than to see a well contested match, say, at Brooklands. French riders would do well to bear in mind that our Six Days' Trials and Tourist Trophy Races are always open to them.

The Future of International Competitions.

Now the visit of an English team to France to take part in a hill-climb has been so successful, there was much talk of the French club sending a team to meet the English riders on a well-known hill near London, while several suggestions were made as to holding the T.T. Race in France next year. Quite a happy idea was that of organising a hill-climb at Gaillon which is so near Dieppe. It can be reached from there in two hours by road which would save

much expense and be more pleasant for the competitors. There was also talk of issuing an invitation to English riders to take part in a tour in, say, the Loire Valley at Easter. Everywhere we were received with warmth and hospitality.

Sixty-two m.p.h. through the Mud.

W. H. Bashall who made fastest time in the French hill-climb last Saturday, averaged a speed of just over sixty-two miles per hour on his belt-driven overhead valve Matchless-Jap. A. J. Moorhouse on the big Indian was very little slower. It should be borne in mind that the road surface was heavy, and had merely been scraped of mud.

An Important Judgment.

At the Shrewsbury County Court last week, His Honour Judge Harris Lea had to decide for the first time in the courts, whether leaving a bicycle against a kerb was or was not an act of negligence. The case arose out of an action for damages brought by a livery stables proprietor whose horse had been frightened by a bicycle, which had been left against the kerb by a boy, falling over and so

SEASONABLE ARTICLES AND
ILLUSTRATIONS.
ENGLISH-DUTCH RELIABILITY TRIAL
FRENCH WINTER HILL-CLIMB
(Illustrated).

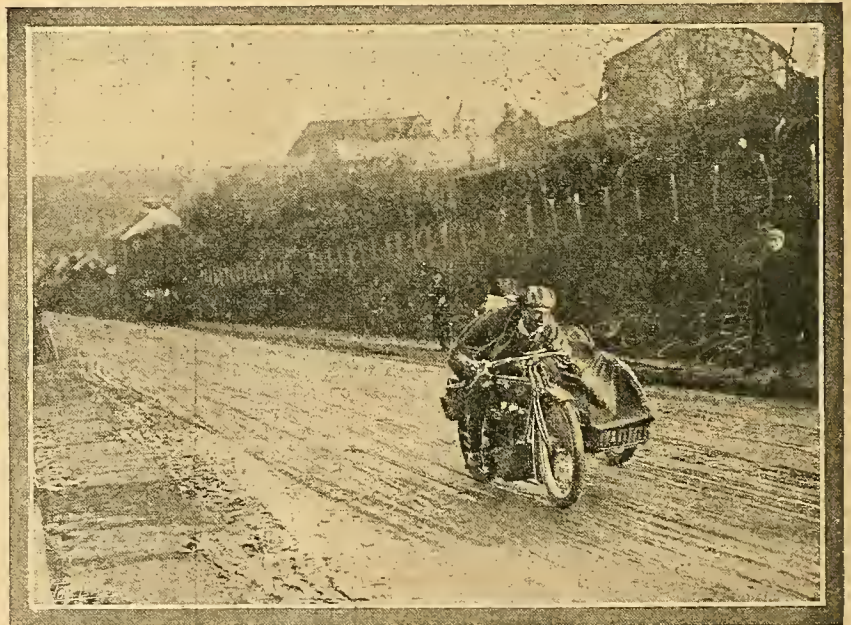
startling the horse, which sprang suddenly to one side and in so doing broke a bone in its leg. Eventually the animal had to be slaughtered. The judge decided that it was not negligence to leave a bicycle against the kerb.

The London-Exeter Winter Run.

The list of entries for the M.C.C. London-Exeter London winter run closed with a total of 119, composed of three cars, forty-five passenger motor cycles, and seventy-one motor bicycles. The unlucky number thirteen falls to W. T. W. Wartnaby, the designer of the new W.D. motor bicycle which is to make its initial appearance in this trial. The engine, it will be remembered, has forced lubrication to all bearings.

Late entries were:

F. Begley (5 Matchless).
C. M. Webster (8 Matchless and sc.)
E. J. Webster (8 Matchless and sc.)
P. G. E. James (8 Chater-Lea and sc.)
H. C. Griffin (8 Bat-Bondex and sc.)
F. C. North (3½ Ariel).
H. Johnson (Triumph)



FRENCH WINTER HILL-CLIMB (pages 1401-1403).

F. W. Barnes (Zenith-Gradua sidecar), who, as is his wont, headed the list of passenger motor cycle riders, beating the next competitor by 6½ secs.

Another Motor Cycle Stolen.

A 6 h.p. twin a.o.i.v. Jap with B. and B. carburetter and accumulator ignition was stolen from Hornsey Road, London, N., on the night of the 13th inst. It is the property of P. S. Burnay, and any reader who is offered this machine should notify the Hornsey Road police station.

English-Dutch Reliability Trial.

A sporting reliability trial between mixed teams of amateurs and trade riders is being organised by the Dutch M.C.C. for August Bank Holiday, 1912. The regulations are published on page 1388. British riders' entries may now be forwarded to *The Motor Cycle*.

A Novel Event.

An A.C.U. permit has been granted to the Herts County A.C. to hold an open motor cycle reliability trial on January 20th. The distance will be about 100 miles. There will be a fast hill-climb, a slow hill-climb, and a speed-judging contest (competitors will have to cover a certain section at 10 m.p.h. on their own estimation).

Yankee Journalistic Methods.

There is an American paper named *Motor Cycling* which makes a practice of reproducing sketches from *The Motor Cycle*, and paraphrasing the matter accompanying them without the slightest acknowledgment of the source from which the drawings or matter were obtained. Even if it were our policy to do so we could not return the compliment by copying American drawings, as those of the paper in question are much too poor to ever find a place in these columns.

How he got his Own Back.

A motorist was caught in a police trap in a fashionable part of London recently—a fact which greatly aroused his ire, and caused him to ponder over the matter deeply. The result of these deliberations led him to hit upon a plan. In the course of his walks during the next few days he kept his eyes wide open and took the number of every policeman who gossiped, as the best behaved policeman will do, with the fair denizens of the nursery and area. Well-nigh 100 poor bobbies were caught in the act, their leave was stopped, and now they swear to catch the informer if he drives at but 20.1 m.p.h.

A Motor Cyclist's Successful Appeal.

The bill of suspension in the case in which F. K. Dickson, of Mauchline, was fined £2 10s. for driving a motor cycle at a speed exceeding 10 m.p.h. at Crookedholm, Kilmarnock, was heard at Edinburgh last Thursday—the Lord Justice-Clerk, Lord Dundas, and Lord Guthrie on the bench. Defendant was tried by Sheriff-substitute Mackenzie on October 13th, and he contended that the conviction should be set aside on the ground of its illegality, as he received no warning of the intended prosecution. Furthermore, the method adopted of ascertaining the speed of the motor cycle was absolutely unreliable, and the only evidence was that of the two constables. The Lord Justice-Clerk, in giving judgment, said the system adopted in ascertaining the speed was a bad system, and a better could easily be obtained. With regard to the point in this case, he was of opinion that the conviction could not stand. The conviction was therefore quashed, with expenses.

Ancient Machines in the Winter Runs.

Hal Hill—well known as a Bat-Jap owner—is one of the entrants for the Gloucester run, and will ride a 3½ h.p. Centaur which he describes as old, aged, decrepit, and infirm. The reason for this "departure from standard" is that he is tired of competing in trials on machines that, bar accidents, cannot fail to get through, so he is trying his luck with his "extra special 1½ cat power 'bus, which has chain drive and no puff at all." We admire his sporting proclivities.

FUTURE EVENTS	
Dec. 26-27.	M.C.C. Winter Reliability Run to Exeter and back.
" 27.	Birmingham M.C.C. Open Trial to York and back.
" 30.	North West London M.C.C. Twelve Hours' Winter Trial to Gloucester and back.
1912.	Herts. County M.C.C. Open Trial.
Jan. 20.	A.C.U. Annual Dinner.
Mar. 2.	Auto Cycle Union Open One Day Trial.
" 23.	B.M.C.R.C. Race Meeting.
" 30.	Derby and District M.C.C. Open Hill-climb.

Proposed Track for the Midlands.

The latest information regarding the proposed two-lap racing track to be built in the Midlands is that Mr. F. A. McNab, the originator of the project, expects to be in a position in a week or two to float a company to acquire the land and build the track. A site has been selected which can be secured at a reasonable cost. Readers of this journal who wish to become financially interested in the flotation should communicate with Mr. McNab, c/o Trump Motors, Ltd., 36, John Bright Street, Birmingham.

Accident to a Well-known Rider.

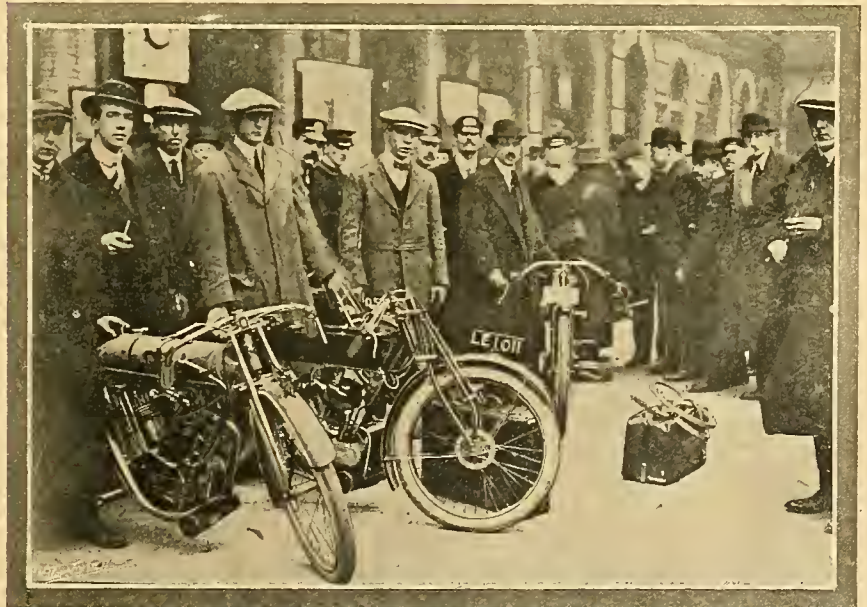
H. H. Bowen was motor cycling on the Kenilworth Road, near Coventry, on Tuesday evening last week when he ran into the back of a cart which, it is alleged, had no rear light. Bowen was unconscious of the presence of the cart until he almost caught it up, when he immediately swung aside, but unfortunately caught the hub cap with his knee, the force of the impact being sufficient to knock the hub cap flat. He suffered a broken leg, and was conveyed to the Coventry and Warwickshire Hospital in a car, and we are glad to say is progressing favourably. Strangely enough, his Rudge was hardly damaged.

Taunton, Next Year's Six Days' Trials Centre.

An invitation has been received from the Taunton and District Motor Cycle Club to hold the Six Days' Trials in the neighbourhood of Taunton. This town, on account of its position at the entrance to the difficult country in the West of England, its proximity to Ilfracombe, Lynmouth, Dawlish, Torquay, and other well-known West-country seaside resorts, and the excellent hotel accommodation it possesses, lends itself admirably as a centre. The Mayor of Taunton and several prominent local residents have offered prizes to be awarded in the contest, while promise of every assistance has been received from the Taunton club and its captain, who is the district surveyor, and whose knowledge of the roads is, in consequence, considerable. The Competitions Committee of the A.C.U. has therefore recommended the General Committee to accept this invitation.

Stolen Machine.

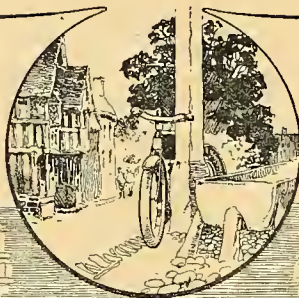
The Bradbury machine referred to in the paragraph on page 1375 last week as having been obtained under false pretences bears the number 33293 stamped on the seat pillar lug.



EN ROUTE FOR THE GOMETZ-LE-CHATEL HILL-CLIMB.

Some members of the A.C.U. party of motor cyclists photographed at Charing Cross Station on Saturday afternoon before leaving for Paris—Messrs. Cooper, Carter, Witham, and C. and E. Webster.

The Motor Cycle



and Theatricals.

IT is well known that motor cycles are largely used by members of the theatrical profession, and the pastime is growing so much in favour that the George Edwardes Motor Cycle Club is now an actuality. True, the members number but five at present—four active riding members and one hon. member of the gentler sex, who rides in a sidecar attached to her husband's Rex.

Recently, a motor cyclist contributor, who has a friend taking the part of Prince Danilo in "The Merry Widow" touring company, hied himself to the stage door to talk over motor cycle matters with this friend, but a surprise was in store for him, for he was introduced to all the members of this active band. The rules of the club are few and far between; to become a member, you must be a motor cyclist and attached to one of George Edwardes's companies in some capacity or other. It would be difficult indeed to find a more enthusiastic set of all-weather long-distance riders than the members of this club. Our representative's gleanings from each are interesting enough to warrant publication, and we hope they may be the means of introducing the pastime to other members of the theatrical profession who may be hesitating before making the final plunge.

The Prince's Hobbies.

Mr. J. Warren Foster, who takes the part of Prince Danilo, says: "Since I was 'weedled' on to a motor cycle some twelve months ago, golf, my former hobby, has been neglected. My first ride was for forty odd miles, and during the run the route lay through Manchester. I managed all right, but was somewhat scared with tramlines and traffic. I subsequently purchased a Triumph, which I used with a sidecar, and it did remarkably well, but I consider a run from Burnley to Skipton took the biscuit. We were finishing the tour at Burnley, and it was necessary that two of us should be in London early next day, so, after the show and a good supper, we set off from Burnley at 12.20 a.m. to catch the 1.12 express to town at Skipton, twenty miles away. I carried my passenger on the carrier (the first time I had ever attempted such a thing); he was enveloped in two big overcoats and carrying a large parcel. The night was pitch dark, and we had to negotiate eight miles of tramlines. Opening the throttle, we went for all we were worth, round corners as if the old man called Harry was after us. Neither he nor I really enjoyed the ride, but it had to be done, and done it was, but only just. On wheeling the machine into the station, I noticed one of the stays of the carrier had bent and was nearly rubbed through by the belt rim. What

would have happened if the carrier had broken? Recently I purchased a $3\frac{1}{2}$ h.p. three-speed New Hudson, and after doing close on 2,000 miles I am more delighted with motor cycling than ever. Nowadays, be the weather what it may, all my journeys from town to town are carried out on my machine. The distances to be usually covered are between 100 and 200 miles; my longest day's ride, accomplished on a Sunday, was from Exeter to Land's End and then back to Torquay. As regards the health question, I can truly say that since taking up this sport I have felt quite another man, and should I wake up in a morning feeling somewhat seedy, it only requires a couple of hours on my machine to put me right once more."

The Ambassador's Adventures.

Mr. H. Sinclair Cotter, who takes the part of Baron Popoff, the Marsovian Ambassador, stated that he had been a motor cyclist for about seven years. "Quite a pioneer," I remarked. "I must have completed over 50,000 miles during my time," he went on to say, "and have had a trailer in use, with which I used to cart my little dog and my brother from town to town, and that reminds me of a little experience. One night we had pulled up for refreshments, and after satisfying ourselves we returned to the machine, which naturally was only of low power. I got all the levers set, and with a shout of 'Ready!' heaved off. Strange to relate, the machine started off at once, and we bowled along merrily. At last we encountered a hill (nowadays called a small hump), and a little l.p.a. was necessary, and then I hopped off and ran alongside. The engine pulled splendidly, so I congratulated myself, and stopped at the top to say to my brother, 'I think we could have managed without running.' Hearing no reply, I turned round and found, much to my astonishment, the only passenger I was carrying was my dog! After thinking things over, it struck me that my brother could not have fallen out, otherwise the dog would have gone likewise, so I sat down to wait developments. Eventually my brother arrived, having had to walk, and then—curtain! I am now riding a Triumph, but since seeing the new machine of the Prince's I am crying out for a three-speeder, all the more so because I use a sidecar considerably. If it is at all possible to use my machine for travelling, I always do so use it in rain or shine, as I find that the riding in the crisp fresh air is very beneficial to my health; it clears the brain wonderfully, and creates a splendid appetite. The longest run I ever had in one day was from London to Blackpool."

The Motor Cycle and Theatricals.—

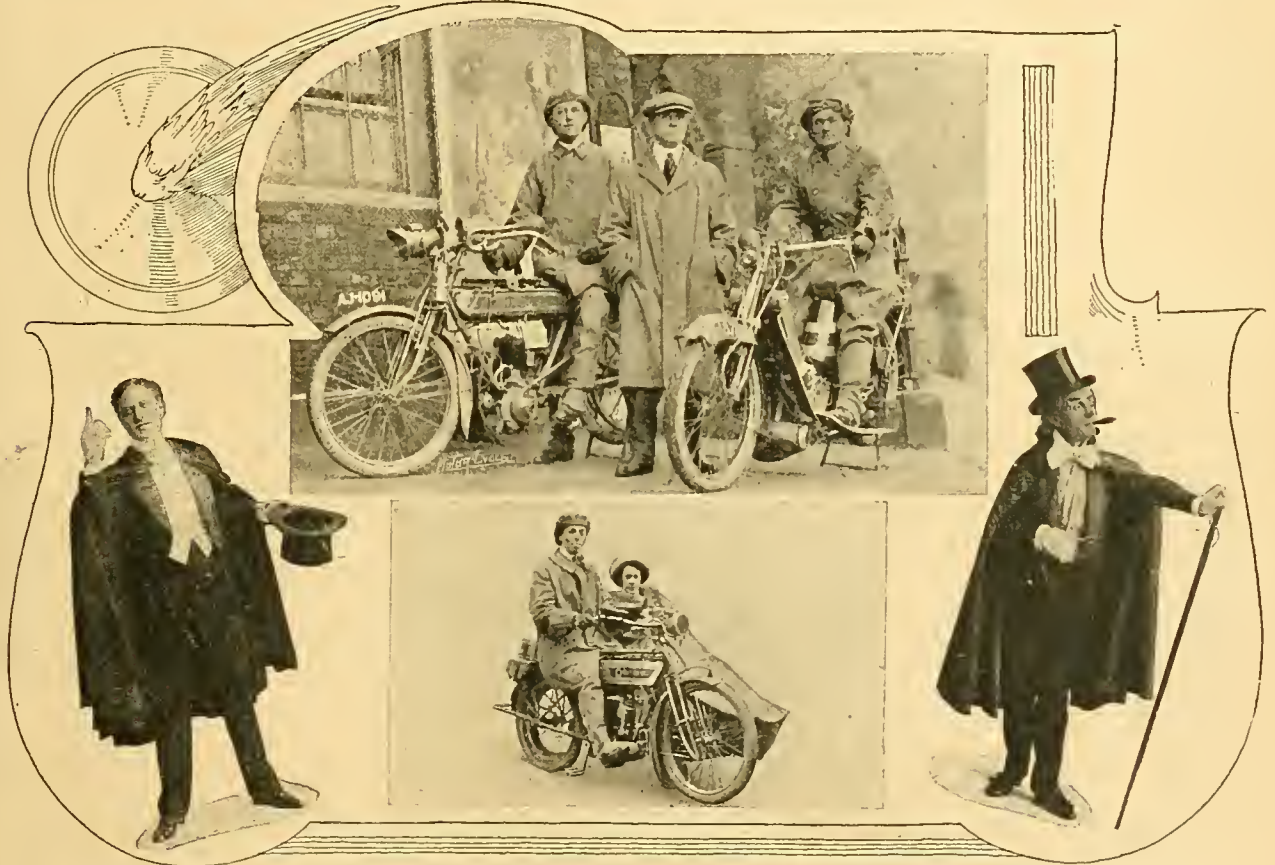
Mr. Ripley Evans (Vicomte Camille de Jolidon): "It is a little over two years since I took up motor cycling, very much against the advice of my friends, who guaranteed me all sorts of ailments. Of course, as you know my part in the show, it is no use me recalling to your mind the fact that I have the most singing of any of the men to do, and therefore naturally I was somewhat dubious. However, taking my courage in both hands, I purchased a Douglas, and after that another Douglas, and finally I now possess a 3½ h.p. Premier, which is at present *hors de combat*, owing to an endeavour on the part of a dog to try conclusions with it. Result: Dog dead, Premier damaged, myself out of pocket. That, by the way, is

at which we happen to be playing. Personally, I do not like night riding, so, of course, invariably commence my journeys at daybreak. I never take any account of the state of the weather, and, although naturally I like dry roads and sunny skies, the general rule seems to be muddy roads and mournful skies. Altogether, I love motor cycling, and shall continue to follow up the game as long as possible."

Musician's Sidecar Outfit.

Mr. F. G. Hulley says: "I am the leading player of the musicians who travel with the company, and my wife is also a member of the same company. For some time now we have used a motor cycle and sidecar, my present mount being a 1909 twin Rex and sidecar,

MEMBERS OF GEORGE EDWARDES'S MOTOR CYCLE CLUB.



Top, left to right: J. Warren Foster, Ripley Evans, and H. Sinclair Cotter.

Below: Warren Foster as "Prince Danilo."

Mr. and Mrs. F. G. Hulley.

Sinclair Cotter as "Baron Popoff."

the only trouble I have had, unless, of course, you consider the breaking of a valve and having to be towed ten miles, because you were silly enough not to carry a spare, constitutes trouble. I must have ridden over 8,000 miles this year, my longest day's run being 230 miles, and, much to the chagrin of my advisers, I have been in better health since taking up the sport, and have actually missed fewer performances through colds and coughs than is usually the case with chief singers during an ordinary country tour. As a rule I use my machine always; by that I mean I use it for travelling from town to town, and for seeing the country round about any particular place

which we always use in preference to trains for passing from one theatre to another, irrespective of the time of the year and the weather conditions, and, although our journeys are invariably over 100 miles, I have never yet found any bad effects to my playing; in fact, rather the reverse, as the runs seem to freshen one up so thoroughly. My longest day's journey was 230 miles, and my total mileage is considerably over 15,000, and never once have I had any serious trouble with the Rex. My wife naturally prefers the warm fine weather, but nevertheless she is never backward in coming forward when I give her the slightest hint of a jaunt."

CLUB NEWS.

Burnley A.C.

The annual dinner was held on the 19th inst. at the Old Red Lion Hotel, after which the prizes and medals won during the year were presented to the fortunate competitors.

M.C.C. News.

The annual general meeting of the Motor Cycling Club has been fixed for January 10th, on which occasion it is hoped to organise an entertainment. Twenty-six members were elected at the last committee meeting.

Oxford M.C.C.

On Friday last, December 15th, Mr. J. W. G. Brooker read a paper, already referred to, on "The Lubrication of Motors." The lecturer referred to the different systems of lubrication which were dealt with in the article published in *The Motor Cycle* last week, entitled "Lubrication Systems."

Walthamstow M.C.

The annual dinner took place last week, followed by the presentation of prizes won during the past season. Among others a silver cup was presented to Miss A. Percy for a standard ride of 200 miles. Mr. Percival, the hon. sec., stated that Messrs. Godfrey and Applebee, and Mr. Peppercorn, had presented silver cups for competition during 1912.

Wolverhampton M.C.C.

On the 11th inst. the first smoking concert and presentation of prizes was held at headquarters, King's Hall Restaurant. During the evening the prizes won in the two competitions held were presented, and were as follow:

HILL-CLIMB UP TO 500 C.C.

Rider and machine.	Time.
1. G. Hill (3½ h.p. Rudge)*	44½s.
2. C. O'Connor (3½ h.p. Rudge)	47½s.
3. R. W. Bill (3½ h.p. Triumph)	47½s.

* Fastest time of the day.

OVER 500 C.C.

1. A. Jones (8-9 h.p. Matchless)	46½s.
2. H. W. Wolverson (4 h.p. Ireland)	46½s.

RELIABILITY TRIAL, 75 MILES.

	Variation of time.
1. A. J. Stevens (2½ h.p. A.J.S.)	2m. 32½s.
2. R. Tonks (3½ h.p. Ariel)	2m. 47s.
3. C. O'Connor (3½ h.p. Rudge)	6m. 5s.

Also during the evening the secretary announced that he had received an offer of a cup, for a members' competition, from Messrs. Stevens Bros. The event for which this is to be put up will be decided at a future meeting of the club.

Blackpool and Fylde M.C.C.

The club has held a whist drive and dance, also a concert, at which some slides lent by *The Motor Cycle* were exhibited. On the 26th inst. there will be a club non-stop run to Kendal, starting at ten o'clock from the Technical Schools, via Garstang, Lancaster, and Milnthorpe.

Bishop Auckland, Darlington, and District M.C.C.

The annual meeting of the above club was held recently at the Fleece Hotel, Darlington, and was followed by the annual dinner, which was attended by a good number of members and friends. The captain—Mr. W. Swan—presided. During the evening the prizes won during the season were presented, and some splendid songs and recitations were rendered.

Doncaster and District M.C.C.

The annual dinner took place on the 7th inst., followed by the presentation of prizes, Messrs. T. H. Dunstan, E. Gault, G. Brechley, E. Lee, T. Dunk, L. Baker, J. A. Bassett, E. Brock, J. S. Smith, C. Barnsdale, E. A. Scott, T. H. W. Dew, A. D. Robinson, J. Haslam, and W. Skidmore being the principal winners. It was suggested that the club should amalgamate with the Doncaster and District A.C.

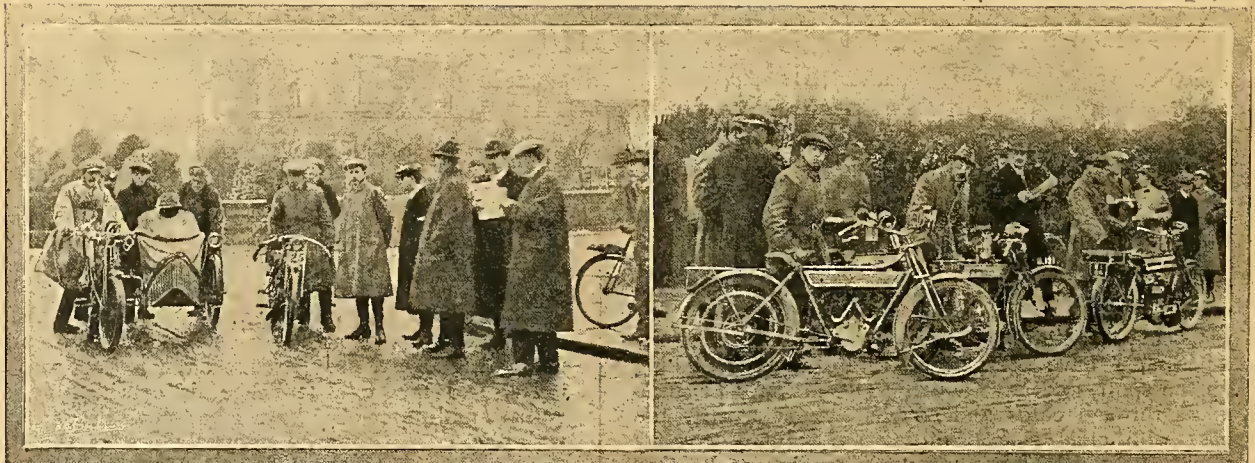
Cambridgeshire M.C.C.

The club annual dinner was held on Tuesday, December 12th, at headquarters. The president (Councillor G. O. Palmer) occupied the chair, and there were over fifty members and friends present. The menu card occasioned much amusement, being couched in motoring terms. Consumption trial for cylinders of any capacity: Lap 2, boiled halibut (enders); lap 6 (runabout), cheese. The prizes for the winners of competitions during the season were presented. The title to hold the President's Challenge Cup this year goes to Mr. H. S. Wallis. Other prize-winners were Messrs. C. W. Wilson, A. B. Hurry, F. Malt, F. T. Cox, and H. J. French. During the evening the hon. secretary was the recipient of a handsome clock, a present from the members of the club as a mark of their appreciation of his secretarial work.

Bristol M.C.C.

This club, only a fortnight old, held its first monthly meeting on the 12th inst. at headquarters, the Queen's Hotel, Clifton, with a splendid number in attendance. The chief business was the election of new members (of which there were nearly thirty), also the election of the committee, and the arrangement of dates for various fixtures. The club has decided, after due consideration, to affiliate to the A.C.U. Mr. P. Grout, of Warmley, near Bristol, has been elected to the post of hon. sec.

SUTTON COLDFIELD A.C. TWO DAYS' RELIABILITY TRIAL.



(1) W. H. Eggington (Zenith and sidecar) and H. Goodman (3½ h.p. Corah-Jap) starting.

R. H. Viggers (Enfield), Seymour Smith (Norton), and James St. John, the trials hon. sec. (Triumph), being started by Mr. Philip Mosedale.

Club News.—

Denton and District M.C. (Lancs.)

The first meeting of this newly formed club was held at headquarters, the King's Head Hotel, on the 12th inst. Those wishing to become members can obtain full particulars from the hon. secretary, Mr. G. Harrison, 267, Stockport Road, Denton.

Harrogate and District M.C.C.

The winter reliability trial will be run on December 27th (Wednesday), and will follow the same course as the A.C.U. used in this year's April Quarterly Trial, viz., Harrogate, Thirsk, Sutton Bank, Helmsley, Pickering, Whitby, Saltburn (via Coast Road), Stokesley, Thirsk, Ripon, and Harrogate—146 miles in all. The speed schedule will be eighteen miles per hour for solo machines and fifteen for passenger machines, which must carry passengers of at least eight stones. There will be eleven known checks only.

Dundee and District M.C.C.

The annual smoking concert and presentation of prizes was held on the 6th inst. at the Queen's Hotel, Dundee. A very good programme made the evening most enjoyable. The prize winners were as follows: Single-cylinder lightweights, J. Thomson and H. Drummond; single-cylinder heavyweights, T. Gunn and Douglas Scott; twin-cylinder lightweights, G. E. Whitehouse; twin-cylinder heavyweights, D. Forrester; passenger machines, J. Forrester and S. J. K. Thomson.

A pleasant surprise was created by the Chairman when he announced that he would present another silver cup and gold medal to replace the one which has been won outright. He also announced that Mr. Douglas Scott had presented the club with a very handsome silver cup. The donors were duly thanked for their liberality.

Sheffield and Hallamshire M.C.C.

A reliability run will be held on Tuesday, December 26th, 1911, to Bridlington and back. Route—outward: Tinsley, Rotherham, Doncaster, Selby, Market Weighton, Driffield, and Bridlington. Return: Bridlington, Driffield, Market Weighton, Selby, Doncaster, Rotherham, and Plummer's Hotel (Tinsley). Starting point, Queen's Memorial, Fargate.

Speed at which each competitor must travel will be twenty miles per hour for solo machines and twin-cylinder passenger machines; sixteen miles per hour for single-cylinder passenger machines. Other fixtures are:

Dec. 28th.—First Re-union at the Glossop Road Baths.

Jan. 18th.—A Social Meeting at headquarters

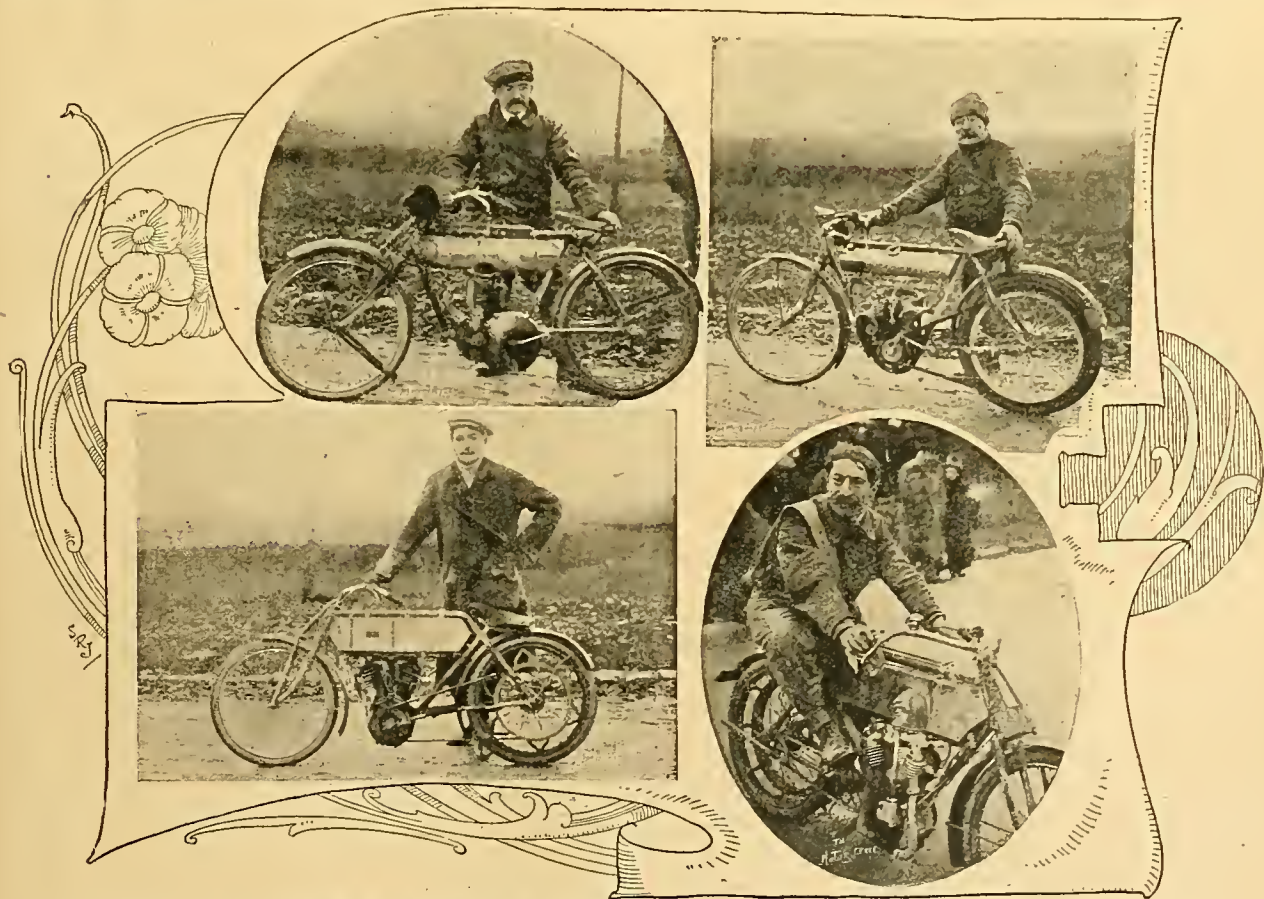
Coventry and Warwickshire M.C.

It has been arranged to hold a winter run on Saturday, December 30th, to the Dun Cow Hotel, Dunchurch. A party of members will leave the railway bridge on the London Road at 3 p.m.

Another case in which one of the members—Mr. Gilbert Spicer—was involved in county court proceedings was promptly brought to the notice of the R.A.C. and A.C.U. with a view to the governing bodies defending Mr. Spicer under the affiliation agreement, and the committee is glad to report that the solicitor instructed by the A.C.U. was again successful in getting the case dismissed.

The question of road improvements and the removal of dangerous corners has engaged the attention of the committee, and the Roads Improvement Association has been notified of the inadequacy of the danger signs on the Holyhead Road, Coventry; also of the need for some improvement at the dangerous corner in Kenilworth.

The provisional date for the annual dinner and prize distribution is Friday, February 2nd. It will be held at the Masonic Hall, Coventry.



WINNERS OF THE CIRCUIT DE MELUN ROAD RACE. (See last Thursday's issue, page 1376.)

1. Dacier (Alcyon) first in Class 1; time, 3h. 51m. 58's.; also first in the general classification.

2. Fav (Rene Gillett) who proved the winner in the 4th Class.

3. La-roix (Peugeot) winner of Class 2; time, 3h. 39m. 18s.

4. Dubost (R. Gillett) first home in Class 3 and fastest time of the day.

THE party consisted of three — W, the proud possessor for the past ten months of a second-hand motor cycle, alleged to develop $3\frac{1}{2}$ h.p. at a certain number of revolutions, at present unknown; L, who had shared the joys of the aforementioned mortal and machine, sometimes in the saddle, sometimes on the carrier, sometimes (mostly) in the garage, who aspires to grovel around a machine of his own so soon as stable room is found; and A, who has not yet tasted the delights of driving and control, but in whom W and L are working up fiery enthusiasm, such as they themselves have.

It was only natural that A, after a ride on the common carrier, should desire a country trip in a sidecar; it was equally natural that L should offer his services as hirer, driver, and repairer of the sidecar machine; and W found it his bounden duty to accompany the venture in the capacity of general adviser and road clearer.

So it came about that they took delivery for a week-end one recent Saturday morning of a motor cycle a little more ancient than W's, and of equally obscure power, to which was attached a brand-new sidecar. As it was L's first attempt at sidecar driving, he approached the combination with some misgivings, some of which were present in the mind of A, who took his seat in the chair for the preliminary canter



with about as much ease as the dentist's chair is taken by a man with an aching tooth.

Setting the Course.

After explicit and detailed instructions from W—who, by the way, is a stranger to the saddle of the sidecar machine—the affair, with L and A aboard, was pushed off. The course was kept due east for thirty yards, after which it suddenly veered to south-east by south, with L looking helplessly at his front wheel, in spite of all W's instructions. The kerb brought the first ride to a sudden stop, with nothing worse than a slipping round of the front frame clip; this was remedied with a spanner, and the sidecar wheel was pulled in nearer the cycle, as L complained that the existing position forced the steering round to the right. W looked from L to the wheel with doubtful eyes, but suffered the adjustment in silence.

At the next essay, before which A asked if he was expected to occupy the sidecar seat, the machine was kept to the crown of the road fairly successfully, and after rounding three corners L was given his pilot's certificate and more advice, and a start was made.

The objective was a point seventy miles from London, and the official time for the word "Go"

A TRIO'S TROUBLOUS TRIP. BY "FAF"



was to have been eight o'clock, but it was 9.30 before the lessons and preparations were over, and a push-off given by the worthy owner of the passenger machine. W wisely

kept himself and machine to the rear for the first mile or so, his attention divided between well-watered tramlines and the hairbreadth escapes of the sidecar wheel with carts standing on the near side of the road.

Poor "A" Sees Sparks.

At the first hill the sidecar machine jibbed, and L reported that the engine was misfiring. If had a magneto fitted, with which useful contrivance none of the trio had had any experience during their career, but W had seen the owner detach the dust cover from the contact-breaker to examine the points that morning, so with great dignity he bent down and did the same. The platinum tip on the rocker was pronounced to be loose, so it was decided to put up with the misfiring until a repairer could be found, but it got worse, and another stop was called about a couple of miles further, when L thought it time to show a little reasoning, so he took out the plug to try the spark, poor A being told off to hold the plug on the cylinder with a piece of rag while L pedalled. A spark must have been a new sight for the plug-holder, for he yelled with joy when he saw it occurring.

A passing motor cyclist was allowed to look at the contact-breaker; he would not commit himself, as he also had only used accumulators, but he thought the loose contact was the cause of the trouble.



They Dunno Where They Are.

The machines were started once more, but the route was lost, A being too nervous in the sidecar to study the map that had been given him at the start. The machine was left at a repairer's about eight miles from the commencement of the run for a rivet to be put in the contact-breaker, while the party adjourned to discuss a little refreshment and the chances of reaching their destination.

The offending contact having been righted, a trial was made on the stand, and the machines once more led forth to the highway. A push-off was given to the sidecarists by W, upon whom the post of starter had devolved, but not a solitary explosion rewarded his exertions. Back to the garage went the procession, where it was found that the contact-breaker could be turned by hand whilst the engine was stationary.

The offer from the mechanic to correct this peculiarity was gently declined, as payment for the last fifteen minutes' task had been made at the rate of 6s. per hour, and the three travellers settled

A Trio's Troublous Trip.—

themselves comfortably by the roadside and went for that magneto. Off came the timing gear cover, a piece of wire was poked vainly through the compression tap to find the top of the stroke, so out the automatic inlet valve had to come, when the piston could just be discerned; the contact-breaker was moved round into the most likely position, and the nut on the driving end of the magneto was tightened. On went the timing cover, inlet valve, and carburetter, and the engine was tested on the stand, the only result being a few half-hearted explosions, occurring, it was judged, somewhere during the exhaust stroke. As none of the amateur repairers could find out how to see the platinum points break whilst the dust cover was in position, they were rather surprised that they got a bang at all.

Larks with the Sparks!

Off came the timing gear cover again, but the nut on the magneto had been so well fixed by A that the wheel could not be loosened on the shaft. Here was a quandary, until in a happy moment A spied the intermediate pinion as a solution to the difficulty. The wheel was gingerly withdrawn, and W nearly contracted brain fever in a futile effort to work out the direction in which the magneto had to be turned; it was moved round four teeth, and the engine tested again, to fire in a worse manner than before. Back came the pinion eight teeth, and was altered yet again before being passed as satisfactory. It was a treat to hear the engine roar, and the amateurs must be pardoned if they patted each other's backs. All tools were bundled away, and the journey was resumed at half-past two—five hours on the road, and still in the suburbs!

Off She Goes!

W now took the lead, with an occasional look behind, where a cloud of dust denoted the progress of the sidecar. It was hoped that all trouble had been surmounted, as about thirty miles had been covered without serious mishap, when W came upon a spot where the road divided, and decided to wait for the sidecarists. After exhausting his patience, his tracks were retraced for four miles, and, breasting a slope, he came upon the other two sitting by the road, looking disconsolately at their machine.

"What's up?"

"Engine seized," answers L, laconically.

The engine pulley was immovable, so W obtained some paraffin, which was poured into the cylinder *via* the valve port with the aid of a funnel and the head lamp gas tube. This having no effect beyond making three pairs of hands fearfully dirty, it was voted to have the cylinder off, but as the piston had stopped well up in its stroke it could not be accomplished without the removal of the whole engine, with magneto, from its cradle.

This being done, it was placed tenderly on the grass and the cylinder withdrawn, when the piston was found to be in its normal free and oily condition. "Main bearings," said one; "Big end," said another. So there was nothing for it but to take the

crank case apart, and an onslaught was made upon the pulley, which stoutly resisted all attempts at its removal, which is not to be wondered at, as it was afterwards found to be screwed on the shaft.

Our Way of Thinking.

At this stage a council was held, and it was agreed that the matter had got beyond the scope of the party. The engine was placed in the sidecar, together with a quantity of loose bolts and parts which had been steadily accumulating around the open air garage, and the whole pushed to an adjacent village, where the smithy was found shut up and the only man who knew anything about motors away; but there was plenty of help, it seemed, at a town two miles distant.

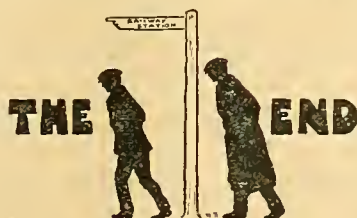
Another council was held, which ended by L and A going to engage a room at an inn, and W placing the cylinderless engine, with magneto attached, on his common carrier, and making his way in the gathering gloom to the town of hope, steering the throbbing machine with one hand and steadying the load on the back with the other. Arriving, he dismounted at a large garage, explaining the position and trouble to the gentleman who sauntered up, cracking and eating nuts with great relish. He remarked that the two mechanics had gone home and nothing could be done there before Monday, which was not very cheering news.

Sadly W wended his way onward, until a smaller shop up a side street was discovered, where he received help and sympathy, and operations were begun at once on the erring engine. A wire was sent to the people with whom the party would have lodged, and a return made to the village, where a welcome tea was consumed, the events of the day reviewed, and tracks were made for bed. Thus ended the first day of a trip that should have been so notable.

So Early in the Morning.

Next morning a visit was paid to the good repairer, who showed the astonished W the connecting rod bent almost to a right angle about two inches from the big end. It appeared that the gudgeon pin screw had worked loose and fallen into the crank case, being jammed between the rod and flywheels, stopping the engine dead whilst travelling at a good speed; hence the rod's spinal curvature.

The curving piece was heated and carefully beaten, but it began to crack on the inner side of the arc, and with this ended the expectations of continuing the trip that day. The sidecar machine was pushed the two miles to the yard of the repairer, and arrangements were made to send down another connecting rod and drive the combination back to London at a future date. W bade good-bye to his friends, and had a faultless run home on his beloved mount, leaving L and A to make their way to the railway station, sadder and wiser men, L to call upon the owner of the machine and sidecar to explain matters, A to return to the bosom of his family, his petrolic enthusiasm not only undiminished, but even increased.



QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

London to Devonar (Cornwall).

Q Will you please give route from London to Devonar in Cornwall?—G.H.

Your best route would be as follows: Brentford, Hounslow, Staines, Egham, Bagshot, Blackwater, Hartley Row, Basingstoke, Whitechurch, Andover, Amesbury, Hindon, Wincanton, Ilchester, Ilminster, Chard, Honiton, Exeter, Crediton, Bow, Okehampton, Launceston, Bodmin, Fraddon, Ladock, Truro, Devonar. You will find the Devonshire roads rather bad at present. The road given from Exeter to Okehampton is the least hilly, but a better surface will be found on the main road.

Overheating.

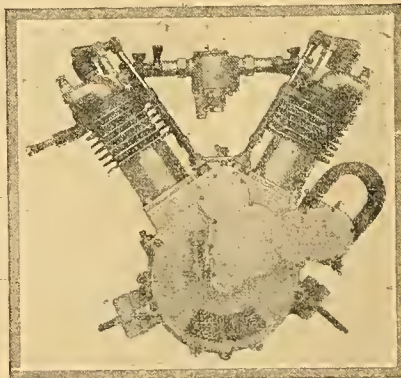
Q My 3½ h.p. always overheats. The compression is fairly good, and I have just had new piston rings, valves ground, and engine cleaned, but to no purpose. I have tried different jets, also different petrol levels, but find a very big jet (enlarged .034 B and E.) and air opening filed out to suit gives best results. To my surprise, the petrol consumption is much larger on a little jet than on a big one. The engine knocks long and often on the little jet, but not so much with the big one. The timing of the valves and magneto is as set by the makers. I have cleaned the silencer, and also tried open exhaust. The valve tappets are close up to the valve stems. I can just get a piece of notepaper between when hot. The gear is 4½ to 1—the lowest I can get with adjustable pulley. I can get up Edge Hill on the above gear if I cool down and fill the valve caps full of water before I start up, but I could not get up half-way if I took it without cooling down, etc. The exhaust valve is much smaller than the inlet. Would this make any difference?—G.L.

Without examining your engine it is impossible to say definitely. We should advise you to look to the cam gears, and see that the exhaust valve lifts at least a quarter of an inch. Then see that the magneto is correctly timed. The points should open on the top of the compression stroke, with lever retarded to nearly its full extent. A gear of 4½ to 1 is certainly too high. Running with magneto retarded will always cause overheating. If these suggestions fail we should advise you to visit the makers and consult them.

Licence for Sidecar.

Q I purchased a motor bicycle and sidecar this year, and on applying for the usual £1 licence observed that a further 15s. licence was required for a "carriage drawn by a motor car," and in the margin of the form it was stated "including sidecars and trailers used with motor bicycles and tricycles." As the date was subsequent to the 1st of October, two licences for 10s. and 7s. 6d. respectively were obtained. My sidecar is only used with my own bicycle; in fact, they are never used separately. (1.) Are two licences necessary, and what does the marginal note mean? (2.) Has any quotable decision been given on this matter? (3.) If the answer to my first question is in the negative, the form is misleading. Have I any redress? (4.) If the authorities press for a renewal in the new year, what is my best course?—SIDEAR, Peckham.

We should recommend you to take out the ordinary motor bicycle licence and no more. If the local taxation authorities threaten you, offer to fight. If they cave in, of course the point will be settled, but if they show signs of their willingness to go into the courts, communicate immediately with the Legal Department of the Auto Cycle Union (89, Pall Mall, S.W.), and they will tell you exactly what steps to take in the matter. The A.C.U. has long tried to persuade the authorities to allow one of these cases to go into the courts so that it may serve as a test case, but up to the present without success.



The new pattern Moto-Reve 4 h.p. twin cylinder V type engine with overhead valves.

Barrow-in-Furness to Plymouth.

Q Will you kindly give me a good route for motor cycle and sidecar from Barrow-in-Furness to Plymouth, *via* Castle Eaton—a small village midway between Fairford, Cricklade and Swindon? Is it possible for me to reach Castle Eaton the first day? Where are the best places to halt for the night, supposing I try to do the journey in three days?—C.M.W.

We have pleasure in giving you the following route: Barrow-in-Furness, Ulverston, Kendal, Carnforth, Lancaster, Preston, Wigan, Warrington, Tarporley, Whitworth, Hodnet, Wellington, Bridgnorth, Kidderminster, Worcester, Evesham, Stow-on-the-Wold, Burford, Lechlade, Castle Eaton, Cricklade, Malmesbury, Chippenham, Bath, Radstock, Wells, Glastonbury, Taunton, Cullompton, Exeter, Ashburton, Plympton, Plymouth. The distance would be approximately 427½ miles. It would hardly be possible for you to reach Castle Eaton on the first day, especially at this time of the year. We should recommend you to put up at Wellington or Bridgnorth the first night, Castle Eaton the second night.

Removal of Carbon.

Q Will you please answer the following questions: (1.) Would I obtain any better results by fitting two plugs in series, one having two poles? My machine is a 1911 free engine Triumph. (2.) How much would a plant for decarbonising cylinders cost? Could I have my cylinder done locally? What would the charge be, and where could I have it done? (3.) Are there any disadvantages in fitting Bowden magneto control and XL All saddles?—T.M.H.

(1.) We do not think you would obtain very much better results by fitting a two-pole plug. If, however, you care to make the experiment try the Lodge. A two-spark magneto is now made by the Bosch Magneto Co., who claim that an ordinary magneto used with a two-pole plug is likely to cause damage to the armature winding, and if you fit a two-spark magneto two ordinary plugs are all that are required. (2.) These outfits are not sold to the public. Decarbonising is carried out by the Internal Combustion Engine Cleaning Co., Ltd., 3, London Wall Buildings, E.C. The cost is 3s. 6d. for a single-cylinder machine. (3.) No; the reverse.

Cost of Taking a Motor Cycle to Australia.

[?] Please inform me what taxes I shall have to pay to ride a 2½ h.p. Douglas motor cycle in Melbourne, Australia, and what duty on landing. I have been riding it here since September last, so it could not be called a new one. I only want to take it for my own use.—A.J.T.

The duty you would have to pay would be twenty per cent. *ad valorem* for a machine of British manufacture, accompanied by a preferential certificate. We reckon the value would be the existing value of the machine. Full particulars can be obtained from the Government Offices of Victoria, Melbourne Place, Strand, W.C. The registration is 2s. 6d., driving licence 2s. 6d., obtainable from the Commissioner of Police, Melbourne. Both these licences are renewable annually as the driving and Inland Revenue licences are in England.

A Novice's Queries.

[?] I am desirous of purchasing a reliable and powerful motor cycle, capable of taking a sidecar over Devonshire roads. (1.) Do you consider a 3½ h.p. single-cylinder with change speed strong enough for the work I want it for? (2.) If so, which of the following would you place first: 1, Bradbury; 2, New Hudson; 3, James? (3.) With a two or three-speed gear is the engine very liable to get over-heated driving on hilly roads with a sidecar? (4.) In buying a sidecar, do you advise buying it from the same people as supply the motor? (5.) As regards the merit of chain or belt drive, do you consider the former has been so perfected that a novice can embark on one without fear of constant trouble? (6.) I am told that the latest form of Bosch waterproof magneto ignition is as near foolproof as it can possibly be. Is this correct?—NORTH DEVON.

(1.) 3½ h.p. would be hardly enough for Devonshire roads; 5-6 h.p. would be better. (2.) The machines mentioned are of equal excellence. (3.) Not if the engine is driven carefully, and throttled down when on the low speed. (4.) It would certainly save trouble if you bought the sidecar from the same people who supply the motor bicycle, and got them to fit it. (5.) We have no hesitation whatever in recommending chain drive if a sidecar is used. It should give no trouble even in the hands of a novice. (6.) You are quite right with regard to your remarks concerning the new Bosch magneto. The latest type magnetos have been rendered wonderfully simple, and practically weatherproof, but we recommend a shield to protect them from mud.

READERS' REPLIES.**Rust and Enamel.**

"G.D." is worried with rust on enamel. I think if he will follow these instructions he will get good results. Rub all rust marks bright with fine emery cloth, get a little white lead, and mix with turpentine, and paint all bright spots with same and let them dry properly, then paint with Velure (two coats), and he will find this will last as long as stove enamel.—J.H.C.

With reference to the query of your correspondent "G.D." in your issue of the 7th, we gather that he has used an enamel on his motor cycle frame, which has chipped off and subjected the bare metal to rust. Where uncovered, rusting, of course, is inevitable. We understand that this enamel is not Velure. Had it been, it would not have chipped off. He says, however, that he did use Velure once on a machine, and that spots of rust worked through. Whilst this is the first case of the kind we ever heard of, it is easily explained. The rust was there when the Velure was put on. Had "G.D." taken care to sandpaper it off thoroughly before applying the enamel, rusting would have been made impossible except by the enamel wearing through or being scraped or scratched off, because Velure is perfectly impervious to moisture, protects the metal, and prevents corrosion, whilst its flexibility is so great that, though of course it can be scraped off, it will not chip or crack if applied exactly as we send it out.—C. CHANCELLOR AND CO., LTD.

EXPERIENCES WANTED.

Readers desirous of obtaining the experiences of others with various motor cycles or accessories must enclose a stamped addressed envelope in which the replies may be forwarded. Answers to the queries below should be addressed c/o The Editor.

"W.C." (Farnham) desires owners experiences of the A.C. sociable.

"D.C.P." (Glasgow). Jones and Cowey speedometers.

"H.S." (East Kirby).—Scott with sidecar, reliability and upkeep.

"A.S." Ballinasloe).—5-6 h.p. four-cylinder F.N., general reliability.

"R.S.C." (Liverpool).—Albion two-speed free engine hub, or Millennium ditto, used on 6 h.p. machine.

X.Y.Z. (Land's End).—Humber runabout or other four-wheeled light car. Speed and reliability.

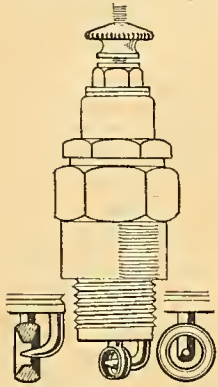
**THE HANDY SIDECAR.**

Mrs. Carside (to husband who has volunteered to run her into the nearest town to get a few things for Christmas): "Now, dear, if you can manage Pompom and the wooden horse, we'll pop off home."

AMONG THE ACCESSORIES.

A New Sparking Plug.

The Forward Cycle Co., 9, Edmund Street, Birmingham, have just introduced a new sparking plug, the electrodes of which are somewhat differently shaped from those usually employed. It will be



Forward new design plug.

noticed on reference to the sketch that the pointed earthed electrode passes through the centre of the insulated one which is formed circular, the sides being coned so that the portion nearest to the pointed electrode is thinner than the remainder. The makers inform us that they have been testing this plug for some time on several machines, and that it enables much easier starting. It is also claimed that it provides more power and cannot soot up. The firing points are made of pure nickel.

Belts and Bad Weather.

The correspondence on the above subject has attracted the notice of the Basilica Manufacturing Co., of Conduit Place, Spring St., W., who send us a sample of a belt which they claim is absolutely unaffected by any kind of weather, and wet weather in particular. The belt is built up of loops of leather so



folded that the end of one loop will fit between the jaws of the loop preceding it. Strong copper rivets are used to connect the loops, and $\frac{1}{8}$ in. washers on the top of each rivet serve to keep the



A SIDECAR FOOT-WARMER.

Introduced by Messrs. Brown Bros., Ltd., Great Eastern Street, E.C. The heater takes the form of an oblong box, the exhaust gases being conducted into it by means of a flexible metallic tube. It should prove a boon to all-weather sidecarists, and especially to competitors in the forthcoming winter runs.

belt from doubling up in the pulley grooves. The makers point out that the leather is not merely water-proof on the surface, but is specially prepared for resisting moisture.

Sidecar Foot-muffs.

A few days ago we inspected a foot muff intended specially for sidecar use. The Quidos as it is called, is made of stout brown canvas, edged with fur, and padded with very soft finely divided cork. This cork is treated by a special process to remove deleterious substances and to expand and soften the cells of the cork. This specially treated cork is used by the manufacturer of the muff in the stuffing of special mattresses. The advantages



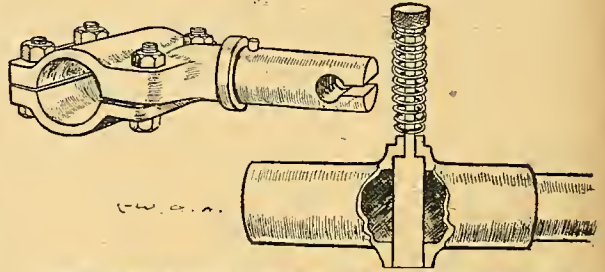
The Quidos sidecar foot-muff.

claimed for the use of this particular form of padding are that it is not only extremely light, but absolutely water-proof, and at the same time very warm. The maker points out that air being the best non-conductor known, provided its movement can be prevented, the air locked in these enlarged cork cells makes it a specially good non-conductor.

The manufacturer referred to is Mr. Leoline Edwards, of 81, St. Margaret's Road, Twickenham.

Seasonable Gifts.

At this period of the year, the pleasures of giving are often seriously handicapped by the difficulty experienced in making an appropriate selection of the gift. In the wheel world this difficulty is quite as marked as in any other sphere of life, but it should be considerably eased by a perusal of the motor cyclist's



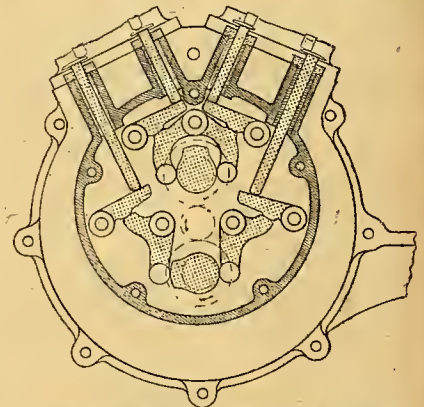
Another design of quickly detachable sidecar fixings, marketed by Scott's, Halifax.

edition of the Brooks book. Herein, apart from saddles, will be found many clever and ingenious devices for the carrying of tools and luggage, just the very things the enthusiast will appreciate. The address of the firm is J. B. Brooks and Co., Ltd., Great Charles Street, Birmingham, and a request for the book will be answered by return.

We are in receipt of the list of S. Smith and Sons, 9, Strand, W.C., showing their latest type speedometers, lamps, and A.L. generators. These articles are suitable for those who wish to make Christmas presents to motor cyclist friends and acquaintances.

Brough Twin Engines.

W. E. Brough and Co., of Nottingham, are placing on the market two new twin-cylinder V-type engines, one of 6 h.p., 77 x 88 mm., and one of 8 h.p., 85 x 88 mm., which latter is the one being fitted to the new Brough runabout which is to make its first appearance in the London-Exeter winter trial. The



Timing gear mechanism of the new twin-cylinder Brough. It will be noted that the inlet and exhaust cams are directly over one another.

engines have a particularly neat appearance. The cylinders are very cleanly cast, and have good air spaces between the valve ports and cylinder walls. The rocker action for operating the side by side valves is unusual, and can be best followed from the drawing reproduced herewith.

R.A.C. Handbooks.

We are in receipt of the eighth volume of the R.A.C. Handbooks, published by E. J. Burrow, Cheltenham. This volume is devoted to the Great North Road and the Dukeries.

Awaiting your Acceptance at Morecambe.

1912 MODELS

BAT, 3½ h.p.	£48 10
BAT, 3½ h.p., P. & M. 2-speed gear	£59 0
BAT, T.T. Model, 5 h.p.	£62 0
BAT, T.T. Model, 8 h.p.	£55 0
BAT, T.T. Model, 3½ h.p.	£50 0
BAT, 5-6 h.p., 2-speed gear	£70 12
BAT, 7-8 h.p., 2-speed gear	£72 12
BAT, 5-6 h.p.	£58 0
BAT, 7-8 h.p.	£60 0
MATCHLESS, 2½ h.p., Lady's Model, three speeds, and free engine	£53 11
MATCHLESS, 2½ h.p., Lightweight	£42 0
MATCHLESS, 3 h.p., Twin Lightweight	£52 10
MATCHLESS, 3½ h.p., Colonial Model	£48 8
(3-speed gear and free engine £10 10s. extra)	
MATCHLESS, 3½ h.p., T.T.	£50 8
MATCHLESS, 6 h.p., Twin	£56 14
MATCHLESS, 8 h.p., Twin	£57 15
MATCHLESS, 5 h.p., T.T. Twin Cylinder	£58 16
MATCHLESS, 8 h.p., 2-speed gear	£70 7
ZENITH, 3½ h.p., Gradua gear	£55 13
ZENITH, 6 h.p., Gradua gear	£70 7
ZENITH, 8 h.p., Gradua gear	£72 0
CLYNO, 5-6 h.p., 2-speed gear	£69 5
CLYNO and Sidecar (£17 model)	£85 5
HUMBER, 3½ h.p., 2-speed Model	£52 10
HUMBER, 3½ h.p., Pedal Motor Cycle	£47 10
(free engine hub, £4 extra)	
HUMBER, 2 h.p., Lightweight	£37 0
(three speeds £10 extra)	
HUMBER, 2½ h.p., Lightweight, T.T.	£42 0
HUMBER, 2 h.p., Lightweight, Lady's Model	£40 0
BRADBURY, 3½ h.p.	£48 0
BRADBURY, 3½ h.p., "Speed" Model	£48 0
BRADBURY, 3½ h.p., with free engine hub	£54 10
BRADBURY, 3½ h.p., 2-speed, belt drive	£55 0
BRADBURY, 3½ h.p., 2-speed, chain drive	£58 10
BRADBURY, Standard Sidecar	£10 0
BRADBURY, Model de Luxe Sidecar	£12 0
DOUGLAS, "G" Model	£41 0
DOUGLAS, "H" Model	£47 0

DOUGLAS, "J" Model	£47 0
DOUGLAS, "K" Model	£50 0
DOUGLAS, "L" Model, Lady's	£52 0

NEW & SECOND-HAND MAGNETO MODELS.

SCOTT, 1911, brand new	£60 0
ROYAL ENFIELD, chain drive, 1911, new	£40 0
REX DE LUXE, 5 h.p., as new, 1911 model	£50 0
PHOLON & MOORE, 1910, extra good	£50 0
MOTO-REVE, twin, new	£28 10
MOTO-REVE, single, as new	£22 0
J.A.P.-BAT, 4 h.p., 1911	£35 0
INDIAN (green), 5-6 h.p., 1910	£35 0
N.S.U., 1910, 2-speed gear	£35 0
PHOLON & MOORE, 1910, good order	£45 0
HUMBER, 2-speed gear, 1910, fine order	£38 0
MATCHLESS, 2-speed gear, 1911	£55 0
HUMBER (lightweight), 3-sp. gear, as new	£39 0
ROYAL ENFIELD, 1910, good order	£28 10
J.A.P.-CHATER-LEA, 10 h.p., racer	£36 0
REX, 1910 SPEED KING	£39 0
ZENITH, 1909, 5-6 h.p.	£32 10
J.A.P.-CHATER-LEA, F.E., 8 h.p.	£36 0
BRADBURY, 1910, fine order	£36 0
BROWN, 3½ h.p., F.E.	£27 10
TRIUMPH, 1911, as new	£30 0
F.N. Two-speed Lightweight	£27 10
TRIUMPH, 1909	£32 10
BROWN, 5 h.p., twin	£45 0
INDIAN, Red, 1910	£40 0
INDIAN, Green, 1910	£37 0
TRIUMPH, 1911, F.E., new	£55 0
SINGER, 2 h.p.	£13 10
NORTON, 5 h.p., two-speed	£49 0
TRIUMPH, 1910	£35 0
MINERVA, 3½ h.p.	£17 10
MINERVA, 3½ h.p., two-speed	£35 0
GRITZNER, F.E.	£18 0
REX, 3½ h.p., good order	£25 0
REX, 3½ h.p., nice line	£27 10
SINGER, 1911, Lightweight	£30 0
HUMBER, two-speed, 1910	£38 10
REX DE LUXE, 5 h.p.	£39 0

ROYAL ENFIELD, 1910	£27 10
SINGER, 3½ h.p.	£19 10
N.S.U., 3½ h.p.	£18 0
QUADRANT, 4 h.p.	£18 0
CLYDE, 2½ h.p.	£13 10
F.N., 1½ h.p., good order	£13 10
QUADRANT, 3½ h.p.	£16 0
MOTO-REVE, twin, 1911	£30 0
N.S.U., 3 h.p.	£15 0
Lady's SINGER, 1911, as new	£29 10
MOTO-REVE, 1910	£22 10
HERALD, 4½ h.p., Stephen	£22 10
SIMMS, 1½ h.p.	£12 0
HUMBER, 3½ h.p., belt-driven	£18 0
REX DE LUXE, 5 h.p., 1911	£48 0
MATCHLESS, 1911, 2-speed, 8 h.p.	£55 0
CLYNO, 5 h.p., 2-speed, shop-soiled	£57 10
MOTO-REVE, single-cylinder, 1910	£22 10
F.N. Four-cylinder, 4½ h.p.	£25 0
BRAITHWAITE, 4 h.p.	£17 0
REX SPEED KING, 5 h.p.	£40 0
REX, 3½ h.p., good puller	£20 0
DOUGLAS, 1911	£33 0

HEAPS MORE ON WEEKLY LIST.

ACCUMULATOR MODELS.

From £3 down and 5/- per week.

ARIEL, 2½ h.p., Michelin and Dunlop tyres	£11 0
F.N., 2½ h.p., good puller	£10 0

We have now arranged to have weekly specification lists, and shall be pleased to send you one. By the by, have you got our Accessory List? If not, send at once! The canary is well.

TO THE TRADE.

WANTED.

1912 P. & M.'s at £60, SCOTT'S at £60, MORGAN RUNABOUTS at 5% off retail price, and TRIUMPH at 5% over cost. Cash waiting.

Hitchen's Motor Exchange Co., Ltd.,

THE MONEY BACK FIRM, MORECAMBE.

Telephone: 112. Telegrams: "Motor, Morecambe."

MATCHLESS

"The Passenger Machine"

That takes you out and brings you home again with the speed of an Express Train, and the quietness of a £1,000 car.

6 Weeks' Delivery from date of Order Guaranteed.

ALL Spare Parts in Stock for Engine, Gear, and Machine.

REPAIRS. EXCHANGES.

"The Only Authorised AGENTS"—

The LONDON MATCHLESS MOTOR CYCLE AGENCY
184, Great Portland Street, LONDON, W.

PRICE'S MOTOR MANULAV

does not wash clothes, but it removes greasy grime in dirt from the hands in the most effective way.

The secret of its success lies in the way it is used. Rub a little of the half dry soap on the hands and work it well in before putting them in the water.

Remember! soap first, water to follow, and not much of either till the moment comes for a final sluice to wash off the lather.

Manulav is regularly used and appreciated by most of the motor cyclists who compete in the big events of the year.

Box of three large tablets, 1/-, post free.

PRICE'S PATENT CANDLE CO. LTD.,
BATTERSEA, LONDON, S.W.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns—First 14 words or less 1/6, and 1d. per word after. Each paragraph is charged separately. Name and address must be counted. In the case of Trade Advertisements a series of thirteen insertions is charged as twelve.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," Coventry, or London (20, Tudor Street, E.C.), by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should state distinctly under what heading and in what issue the announcement appeared.

CLASSIFICATION BY LOCALITY.

For the convenience of purchasers of second-hand motor cycles, the advertisements are classified into districts, as many readers like to know what machines are for sale in their immediate neighbourhood before going further afield.

Plan showing division of England into Sections.



Northumberland, Cumberland, Durham, and Westmoreland.

York and Lancashire.

Camraron, Denbigh, Flint, Cheshire, Derby, Stafford Shropshire, Montgomery, and Merioneth.

Nottingham, Lincoln, Leicester, Rutland, Northampton, Warwick.

Norfolk, Suffolk, Cambridge, Huntingdon and Bedford.

Worcester, Hereford, Radnor, Brecknock, Monmouth Glamorgan, Carmarthen, Cardigan, and Pembroke.

Gloucester, Oxford, Buckingham, Berks, Wilts and Hants Channel Islands.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

Somerset, Devon, Dorset, and Cornwall.

Scotland.

Ireland and Isle of Man.



THERE ARE NONE BETTER

and no lower prices possible than you will find in our great stock of nearly 250 Motor Cycles, including the latest 1912 models of all most famous makes ready for delivery now or at the opening of the 1912 riding season.

ASK FOR TO-DAY'S LIST.

H.P.		£	s.
4736. 3	1911 Triumph	18	10
4738. 8	1911 Chater-Lea No. 7 and coach-built sidecar	70	gns.
4738. 3½	1909 P. & M. and sidecar	38	gns.
4741. 3½	1910 Ariel, variable gear	30	gns.
4742. 3½	1908 Triumph and sidecar	30	0
4743. 3½	1911 F.E. Rudge	40	0
4745. 2½	1911 3-sp. New Hudson	35	0
4734. 3½	1911 2-sp. Chater-Lea and Sidecar	40	0
4733. 6	1909 2-sp. Chater-Lea and Sidecar	40	0
4731. 3½	1911 P. & M.	50	0
4729. 2½	1910 Royal Enfield	24	0
4730. 2	1910 Moto-Reve	21	0
4727. 3½	1911 Kerry-Abingdon	32	10
4723. 3½	1908 Triumph	27	10
4722. 2½	1911 Douglas	32	10
4720. 3½	1910 2-sp. Humber	30	0
4719. 2½	1911 Douglas	30	0
4718. 3½	1908 2-sp. N.S.U. and Sidecar	24	10
4717. 3½	1911 Standard Bat	40	0
4603. 3½	1911 Standard Triumph	35	0
4605. 5-6	1910 4-cyl. F.N.	25	0
4607. 3½	1911 Kerry-Abingdon	32	0
4707. 3½	1910 Lincoln-Elk	23	0
4706. 2½	1911 Lady's Motosacoche	29	0
4701. 2½	1909 Twin N.S.U.	20	0
4699. 3½	1910 2-sp. Humber	30	gns.
4692. 4½	1909 4-cyl. F.N.	20	0
4690. 8	1911 2-sp. Matchless	55	0
4689. 3½	1910 Tourist Rex	28	10
4688. 3½	1911 Zenith-Gradua	42	10
4682. 3½	1911 T.T. Triumph	35	0
4677. 3½	1910 Bradbury	30	0
4685. 3½	1911 2-sp. Humber	37	10
4670. 3½	1911 Bradbury	35	0
4420. 3½	1911 F.E. Premier	40	gns.
3894. 1½	1910 F.E. Motosacoche	22	10
4308. 7	1910 2-sp. V.S. and Sidecar	40	gns.
4372. 3½	1910 Standard Triumph	37	10
4229. 8	1910 Standard Bat	40	0
4564. 3½	1911 F.E. Triumph	45	0
4448. 3½	1911 Stan Bradbury	37	10

SEND DETAILS OF YOUR USED MACHINE, AND GET OUR LIBERAL ALLOWANCE OFFER IN PART PAYMENT OF A NEW MODEL.

WAUGHOPES

9, SHOE LANE, FLEET ST., LONDON, E.C.

Wires: "Opifcer." Phone: 5777 Holborn.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, ad. will be charged for registration, and three stamped and addressed envelopes must be sent for forwarding replies. Only the number will appear in the advertisement. Replies should be addressed, "No. 000, c/o 'The Motor Cycle,' Coventry"; or it "London" is added to the address, then to the number given, c/o "The Motor Cycle," 20, Tudor Street, E.C.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Motor Cycle," both parties are advised of this receipt.

The time allowed for a decision after receipt of the goods is three days, and if a sale is effected we remit the amount to the seller, but if not we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions exceeding £10 in value, a deposit fee of 2s. 6d. is charged, when under £10 the fee is 1s. All deposit matters are dealt with at Coventry, and cheques and money orders should be made payable to Illie and Sons Limited.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR BICYCLES FOR SALE.

SECTION I.

Northumberland, Cumberland, Durham, and Westmoreland.

31.h.p. Triumph, magneto, h.b.c., just been overhauled; £18, a bargain.—Turvey and Co., The Motor House, Sunderland.

31.h.p. Triumph, 1907, with 1910 cylinder and piston, magneto and h.b.c.; £23 to clear.—Turvey and Co., The Motor House, Sunderland.

24.h.p. Royal Enfield Twin Lightweight, new June, 1910, in grand running order; £24, bargain.—Turvey and Co., The Motor House, Sunderland.

31.h.p. 1909 Rex, magneto, Amac carburettor, h.b.c., in grand order; £22 to clear.—Turvey and Co., The Motor House, Sunderland.

32.h.p. Humber, 1911, only been in use 2 months, 2-speed gear, practically good as new; a bargain, £35.—Turvey and Co., The Motor House, Sunderland.

31.h.p. Triumph, free engine, just delivered; immediate delivery from stock.—Turvey and Co., The Motor House, Sunderland.

TRIUMPHS, HUMBERS, R.S.A., Royal Enfield motor cycles, lightweights, 2 speeds, free engines; write, wire, or phone for immediate deliveries.—Turvey and Co., The Motor House, Sunderland. Tel.: No. 626

32.h.p. 1910 N.S.U., 2-speed gear model, complete with sidecar, lamp, and horn, in perfect condition; £37/10.—Apply, Shaw, 39, Eldred St., Carlisle.

N.S.U., 6.b.p. twin, 1908 model, with 2-speed gear, lamp and generator, excellent condition; £30.—Dove and Co., Ltd., Bondgate, Darlington.

ZENITH-GRADUA, 1911, 3½.h.p., including P. and H. lamp and generator, electric head lamp, Cowey speedometer, spare belts and belt case, spare over, knee grips, suit of overalls, Kempshall tyre back wheel, first-class condition; £45.—Dove and Co., Ltd., Bondgate, Darlington.

SECTION II.

York and Lancashire.

1911 Standard Triumph, like new, £39/10.

1911 T.T. Triumph, a tier; £37.

1908 Triumph, new Palmer Rear, Dunlop belt; £26.

CROSS, agent for Triumph, Matchless, and Bradbury's, Rotherham.

1911 3.h.p. Lincoln E'k, brand new; £26.—86, Fargate, Sheffield.

FIRST 25 secures Minerva, 2h.p., do 30.—Reeves Motors, Bamfurlong, Wigan.

LATE 1911 F.E. Rudge, as new, in fine order; £49.—Redfern, Rudge agent, Rotherham.

N.S.U. Twin Lightweight, in fine order; £20, or exchange for 5-6.h.p. twin.—Redfern, Humber agent, Rotherham.

The Halifax Motor Exchange

Largest Rex Dealers,

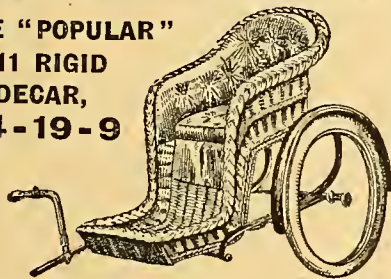
16, WESTGATE, HALIFAX.

'Phone, 766.

Telegrams: "Perfection."

1912 BRADBURY } **LIBERAL**
REX. } **EXCHANGES.**

THE "POPULAR"
1911 RIGID
SIDECAR,
£4-19-9



"Superbe" type, with best tyre, apron, etc. ... £6 6 6
Ditto, with reversible child's seat ... £7 0 0
Ditto, with best coach-built body ... £7 12 0
Improved Quick-detachable joints are fitted to all models. Prompt delivery to suit Rexes, Triumphs, N.S.U.'s, Indians, and any other make.
Discount to Trade. Exchanges entertained.

GUARANTEED IN RUNNING ORDER.

1912 Twin REX Sidette, in stock	£75 0
1911 3 1/2 h.p. Tourist REX, done 750 miles	£32 10
1911 2 1/2 h.p. Two-speed REX Junior	£39 10
1911 3 1/2 h.p. REX, clutch model	£37 10
1911 5 h.p. Two-speed REX DE LUXE	£47 10
1910 3 1/2 h.p. REX DE LUXE, brand NEW	47 Gns.
1910 3 1/2 h.p. T.T. TRIUMPH, grand machine	£38 10
1910 7 h.p. REX DE LUXE, two speeds	£48 0
1910 7 h.p. Twin REX, HOT STUFF	£37 10
1910 5 h.p. Twin REX, very fast	£29 10
1910 5 h.p. REX DE LUXE, fine sidecar machine	£42 10
1910 3 1/2 h.p. REX, very fast, special machine	£27 10
Two speed, free engine Twin REX DE LUXE	£27 10
Twin REX DE LUXE, Roc clutch, wants tuning up	£16 10
1908 3 1/2 h.p. Magneto REX, very fast	£24 10
1907 3 1/2 h.p. Magneto REX, spring forks	£19 10
5 1/2 h.p. Twin REX DE LUXE, Roc clutch, sp. forks	£24 10
Brand New 3 1/2 h.p. REX, spring forks and pedals	£31 0
Brand New Twin Magneto REX	£37 10
2 1/2 h.p. 1910 Two-speed Magneto F.N.	£27 10
Magneto TRIUMPH, spring forks, specially low	£25 0
3 1/2 h.p. REX, very good order	£8 10
3 1/2 h.p. REX, very fine condition	£15 10
5 1/2 h.p. Twin REX, extra good	£19 10
Four-cylinder F.N., magneto, spring forks	£18 10
F.N. Magneto Lightweight	£16 10
3 1/2 h.p. MINERVA-CHATER-LEA	£14 10
3 1/2 h.p. WOLF, Stevens engine, h.b. control	£12 10
Twin Magneto MOTO-REVE	£17 10
3 h.p. QUADRANT, spring forks, h.b. control	£12 10
3 h.p. HUMBER chain drive	£9 10
MOTOSACOCHE, Drud forks	£14 10
WOLF, Lightweight	£10 10

Easy Payments at Special Rates.

£4 DOWN and 5/- weekly secures prompt despatch of any of these machines	
3 1/2 h.p. MINERVA-CHATER-LEA	£14 10
3 h.p. QUADRANT, V belt, h.b. control, sp. forks	£12 10
4 h.p. ANTOINE, M.O.V., good order, reliable	£14 10
Lightweight MOTOSACOCHE, spray, runs well	£14 10
3 h.p. QUADRANT	£10 10
2 1/2 h.p. KERRY, spring forks	£10 10
1 1/2 h.p. Magneto MOTO-REVE	£12 10
3 1/2 h.p. WOLF, spray, smart, h.b. control	£12 10
5 1/2 h.p. Twin REX, fine machine	£16 10
3 1/2 h.p. MINERVA, M.O.V., 26 in. wheels	£15 10

CARS.

15 h.p. 4-cyl. REX REMO, Bosch magneto, grand touring car, many accessories, spares	£160 0
16-20 h.p. 4-cylinder WOLSELEY, 2-seater	£49 10
5 1/2 h.p. single-cyl. BABY PEUGEOT, 2-seater	OFFERS
6 h.p. HUMBERETTE, 2-seater	OFFERS

WE have a few Brand New 1911 TOURIST and DE LUXE REXES on hand, and we are prepared to make liberal allowances for Second-hand Rexes in Exchange.

MOTOR BICYCLES FOR SALE.

WALSALL Garage.—Bargains in second-hand machines; compare our prices.

WALSALL Garage.—Scott, June, 1911, ridden about 800 miles, Lucas lamp and horn; £49; with latest pattern torpedo sidecar, £54.

WALSALL Garage.—Indian, 1911, 7 h.p., clutch model, Blue-Eagle competition winner, Lucas lamp and horn; £42.

WALSALL Garage.—REX, 1911, 5 h.p., T.T. twin, practically new; £38.

WALSALL Garage.—6 h.p., 1909, twin, magneto, up-to-date; £16/10.

WALSALL Garage.—Sole agents for Humbers, Rudge, A.J.S., Calthorpe, and Ivy-Precision; cash, exchange, or easy terms.

WALSALL Garage, Wolverhampton St., Walsall.—Tel.: 444.

F.N., 1909, 5-6 h.p., 4-cyl., magneto, perfect order; cash 20 guineas.—E. Smith, Rutland Sq., Bake-well.

F.N., 4-cyl., in perfect order; any trial; new back tyre; £30, cash.—Hanley Garage, Ltd., Champside, Hanley.

MATCHLESS, 5 h.p., T.T. model, 1911, in really fine condition, equal to new, exceptionally fast; £50.—Below.

MATCHLESS, 1912.—Early delivery guaranteed, all models; send for catalogue.—Talbot Garage, Ltd., Stockport, sole agents for Cheshire and High Peak.

HUMBER, 2 h.p., 1911, shop-soiled only, never been used; rare bargain, £35.—Talbot Garage, Ltd., Stockport.

HUMBER, 3 1/2 h.p., 2-speed, free engine, last year's model, in sound order; £35.—Hanley Garage, Ltd., Champside, Hanley.

BRAND New Lady's Singer Motor Cycle, used 3 trial runs only, splendid hill-climber, very light.—Millard, Shandon, Chesterfield.

2 1/2 h.p. F.N. Motor Cycle, B. and B. carburetter, h.b.c., splendid running order; £10.—Snaillwood, 41, Witton St., Northwich.

3 1/2 h.p. Twin Clement-Garrard, spring forks, studded tyres, fine going order; £15.—Postlethwaite, Overend St., West Bromwich.

N.S.U., 3 1/2 h.p., magneto, Amac, Whittle, excellent tyres, in the rough order throughout; trial here: £19/10.—S. Ethelston, Hinton, Whitechurch, Salop.

ZENITH, 3 1/2 h.p., late 1911, practically new, perfect condition, tyres unspratched; must sell to best offer.—W. H. Rawdon-Smith, Iron Bridge, Shropshire.

1911 Hamber Lightweight, Dunlop tyres like new, brand new Dunlop belt, variable pulley, carrier, pannier bags, etc., enamel and plating unspratched; a real bargain, £27/10.—Rev. Owen, Hope, Mold.

3 1/2 h.p. Chater-Lea, magneto, powerful, reliable, Brooks saddle; 5 h.p. motor, Brown engine, spring forks, B. and B., re-built with new parts; offers, exchange, 5 h.p. preferred.—Particulars, Thomas & Watson, Ripley, Derby.

RUDGE T.T. July 1911, good competition machine, capable 60 miles per hour, and has not been faked, spares, £38; 1912 variable geared Rudge, at £60, and guaranteed delivery in February; standard models immediate delivery.—Wedge, Willenhall.

7 1/2 h.p. 1909 Minerva, Bosch magneto, spring forks, footboards, low saddle, with Ariel sidecar, all tyres in good condition; the above combination is in first class order, and is a thoroughly reliable mount; first offer over £22/10.—Murrell, Bolton Rd., Wednesfield, Staffs.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

FOR Sale, 1911 Indian, 7 h.p., free engine.—Apply, 42, Spon St., Coventry.

TRIUMPH, late 1909, carefully used, lamp, horn, generator, whistle, tools; £30; offers.—S. Edgaston St., Birmingham.

1912 Bradburys, Triumphs, Ridges, B.S.A., Zeniths, Matchless; immediate deliveries.—Clifford, Motories, Eastwood.

3 1/2 h.p. Centaur (late 1910), equal new, 2-speed, free 2 engine, excellent mount; 29 guineas.—Wright, 7, Mill St., Coventry.

N.S.U. 6 h.p. Twin, 2-speed gear, with coach-built sidecar, splendid condition, or exchange 1911 F.N.—Wilson, Green, Ruddington.

NEW Rudge at second-hand price, free engine, Lucas 460 lamp, and generator; splendid bargain.—Lloyd, Brocklands, Allesley, Coventry.

3 1/2 h.p. Minerva, magneto, spring forks, h.b.c., with 32 art cane sidecar or separate; bargain, £18 lot.—223, Wheeler St., Birmingham.

TRIUMPH, 1908, looks as new, condition and power guaranteed; expert examination invited; cash offers wanted.—Wynn, Alcester.

3 h.p. Fafnir, h.b.c., good tyres, new belt, just overhauled, spares; £10; seen by appointment.—R. R. Evans, Heath Terrace, Leamington.

REY, 5, HEATH ST., HAMPSTEAD

Close to Hampstead Tube Station.

Telegrams: "Rey, Hampstead." Tel. 2678 P.O., Hampstead

EXTENDED PAYMENTS

Taken on any Machine or Runabout.

NO EXTRA CHARGE

on the following 1912 Machines in STOCK:

TERMS: QUARTER DOWN, BALANCE IN TWELVE EQUAL MONTHLY PAYMENTS.

BRADBURY, 1912, standard	5% extra E.P.	£48 0
BRADBURY, 1912, T.T.	"	£48 0
BRADBURY, 1912, free engine	"	£54 10
BRADBURY, 1912, two-speed gear, Jan.	"	£55 0
RUDGE, 1912 standard model	No extra E.P.	£48 15
RUDGE, 1912 T.T.	"	£48 15
RUDGE, 1912 free engine	"	£55 0
B.S.A., 1911 standard model	"	£50 0
ZENITH, 1912, 3 1/2 h.p., six weeks	"	53 Gns.
ZENITH, 1912, 6 h.p., six weeks	"	67 Gns.
ZENITH, 1912, 8 h.p., six weeks	"	69 Gns.
PREMIER, 1912 standard	"	£47 10
BAT, 1912, 3 1/2 h.p., two-speed	"	£59 0
BAT, 1912, 6 h.p., two-speed, Jan.	"	£70 12
BAT, 1912, 8 h.p., two-speed, Jan.	"	£72 12
F.N., 1912, 2 1/2 h.p., two-speed gear	"	45 Gns.
F.N., 1912, 5-6 h.p.	"	50 Gns.
SINGER, 3 1/2 h.p., 1912	"	£48 15
SINGER, 3 1/2 h.p., 1912, free engine	"	£55 0
LINCOLN ELK, 1912, 2 1/2 h.p.	5% extra E.P.	£28 10
LINCOLN ELK, 1912, 3 h.p.	"	£30 10
LINCOLN ELK, 1912, 3 1/2 h.p.	"	£34 0
TRIUMPH, 1912, T.T. Roadster	"	£50 0
BEDELLA Cars	7 1/2% extra E.P.	59 Gns.
G. & N. Runabouts, 8 h.p. (in 6 weeks)	"	£87 10
A.C., speed sociable type (in Feb.)	"	£87 10

Any other makes on application.

ALL THE ABOVE MACHINES IN STOCK. No waiting.

1911 New Machines to clear at Bargain Prices.

B.S.A., 3 1/2 h.p., standard £50 model	£41 0
HOBART, 2 1/2 h.p., lightweight, £38 model	£29 0
TRIUMPH T.T. Roadster, £50 model	£47 0

Second-hand Machines at Bargain Prices to clear.

PREMIER Twin, 1911, two-speed gear	£38 0
QUADRANT, 3 1/2 h.p., 1911, good condition	£26 0
BAT, 8 h.p., good condition, all accessories	£28 0
BAT, 8 h.p., 1910, with Millford sidecar	£40 0
LINCOLN ELK, 3 1/2 h.p., 1911, clutch, and sidecar	£30 0
B.S.A., 1911, almost new	£40 0
HOBART, 2 1/2 h.p., soiled only	£29 0
MOTO-REVE, 1911 model, twin	£19 0
PRECISION, 2 1/2 h.p., 1911, almost new	£25 0
B.S.A., 2 1/2 h.p., new cylinder wanted	£4 10
F.N., 4 1/2 h.p., good order	£18 0
F.N., 2 1/2 h.p., two-speed, good condition, 1911	£27 0
F.N., four-cylinder, 1911, almost new	£29 0
F.N., 5-6 h.p., four-cylinder, 1910	£22 0
REX, 6 h.p., 1911, F.E.	£37 0
REX, 3 1/2 h.p., with speedometer, 1910	£26 0
REX, 4 h.p., T.T. twin, 1911 model, splendid order	£26 0
REX, 3 1/2 h.p., 1910, good order	£24 0
BRADBURY, 1911, fac order	£32 0
DOUGLAS, 2 1/2 h.p., 1910, fine order, all accessories	£25 0
DOUGLAS, 2 1/2 h.p., 1910, good order	£23 0
DOUGLAS, 1911, Model D, all accessories	£26 0
DOUGLAS, 1911, two-speed	£33 0
ZENITH, 1910, good order	£32 0
ZENITH, 1911, 3 1/2 h.p.	£39 0
ZENITH, 1911, 3 1/2 h.p.	£40 0
ZENITH, 1911, 3 1/2 h.p.	£42 0
TRIUMPH, 1910, standard	£35 0
TRIUMPH, 1910, F.E.	£39 0
TRIUMPH, 1910, F.E.	£38 0
BAT 3 1/2 h.p., P. and M. two-speed gear	£33 0

All Accessories included on S.H. at the price advertised.

THE
£3-10 REY Sidecar £3-10
With 26 x 2 1/2 Hutchinson Tyre, £5.

Repairs of every description at lowest prices. All Motor Cycle Accessories in stock. BOOK your 1912 mount NOW. Send for Exchange Form, and get best price.

BEST HOUSE IN ENGLAND FOR QUICK DELIVERY.

Terms: Cash, Exchange, or Extended Payment on any Machines or Sidecars.

The REY LEATHER BELTING outlasts two of any other make. PRICE 2/- per foot. Sample on application.

REY
Manufacturers of the Rey Exhaust Whistle and Sidecar,
ONLY HOUSE IN ENGLAND FOR QUICK DELIVERY,
HAMPSTEAD.

In answering these advertisements it is desirable to mention "The Motor Cycle."

The best machine
at the best price
is what you will
get by dealing with

GODFREY & APPLEBEE

Famous throughout the
motor cycling world as
the "straight" firm.
In addition to our
supplying

SCOTTS,
BRADBURY'S,
ZENITHS,
TRUMP-J.A.P.S.,
etc., we have secured
the following exclusive
agencies—

Sole London Agents
for the
CORAH
Motor Cycles.

EXCLUSIVE
West End Agents
for
INDIAN
Motor Cycles.

We have also practically
completed negotiations
for the
SOLE LONDON
AGENCY FOR

THE
"G.N."
Runabout.

GODFREY & APPLEBEE, LTD.,
Sole Agents for Scott and Trump-J.A.P.
Special Agents for Indian, Bradbury,
and Zenith.

208, Gt. Portland St., LONDON, W.
Telegrams: "Gofrabike, London."
Telephone No.: Mayfair 4350.

MOTOR BICYCLES FOR SALE.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth, Glamorgan, Carmarthen, Cardigan, and Pembroke.

27 Guineas—First offer secures my 5-6h.p. Clyno, climb anything, exceptionally fast.—Bool, Llanelli.

3¹/₂h.p. Minerva, Chater-Lea, 1910. Mabon clutch, F.R.S., whittle, spares; £22.—Ratchiffe, Upton-on-Severn.

TRIUMPH, July, 1910. N.S.U. 2-speed gear, August, 1911, Millford sidcar (£9/9), August, 1911, spares, complete; £50; perfect.—Holloway, Evesham.

5-6h.p. F.N., new August last, with 2-speed gear, Rom back tyre, all accessories; offers or exchange first-class player piano.—Box No. L5206, *The Motor Cycle* Offices, 20, Tudor St., E.C.

FAFNIR, Chater-Lea, tyres good, stand, carrier, large toolbag, tools, belt box, registration numbers, etc.; giving up motoring, marriage: everything thorough condition, just plated, enamelled, very fast, perfectly reliable; £18, quick sale.—P. Avalon, Osborne Rd., Pontypool, Mon.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

MOTO-REVE, 2¹/₂h.p. twin, used 2 months; £27/10. near offer.—Randall, Andover.

SINGER Moto-Velo, 2¹/₂h.p.; £20, offers.—Randall, Andover.

LINCOLN Elk, new, 3¹/₂h.p.; offers.—Randall, Andover.

3¹/₂h.p. P. and M., 1911. 2-speed, little used, perfectly new condition.—D. Vernon, High Wycombe.

N.S.U. Lightweight, 2h.p., magneto, h.b.c., guaranteed perfect; £14.—80, Winchcombe St., Cheltenham.

1¹/₂h.p. Werner, good running order, new accumulator; £2.—Cocks, New Rd., Spencer's Wood, Reading.

PREMIER (late 1910), 2-speed, free engine, in perfect order, and sidcar; £42.—Hughes, Garrison Institute, Bulford Camp.

19¹¹ Latest Model 4-cyl. T.A.C., equal to new; cost over £80, valuable spares; £49 nett.—A. Ward, Home Farm, Ascot.

CLUTCH Triumph, late 1911, perfectly new condition, Palmer cords; nearest £47.—Horwood, Eastcote, Twyford, Berks.

PEUGEOT, 3¹/₂h.p., new Bosch, B. and B. drip lubrication, standard Clinchers, guaranteed; offers.—Camery, Doynton, Bristol.

TRIUMPH, 1908, excellent condition, Mabon clutch, Lomax bands, 3 spare valves; £28.—Aldons, 13, Warborough Rd., Southsea.

KERRY-ABINGDON, 1911, 3¹/₂h.p., 2-speed, clutch, spares, used 2,700 miles; any trial; £42, or near offer.—Alston, Quarley, Andover.

REX, 3¹/₂h.p., 1910, Tourist Trophy model, free engine, perfect condition; £35, or near offer.—Dunlop and Co., Jewry St., Winchester.

F.N., 4-cyl., 4¹/₂h.p., overhauled at considerable expense, mechanically perfect, also tyres; bargain, 17 guineas.—Heyburn, Motors, Maidenhead.

19¹⁰ N.S.U. Lightweight, Bosch, little used, plating, enamel as new; examination invited; many accessories; £19.—Canning, Brewery, Windsor.

19¹¹ Royal Enfield, free engine, 2-speed, twin-cyl., 2¹/₂h.p., grand little machine; original price £52/10, offered at £34.—Julian, ironmonger, Basingstoke.

REX, 1908, 5h.p., buck cylinder square fins, also piston, Auto-varia or other change-speed; cheap for cash; approval.—8, Westbourne Gardens, Trowbridge, Wilts.

TRIUMPH, free engine, November, 1911, as new, Palmer cords, unmounted; £50, or near offer; seen any time. Morris's Garage, Oxford.—Lettice, 91, St. George's Square, London, S.W.

SINGER, 1911-12, Cowey speedometer, Palmer cords, headlight, cost £60 recently, only used few times; 48 guineas, or nearest; wanted, lightweight Douglas.—Motorist, 43, Hartington Rd., Salisbury.

HARVEY, 58, Poole Rd., Bournemouth, sole district agent for Humbers; early deliveries all 1912 models; your present mount taken in exchange; one second-hand 1911 lightweight Humber, £24; owner ordered twin.

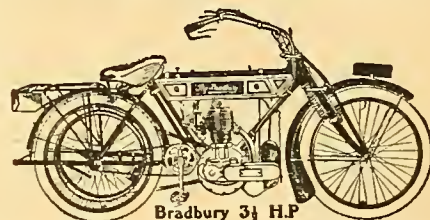
BRADBURY (October, 1909), only done 6,500, kept perfectly by experienced chauffeur, nearly new Palmer cord tyre and tube, Lucas King of Road lamp, Brooks pannier bag, horn, and spares; £28.—Gueterbock, 17, Upper Belgrave Rd., Bristol.

MINERVA, 3¹/₂h.p., magneto, B. and B. lamp, generator, horn, h.b.c., new piston, new cylinder; just been rebushed and overhauled, compression perfect fast, 85 miles per gallon, excellent condition; £22; offers.—A. F. Riecke, R.F.A., Deepcut, Farnborough, Hants.

C.D.C.

Collier's Motories, Westgate, Halifax, ENGLAND.

Early deliveries of
1912 Bradbury machines.



Exchanges Quoted. Distance no objection.

£8

deposit and 10/- weekly secures—
Magneto Triumph £25 10
5¹/₂ h.p. Twin Rex de Luxe, mag. £24 10
Four-cylinder F.N., magneto £19 19
3¹/₂ h.p. Magneto Rex £19 19
Twin Moto-Reve £19 19
F.N. Magneto Lightweight £19 18

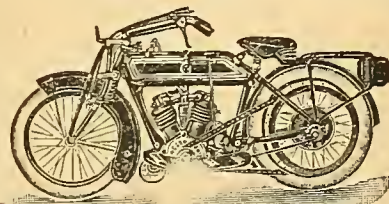
SECOND-HAND MACHINES.

CASH, EXCHANGE, OR EASY PAYMENTS.

1910 3¹/₂ h.p. Magneto TRIUMPH, VERY HOT .. £38 10
1910 7 h.p. Twin REX, M.O.V. £37 10
5¹/₂ h.p. N.S.U., free engine and sidcar £33 10
Magneto TRIUMPH, spring forks, very smart £25 10
Twin REX DE LUXE, and Montgomery Sidcar £25 0
REX, 1910, 3¹/₂ h.p., "hot stuff" £29 10
5¹/₂ h.p. Two-speed Twin REX DE LUXE £27 10
3 h.p. 1910 1 twin REX, special machine £29 10
4¹/₂ h.p. Four-cylinder F.N., magneto £19 19
2¹/₂ h.p. KERRY, runs well, spring forks £10 10
1910 3¹/₂ h.p. T.T. REX, very fast £27 10
1910 1 two-speed F.N. Lightweight, h.-b. control £27 10
3 h.p. HUMBER, chain drive £7 10
4 h.p. ANTOINE, M.O.V. £14 10
1908 3¹/₂ h.p. Magneto REX, spring forks £24 10
1907 3¹/₂ h.p. Magneto REX, spring forks £19 19
1¹/₂ h.p. WOLF Lightweight, h.b. control £10 10
4 h.p. Tourist REX, brand new £29 10
1910 Twin REX DE LUXE, two speeds £42 10
New Twin REX, cantilever seat 36 Gns.
Twin REX DE LUXE, and Sidcar £27 10
MOTO-REVE, magneto, Druids £19 19
MOTOSACOCHE Lightweight £14 10
3¹/₂ h.p. MINERVA, torpedo tank £14 10
F.N. Lightweight, magneto, spring forks £19 19
REX Twin, 5¹/₂ h.p., spring forks, fast £19 10
REX, 3¹/₂ h.p., spring forks, Dunlop non-skids £15 10
1911 3¹/₂ h.p. Tourist REX £32 10
1911 Twin REX DE LUXE £46 10
1911 Single-cylinder Two-speed REX, 300 miles .. £32 10

A CALL WILL REPAY YOU.

Brand New 1911 3¹/₂ h.p. Tourist REX 43 Gns.
" " 1911 2¹/₂ h.p. 2-speed REX Junior 50 Gns.
" " 1911 3¹/₂ h.p. Free-engine REX 48 Gns.
" " 1911 3¹/₂ h.p. REX DE LUXE 57 Gns.



Also 1911 New 2-speed Twin REX
DE LUXE as per illustration 63 Gns.
Discount to Cash Buyers.

Exchanges entertained.

MOTOR BICYCLES FOR SALE.

1912 Arno, 3½h.p., very low, Villiers hub clutch (standing start), N.S.U. 2-speed gear, 1912 variable jet carburettor, heavy Kempshalls, French grey, latest throughout, ridden 500 miles, practically new; owner buying twin; £45, lowest.—L. Southcourt, Chalfont St. Peters, Bucks.

1911 Standard Triumph, Roc 2-speed, splendid condition, complete with Lucas King of the Road lamp, horn, and mirror, Cowey, Palmer studded cord tyres, spare butt-ended tube and case, accessories, driven 750 miles; each 55 guineas; bought car.—Dr. Phillips, Pinewood, Wokingham, Berks.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent, and Sussex.

WILTON Cycle Co., Victoria, S.W.

WILTON.—1911 Triumphs, as new, clutch models, with accessories, £45, £48; another, with sidecar, £50.

WILTON.—1911 Bradburys, as new, with accessories, 2-speed gears, and sidecars; £50, £55.

WILTON.—1911 Bradbury, standard, with accessories, and Chater-Lea sidecar; £45.

WILTON.—1911 8h.p. Bat, with P. and M. gear, Gloria sidecar, and accessories, as new; £68.

WILTON.—6h.p. Matchless T.T. roadster, overhead valves, fine condition; £38.

WILTON.—1911 Clyno, brand new, delivered show week; £60.

WILTON.—4-cyl. F.N.'s, splendid condition, with accessories; £20, £22.

WILTON.—1911 Kerry-Abingdon, with 2-speed gear, and special Kerry sidecar (cane), with accessories, as new; £50.

WILTON.—Moto-Reve, 2½h.p., new; £39.

WILTON.—Clyno and Matchless sole S.W. agents; delivery January.

WILTON.—Bradbury authorised agents; delivery from stock 1912 models.

WILTON.—Lincoln Elk, new 2½h.p.; £25.

WILTON.—Clyno, Matchless, and Wilton sidecars from stock.

WILTON.—Exchanges and instalments arranged. Please write for forms.

WILTON Cycle Co., 110, Wilton Rd., Victoria, S.W. Phone: 5115 Westminster.

OMNIUM Motor Co., Ltd., 198, Gt. Portland St., W.

REX-J.A.P.'s.—We can give you early delivery of these famous machines.—Omnium.

REX-J.A.P.'s.—2, 3, 4, 6 and 8h.p., 2-speed or fixed gear models; call or write for our lists.—Omnium.

1910 Rex de Luxe, 6h.p., 2-speed gear, handle starting, F.R.S. beam lamp, speedometer, watch, new Shamrock-Gloria back, Peter Union front, Whittle, 3 toolbags and tools, splendid condition; £41.—Omnium.

1911 2½h.p. 2-speed Twin Royal Enfield, only delivered few weeks, practically new; any trial; £46.—Omnium.

F.N., 2h.p., lately overhauled, excellent condition, good tyres; £9.—88, St. John St., E.C.

RACING N.S.U., late model, 6h.p., 2 carburettors, recently overhauled by makers; £34/10.

PUGH Motor Cycle, 2h.p., only used for demonstration, automatic lubrication; £34.—Paul Schmidt, 2, Laurel Rd., Barnes.

TRIUMPH.—Immediate delivery of 1912 free engine model.—Brown's, 168, Brompton Rd., S.W.

2½h.p. Motor Cycle, in good condition, lamp, horn, 2 and spares; £7/15.—14, Clapham Rd., S.W.

3½h.p. Excelsior, new Hutchinson tyre, good running order; £7/7.—5, Douglas Rd., Canonbury, N.

1910 Triumph, free engine, Mabon clutch, perfect; 36 guineas.—3, Albert Mansions, Crouch Hill.

1909½ Triumph, just been overhauled: what offers?—C. J. Millen, Motor Works, Cranbrook, Kent.

1909 Motococche, free engine, Whittle belt, perfect condition; £22.—Gripper, Wallington, Surrey.

TRIUMPH, 1911, free engine, perfect condition, only done 500 miles; £47.—Bon Marche, Ramsgate.

SCOTT, 1911 (September), and Millford Radial sidecar, scarcely used; £58.—Mosepaul, Longley Rd., Wealdstone.

TRIUMPH, 1910, perfect condition; any trial; £32; seen any time.—56, Fulborough Rd., Southfields, S.W.

MOTOSACOCHE, 2½h.p., 1911, perfect condition. Lamp, all spares; £26/10.—12a, Emmanuel Rd., Balham.

NEW Hudsons, Triumphs, Bradburys; order now for early deliveries.—Godfrees, 124, Romford Rd., Stratford.

For Early Delivery, Unbiased Advice, and Good Service

you cannot do better than order from us.

—The first firm in this district to deal in Motor Cycles, and situate in the hub of the industry, we have had every type of machine through our hands, and know the best points and also the faults of each—this knowledge is at your command.

—Our large contracts, placed months ago, enable us to deliver as follows—

TRIUMPHS (from Stock).

REX-J.A.P. (January).

REX (from Stock).

HUMBER (January).

DOUGLAS (January).

INDIAN (January).

HAZLEWOOD (from Stock).

ZENITH-GRADUA (January).

== INSTALLMENTS ==

*can be arranged if required.
The machine is delivered upon
payment of the first instalment.*

== EXCHANGES ==

*—we can allow you a good
figure for your present machine,
as part payment for any new
1912 model motor cycle.*

SPECIAL OFFER.

Owing to delay in delivery, we have three 1911 machines to clear at the following bargain prices—

1911 SCOTT £57.

1911 B.S.A. £42.

1911 TRIUMPH, free engine. Best offer.

Write or call—

The Premier Motor Co., Ltd.,
Aston Rd., Birmingham.

Telegrams: "Primus, Birmingham." Telephone: Central, 4310.

MOTOR BICYCLES FOR SALE.

ZENITH Gradua, early delivery of 1912 models; exchanges arranged.—Storey's, 337, Euston Rd., London, N.W.

MINERVA, genuine, 3½h.p., m.o.v., 82x82, No. 6 frame, runs well; £9/15.—36, Skelbrook St., Earsfield.

WANDSWORTH.—Brand New 1911 Chater-Lea J.A.P. No. 9 frame, 8h.p., m.o.v., magneto; sacrifice. £45.—Below.

WANDSWORTH.—Zenith, 1911, 3½h.p. J.A.P., m.o.v., magneto, infinitely variable gear, nearly new; 40 guineas.—Below.

WANDSWORTH.—F.N., 1911 model, 6h.p., magneto, automatic carburettor, drip feed, as new; £36.—Below.

WANDSWORTH.—V.S., late type, 5½h.p., twin, magneto, Truffault forks, nearly new, unscratched; £30.—Below.

WANDSWORTH.—F.N., 1910 model, 5½h.p., magneto, automatic carburettor, 1911 improvements, like new; £29/15.—Below.

WANDSWORTH.—Roc, latest 1911 model, 4h.p., m.o.v., magneto, 2 speeds, absolutely new; £32/10.—Below.

WANDSWORTH.—N.S.U., 3½h.p., m.o.v., magneto, L.M.C., variable gear, Palmer tyres, h.b.c., perfect; £18/10.—Below.

WANDSWORTH.—F.N., late 1908 model, 3h.p., Bosch magneto, F.N. spring forks, perfect; £14/10.—Below.

WANDSWORTH.—Roc, 1909, 5½h.p., twin, magneto, 2 speeds, show machine, as new; 30 guineas.—Below.

WANDSWORTH.—Rex, 3½h.p., new tyres; £8/15; exchanges.—Wandsworth Motor Exchange, Elnor St., Wandsworth Station.

LIGHTWEIGHT, 2½h.p. vertical engine, belt drive, good tyres, in fine order; £6/10, bargain.—12, Broadway, Muswell Hill.

TRIUMPH, new in June, 1908, in beautiful condition, lamp, horn, spares; any trial; £23.—26, Glendarvon St., Putney.

2½h.p. F.N., 1912, 2-speed, F.E., as new, unpunctured, lamp, horn, etc.; 58 guineas; exceptional offer.—Digby, Mersea, Essex.

4½h.p. Stevens, Chater-Lea No. 6, 1911 B. and B., 42 low, modern machine, with rigid sidecar; £14/10.—Sinclair, East Molesey.

3½h.p. Premier, free engine model, in stock (5% extra for early payments); £54/17.—J. Barker and Co., Kennington High St., W.

3½h.p. Excelsior, surface, comfortable position, good 24 condition, ready to ride, not a creak; £7.—57, Chaudos Av., South Ealing.

QUADRANT 3h.p., dry battery ignition, lamp, horn, carrier, new front springs, enamelled grey; £13.—Sullivan, Wilmington, Woking.

TRIUMPH, 3½h.p., new spring, 1910, nearly new tyres, everything perfect; sacrifice, £32.—Apply, 2, Normandy Mansions, Barnet.

1912 Singere, free engine model, for immediate delivery; cash, exchange, or gradual payments.—Wrench's, 120, Hampstead Rd.

1912 Kerry-Abingdons, show model, for immediate delivery; exchange or gradual payments.—Wrench's, 120, Hampstead Rd.

REX 1911 Tourist, 3½h.p., soiled only; best offer wanted.—Wrench's, 120, Hampstead Rd.

1911 Humber, 2-speed, in excellent condition; offers wanted.—Wrench's, 120, Hampstead Rd.

MOTO-REVE, magneto ignition, in excellent condition; £17.—Wrench's, 120, Hampstead Rd.

P. and M., 1910, not ridden 1000 miles; owing to illness; accept 40 guineas.—Box L5221, The Motor Cycle Office, 20, Tudor St., E.C.

1909 3h.p. Rex Featherweight, magneto, condition like new; £18; offers, or exchange twin, magneto.—111, Walton Rd., East Molesey.

3½h.p. Latest Model Shop-soiled Motor Cycle, free 32 engine, £40; 5h.p. twin Zedel, excellent running condition, £15.—Copus, Guildford.

TRIUMPH, 1909½, excellent condition, new Palmer cord, lamp, horn, watch, whistle, spares, etc.; £33.—Blan, 78, Gladstone Rd., Watford.

3½h.p. Rex, very low, Longueume, new cylinder, piston, and rings, fast and powerful; sacrifice £6/15.—Speechley, 45, Church Rd., Acton.

5½h.p. F.N., magneto, h.b.c., Kempshall tyre, 2 toolbags, lamp, horn, fine condition; worth seeing; £15 cash.—33, Kilbyon Rd., Clapham.

DOUGLAS, 1911, 2-speed and clutch, ridden 1,600 miles, perfect condition; £39.—Munro, 12, Bartholomew Villas, Kentish Town, N.W.

1908½ Standard Free Engine Triumph, 1909 improvements, excellent condition, every accessory; £27.—12, Market Sq., Horsham, Sussex.

1911 Standard Bradbury, as delivered, tools, lamp, horn, generator, valve, plug, excellent condition; £35 cash.—15, Allenby Rd., Forest Hill.

THE MOTOR CYCLE

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ADDRESS: 20, TUDOR STREET, LONDON, E.C.

Brooklands and the Six Days' Trials.

IT seems likely that the Auto Cycle Union annual six days' reliability trial will next year be held in the West Country, with Taunton as a centre. In connection with the 1912 event, we should like to offer a suggestion with regard to the organisation of the trial which we commend to the consideration of the A.C.U., and that is to hold the last day's run on Brooklands in the nature of a high speed reliability test, with certain minimum set speeds for different sized engines. There is an old but true saying: "It is the pace that kills." It is a known fact that some machines, carefully nursed by competent drivers, can average 20 m.p.h. day in and day out, but if that same machine be expected to accelerate its speed for a long stretch, or increase its power output such as would be necessary were the owner to fit a sidecar, shortcomings in the shape of valve troubles, plug difficulties, and weakened compression will soon become apparent.

Further, what better advertisement could the manufacturer desire than that suggested? After having exhibited the hill-climbing abilities and regular running qualities of his machine to the thousands in the West Country, Friday's journey to Brooklands would open up and create interest in a new field, and on Saturday motor cyclists would flock to the track in their hundreds, and willingly pay an entrance fee to witness the speed test of the latest types of motor cycles exactly as they had been used for touring on the difficult roads and hills of Somerset and Devon. Again, on the final day of an A.C.U. trial the judges and officials usually have a busy and awkward task examining machines jumbled up in corners of an hotel yard, but

in the spacious paddock at Brooklands the machines could be ranged in proper order and the officials carry out their work of examination unmolested. Another matter which could be checked, and which makes the scheme still more worthy of consideration, is the oil slinging problem. On the examination day of a long distance trial competitors are usually to be seen actively employing their spare time cleaning away all superfluous oil, which, on some machines has an objectionable habit of finding its way through the crank case joints and past the oil pump plunger. In the case of hub change speed gears grease oozes from the hub and is flung on to the rear tyre and rim, and yet, with judicious use of a rag, all traces of foreign matter can be wiped away, and the judges are not aware that the engine had a propensity for covering itself with escaped oil. A very much more accurate result would be arrived at by demanding that the Brooklands test be completed without a stop to avoid loss of marks, and at the conclusion compelling each competitor to ride straight to the paddock gate, deposit his machine inside, and leave it there without having touched a single part.

Another point which appeals to us is the question of silencing. It is sincerely to be hoped that marks will next year be awarded to the most silent machines in the trial, and it is better that this test should take place on the last day. What better means of judging could be provided than Brooklands affords, with competitors careering round the track at certain set speeds and appearing at frequently recurring intervals?

We have endeavoured to show in recent articles that silence is not incompatible with efficiency, and that it is possible to design a really satisfactory silencer giving not only no back pressure, but even a suction effect.

MILITARY MOTOR CYCLING NOTES

BY "CELESTINE"



WHILST the Committee at the war office is still muddling along working out the future of what Lord Haldane calls the "Technical Reserve," two definite decisions have been arrived at and regulations framed which will interest all motor cyclists and those in the trade who employ motor lorries.

Motor Cyclists in the Territorial Army.

It has now been decided that each cyclist battalion may enrol seventeen motor cyclists, and that these are to draw a special petrol allowance of six shillings and sixpence a day during annual training. At the first glance this allowance may seem inadequate to compensate the motor cyclists for the wear and tear to their machines and for the running expenses entailed, but, as a matter of fact, this is by no means the case, and the allowance must be looked upon as a very fair compromise.

The Work of Motor Cyclists.

It is not as if the motorist were expected to be always on the go during the fifteen days he is in camp, for this is far from being the case. Generally speaking, the utmost mileage any motorist will be called upon to accomplish on duty during that period will be about 500 miles, so that the allowance works out at about twopence halfpenny a mile at the minimum, and in addition to this he gets a pound a year for the maintenance of his cycle, as well as his pay during camp as a soldier. During annual training there are usually three or four days when the motorist plays a very prominent part as the "Mercury" who links up the scattered columns of cyclists with each other; during this manœuvre or inspection period he may be called upon at any time of the day or night to go anywhere, and to go at top speed, and the success of the work accomplished by the regiment is very largely dependent upon the excellence of its motor cyclists, their grit, their ability to read a map, and their determination to "get there" at all costs and at best speed. There is a pleasing novelty about this work, because the police do not interfere to restrict the speed; there are, in fact, many cases on record of messages coming through at the rate of fifty miles an hour, and that means going "all out" when one takes into consideration the negotiation of villages and corners, and the necessity of consulting the map from time to time.

Taking it Easy.

At other times in camp the motor cyclists attached to cyclist battalions have a very easy time of it. They are excused from early morning parades, and, as often as not, they are told off under a senior motorist to go for a run round the country and learn the roads, whilst the rest of the battalion is indulging in musketry exercises or drills. For a man who owns a reliable cycle of 3½ h.p. or 5 h.p. the position is ideal, and I cannot conceive of a pleasanter way of spending a holiday. How many of us, when we take our annual holiday, find it hard to get congenial companions or to map out a pleasant tour that will accommodate itself to our pockets. Here we have all three problems solved for us: all our expenses are paid and a bit over, we are set definite tasks to accomplish a wheel, and if amongst the other sixteen

motorists we cannot find congenial companions, then indeed we must be hard to please.

The Conditions of Service.

We motor folk are an independent crew, and we have held aloof from Territorialism in the past because we imagined it meant a lot of silly drill, restrictions, regulations, and other vexatious items. I am not attempting to recruit my brothers of the wheel for the Territorial Army, let me hasten to say, but I am only giving a few plain facts for the guidance of those who feel that they might like to combine pleasure and patriotism. The motor recruit will have to put in forty hours' work during his first year of service—some twenty of these will be spent in learning the rudiments of drill just like any infantryman, but thereafter the remaining hours will be spent in the saddle or learning how to make maps, or attending other instructive lectures. In succeeding years only ten hours are required, and these will be spent almost entirely in week-end outings and such-like work. The motorist will have to attend annual camp for at least eight days, or furnish a sufficient excuse for exemption, otherwise he is liable to be proceeded against and fined anything up to forty shillings;



Military motor cyclists of the 6th Buff. Norfolk Regiment (Cyclists) Territorials at the Camp Ground, Great Yarmouth. From left to right: Capt. E. Dewing, Sergt. Major C. H. Vincent, Pte. T. Pechey, Lance Corp. Colls. Serg. Jenner. Four of the machines are 2½ h.p. Enfields, the other a Triumph. The former machines were presented to the Regiment by Mr. L. Ross, and all have done excellent work despatch carrying.

but such extreme measures are only taken in cases of obvious shirking on the part of the man. In return, the motorist receives two sets of uniform and the various emoluments detailed above; he enlists for four years' service, but should his civil work call him abroad he can get a free discharge, and—this by the way—a useful introduction or two from his officers or comrades. In camp the motor cyclists usually hobnob together and form a little clique of their own, for they like to confer with one another regarding the events of the day and to compare notes as to their various mounts.

Where to Enrol.

At the present moment there are eleven cyclist battalions in Great Britain, each consisting of 21 officers, 500 cyclists, and 17 motor cyclists, and in the course of the next year two additional battalions will be formed. The best procedure is to write a letter to the *Adjutant*, stating your address and asking for full particulars of local companies, for if you

Military Motor Cycling Notes.—

live some way from headquarters you will probably be attached to one of these. The age limits are seventeen and thirty-five, and the minimum height 5ft. 2in. The names of the existing battalions are:

Highland Cyclist Battalion; headquarters, Perth, N.B.
Lowland Cyclist Battalion; headquarters, Linlithgow, N.B.
Northern Cyclist Battalion; headquarters, Newcastle-on-Tyne and Durham.

Yorkshire Cyclist Battalion; headquarters, Park Street, Hull.

Norfolk Cyclist Battalion; headquarters, Norwich.
Suffolk Cyclist Battalion; headquarters, Saxmundham.
Essex Cyclist Battalion; headquarters, Brentwood.
London Cyclist Battalion; headquarters, Fulham House, Putney Bridge, S.W.

Kent Cyclist Battalion; headquarters, Tonbridge.
Devonshire Cyclist Battalion; headquarters, Exeter.
Welsh Cyclist Battalion; headquarters, Cardiff.

Each of these battalions recruits over a very wide area, and has local headquarters all over the country, so that, for instance, it is quite feasible for a cyclist living at Peterborough to join the Norfolks, or a Berkshire man to join the Londons.

Just one final word. Those motor cyclists whose knowledge of Territorials is limited to other arms of the service would do well to find out a little about cyclist work before they dismiss all idea of joining from their minds. The cyclists are admittedly the pick of the Territorial Army—physically, mentally, and socially—and their work is of the most interesting description, and is devoid of routine and barrack-yard work.

Motor Lorries.

The other interesting pronouncement I referred to at the commencement of these notes is the one to the effect that the War Office is now prepared to subsidise motor lorries, provided that on mobilisation the lorries could be at once taken over by the military authorities at a valuation. Such lorries are classed in two categories—(a) the heavy 5 ton lorry, (b) the light 30 cwt. lorry—and the subsidy varies according to construction from £8 to £20 per annum. Firms engaged in the motor trade may well think it worth their while to register some of their motor vehicles with the military authorities, for if mobilisation ever comes upon this country there will be little enough doing in all trades, and least of all in the motor trade, and such vehicles could well be spared. In the meanwhile the annual subsidy will help to fatten the yearly earning power of the lorry very considerably.

The Importance of Suitable Tyre Rims.

THE Manufacturers' Union recently decided to adopt a standard size and shape of rim for motor cycles, the sections of which were illustrated in *The Motor Cycle* of August 3rd (page 804c). The makers' decision was arrived at after considerable discussion and arrangement between various machine and tyre manufacturers; and we understand that no member of the Union will in future send out a machine the wheels of which are built with other than the standard rim. Complaints are constantly reaching us that covers which are not by any means worn through at the tread have a habit of bursting at the beads, and as the Manufacturers' Union has decided to adopt a standard rim to enable the various makes of tyres to be interchangeable, it is opportune to point out the unsuitability of some rims which, owing to their shape, do not allow the bead of the cover to bed properly into the groove. At Olympia we had an interesting talk on this question with a representative of Messrs. W. and A. Bates, Ltd., St. Mary's Mills, Leicester, who showed us photographs of several sections of actual rims which were submitted to

the cover is worn out, and is, therefore, a danger to be guarded against. Cutting above the bead is one of the greatest troubles experienced by tyre manufacturers, and Messrs. Bates say that they are convinced that this is only due to unsuitable and improperly shaped rims.

Reference should now be made to the appended illustration of sections of the rims which it will be noted are numbered from 1 to 7. No. 1 is known as the standard rim, and the tyres of all manufacturers who are members of the Union will fit this rim without cutting. Nos. 2, 3, and 4 are practically the same shape at the base but with different grooves for the beads. Now it will be obvious to almost every reader that covers which fit the grooves on No. 2 rim cannot possibly be correct for Nos. 3 and 4. No. 5 has smaller grooves for the bead than the standard rim, and Nos. 6 and 7 show a variation in pattern in the grooves of the same rim. It is very clear that a cover fitted to either of these could not prove satisfactory in use. What we think should be done now would be for either the Manufacturers' Union or the tyre manufacturers who are members of the Union, and who are agreed to a standard rim, to send out on application a small metal template with which motor cyclists could test the rims of their machines which were built previous to the decision to standardise one rim. By this means those who prefer to scrap their old rims and buy new ones could have the wheels rebuilt and so ensure accuracy of fit when the new covers of the standard make were purchased. The cost of the templates would be infinitesimal, and tyre manufacturers who were ready to send these out would doubtless increase their business by proving that they were not only ready but anxious to fall in with the Union arrangements.

PREPARATIONS FOR THE M.C.C. EXETER RUN.

The Rudge Co. left no stone unturned to enable clients of theirs who had entered for the above run to get through with a minimum of trouble and a maximum of light. For example, some of the machines were equipped with dissolved acetylene apparatus supplied by the Acetylene Illuminating Co., Ltd. The container for the compressed gas is about the size of an ordinary wine bottle, and consists of a small cylinder containing 5 cubic feet of acetylene and fitted with a valve to regulate the pressure. This was carried either on the top tube of the motor bicycle or in the sidecar chair. Other Rudge machines were provided with C.A.V. accumulator lighting sets, the batteries being specially made to fit in the sidecar between the back of the passengers' legs and the front of the seat. The electric lamps were special C.A.V.'s with metallic filament bulbs and lenses of the same size as those used for the small car lamps. Ordinary gas lamps with separate generators were carried as a stand-by by those Rudge riders who used electricity for illuminating purposes.



Sections of various wheel rims submitted to tyre manufacturers.

them, and some of which are in general use, or, to be more correct, were in general use until the Manufacturers' Union came to the rescue and standardised one shape of rim. Messrs. Bates showed us that unsuitable rims cause friction between the beaded edge of the cover and the groove into which it is supposed to fit. Finally this produces a cut just above the bead, so that no matter how strongly the cover is made, if an unsuitable rim be employed bursting cannot be prevented. This cutting and bursting takes place long before

Occasional Comments

by "Izion"



Belts—Ancient and Modern.

I can dimly remember what belts were like as far back as 1903, when I was using a powerful machine in hilly country, and it was by no means uncommon for a new leather belt to need shortening four or five times on each of its first ten outings, and then to collapse completely after from 250-500 miles. Latterly I have been using only good belts, both leather and rubber, of well-known makes and established design, which usually last about 1,500 miles with three or four cuttings, and seldom give serious trouble except in very bad weather. But I now realise that bad belts are still made.

A correspondent in the United States, who has done some riding in England, informs me that few American belts even distantly compare with the British article, and opines that the comparatively great popularity of the chain transmission in America is largely due to the extremely shoddy character of the belts supplied on many Yankee machines. I have also discovered that some British belts are tolerably shocking. I was sent a leather sample of fantastic and new design a few weeks ago, and in less than 200 miles' testing it broke four times, and stretched nearly 15 inches.

Oilskins v. Waterproofs.

I dare only enter the lists against the Dunlop Rubber Co. with extreme deference, but I believe I can inform them why the average rider is apt to prefer the smelly and shapeless oilskin, be it of subfusc or garish hue, to the neat and dapper tailor-cut waterproofs. The main reason is that oilskins are much cheaper. A couple of dollars will rig one out in oilskins, whereas a neat rubber-proofed suit will not leave much change out of a couple of sovereigns. This economy might not be decisive, for most men are semi-dandies at heart, and the jeers of the populace make it uncomfortable for a rider in oilies to dismount and wander about crowded thoroughfares in search of postcards, petrol, or pipe-fuel.

The balance is settled for ever by the fact that all waterproofs rip so easily, and as the average motor bicycle bristles with sharp corners, a wet weather suit is often slashed and gashed to ribbons before it is even one-quarter worn out. Further, waterproofs normally get ripped sooner than oilies; the pockets of rubberproofs are practicable, and one pushes a small screwdriver into the side pocket, only to see its blade protruding through the coat in a mile or two, while one's boot too often tears the neatly shaped gaiter at the second or third time of asking.

Oilies are such a slack fit that one could almost thrust a battering ram down the leg of an oilskin without bursting it. Finally, I must add, my experience is that oilies are more truly waterproof in a really heavy downpour than any rubbers I ever bought. A gorgeous fortune awaits the inventor of an *untearable* as well as absolutely waterproof suit for motor cyclists.

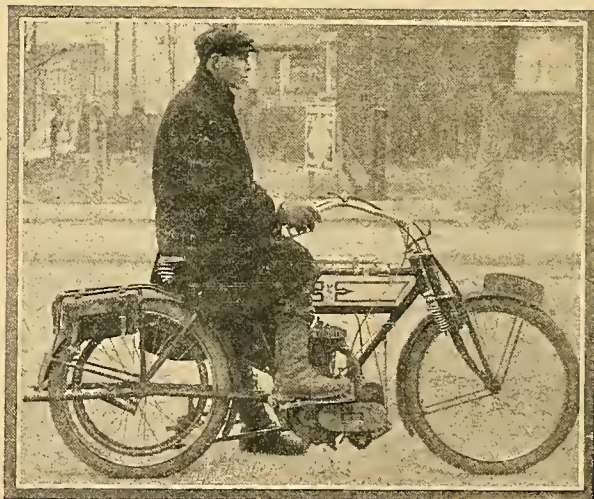
The Shaft Drive.

I suppose that on paper the shaft drive is probably ideal. It can easily be made almost as silent as a chain, it is absolutely weatherproof and simple to adjust, while it can be totally encased without disfiguring the machine (encased chains always look ugly). I see two main reasons why it is not largely adopted in actual use.

(1.) The general public are suspicious of it because they are afraid of the engine seizing or jamming. It is almost too positive, supposing any seizure occurs. Engine seizure due to under-lubrication need not be seriously considered, for it almost always occurs at quite low speeds, *e.g.*, in the effort of restarting when the engine is red hot, and no smash would follow, but a jammed engine might occur at speed, and with a shaft drive this would mean a very ugly tumble.

(2.) The advocates of shaft drive forget that it has never yet been applied commercially to a $3\frac{1}{2}$ h.p. single-cylinder engine with a high gear ratio of 4 or $4\frac{1}{2}$ to 1. A positive drive which is reasonably flexible with a low-g geared four-cylinder engine (existing patterns are geared $5\frac{1}{4}$ or 6 to 1), or with a tiny single-cylinder engine geared $6\frac{1}{2}$ or 7 to 1, would be intolerably harsh and jerky with a big single-cylinder engine geared 4 or $4\frac{1}{2}$. Before the shaft drive could be satisfactory on the popular 500 c.c. type of single-cylinder engine it would require a free engine clutch, and probably a variable gear, since a 4 or $4\frac{1}{2}$ gear is often too high for such engines.

By the time a spring drive, a clutch, and a change-speed gear had been incorporated on a comparatively heavy $3\frac{1}{2}$ h.p. machine, the shaft drive complete would both weigh and cost far too much for general adoption; and it is not probable that it can become universal until a very distant future.



James H. Locke, of Toronto, who has written in high terms of praise of his $3\frac{1}{2}$ h.p. Ariel. He exchanged an American twin-cylinder for it.

THE DIARY OF A TOUR.

A slight sketch of a motor cycle holiday indulged in by a few members of the Glasgow M.C.C., July, 1911.

SOME weeks before Glasgow Fair, the Captain asked the President if he cared to join "H." "S." the Secretary, and himself in holidaying as far as London, and taking in Scarborough on the way. The President was more than charmed, and found the party had swollen to seven in number at the start. Sandyboy and the President arranged to leave Dickie's Garage at 10 a.m. sharp on Friday, the 14th July. As is usual, and apparently inevitable, with motor cyclists, it was fully an hour later before the pair cleared the Western Road on their way South. The rendezvous for the day was the Red Lion, Carlisle. Sandyboy and the President journeyed *via* Lanark, where a call upon Ewen's School of Flying was made, and a pupil of Mr. Ewen's was good enough to show them over the hangar; the damaged Bleriot came in for close inspection. A jolly good lunch at Abington, and a non-stop run to Lockerbie, brought them to the King's Arms and draught beer, which was much appreciated in its native pewter. Carlisle was reached in good time for tea, and shortly after the Captain and "S." put in an appearance, having left the Southside Garage about four o'clock. At 9.45 "H." and the Secretary arrived. This couple left town at six something, and must have been doing 30 m.p.h. all the way. With the addition of the Doctor, on his 8 h.p. Rover car, the party was brought up to its full strength.

Carlisle to Scarborough.

Next day (Saturday, the 15th), the weather was again of the loveliest description, and all—with the exception of Sandyboy—streamed down the Botcher-gate and out of Carlisle, as usual, an hour late. A fine view of the mountains of the Lake District was had on the way down to Penrith. The route then lay South-east, by Appleby, Brough, and Bowes. Bowes gave a homely lunch at rs. 6d. per head. Resuming, the cyclists went on to Scotch Corner, where a very happy interlude took place, and the meaning of "Scotch Corner" was explained by a rotund, jolly farmer. It seems, in the old coaching and cattle driving days, that the straight road or street made by the Romans was abruptly left at this point by those travelling into Scotland. A hearty "Good-bye," and away down the Great North Road. Turning off to the right, the run continued through Ripley and Ripon to Harrogate. The White Hart was excellent, and the bill was quite up to the standard of a first-class hotel. "S." made disparaging remarks about the height of the bill, and wanted to know if this was touring at 6s. 6d. per day?

Sunday (16th) morning saw a late start—as, indeed, every effort in this way was. Through Knaresborough the party went to York, where they had a good lunch at Harker's. Some time was devoted to the Minster and the older parts of this historical city, especially the Shambles, where the houses almost touch in the top storeys. *Viâ* Malton, the party went on to Scarborough, which was practically the Mecca of "H.'s" pilgrimage. Someone had told him that if ever he was within a hundred miles of Scarborough, not to miss it on any account. Down an exceedingly steep

street, with an awkward turn at the foot, the cyclists met on "the front," and, from the uncommon interest shown by the crowds, one would have thought motor cyclists were unknown in that quarter. Three times along "the front" looking for decent digs, but without avail, so a detour was made to the Pavilion Hotel at the top of the town. Here the party was done very well, and "S." took the credit, he having arranged terms at "H.'s" suggestion. Scarborough was disappointing, so every one agreed—the water dirty, sands dirty, shops cheap, and the frequenters in their thousands cheaper.

Scarborough to King's Lynn.

Next day (Monday, 17th), off by Filey Bay to Bridlington, and the Keys Hotel, Driffield, for lunch. "Could you wait until something was cooked?" "Yes, we'll wait," and so up came a couple of ducks, garnished with green peas and other good things, to which full justice was done. Out into the sunshine and off to Hull. A slight and grateful shower fell as they were passing through Beverley and Hull. At the latter town "H." came a cropper trying to avoid a dog. An exciting quarter of an hour was given to all while the Doctor's car was being put on board the steam ferry for New Holland across the Humber. Thanks to a friendly local motor cyclist, who also crossed to New Holland, the party were put on the right road to Brigg, the darkness having fallen by the time the passage of the Humber was made. At Brigg the Angel proved all right, and the bill was far from high, so off went the party next morning (Tuesday, 18th) in great glee. Running down the perfectly straight street of the Romans known as Ermine Street, they had a fine view of Lincoln Cathedral for many a mile before arrival. After a drink or two with the friendly motor cyclist—who, by the by, had waited at the Angel and been the convoy—the Cathedral was visited, and so also was the Castle. The view from the Observatory Tower was very fine indeed. Many, many miles the eye could range over the Fenland, and the old red pantiled roofs immediately below gave the necessary touch of colour contrast to a glorious picture. The Saracen's Head put up a fine cold salmon lunch, and coffee, choice cigars, and fine old crusted port were the order of the hour. Here the Doctor had perforce to leave for home, and the parting at the railway station—where the whole party had gone to see to the President's bag being sent off to London—was affecting in the extreme. Sleaford was made, and by devious paths (where three went miles off their way) King's Lynn was reached shortly after lighting-up time.

Through East Anglia.

The following morning (Wednesday, 19th) was again favoured with ideal weather, and here another heart-breaking scene took place when "S." reluctantly took leave for home. By Dereham the four stalwarts went on to Norwich, and again did themselves well at lunch time. A brief walk in Norwich, and then on to Yarmouth.

At Ipswich a call was made at the Great White Horse Hotel (made famous by Dickens in his "Pick-

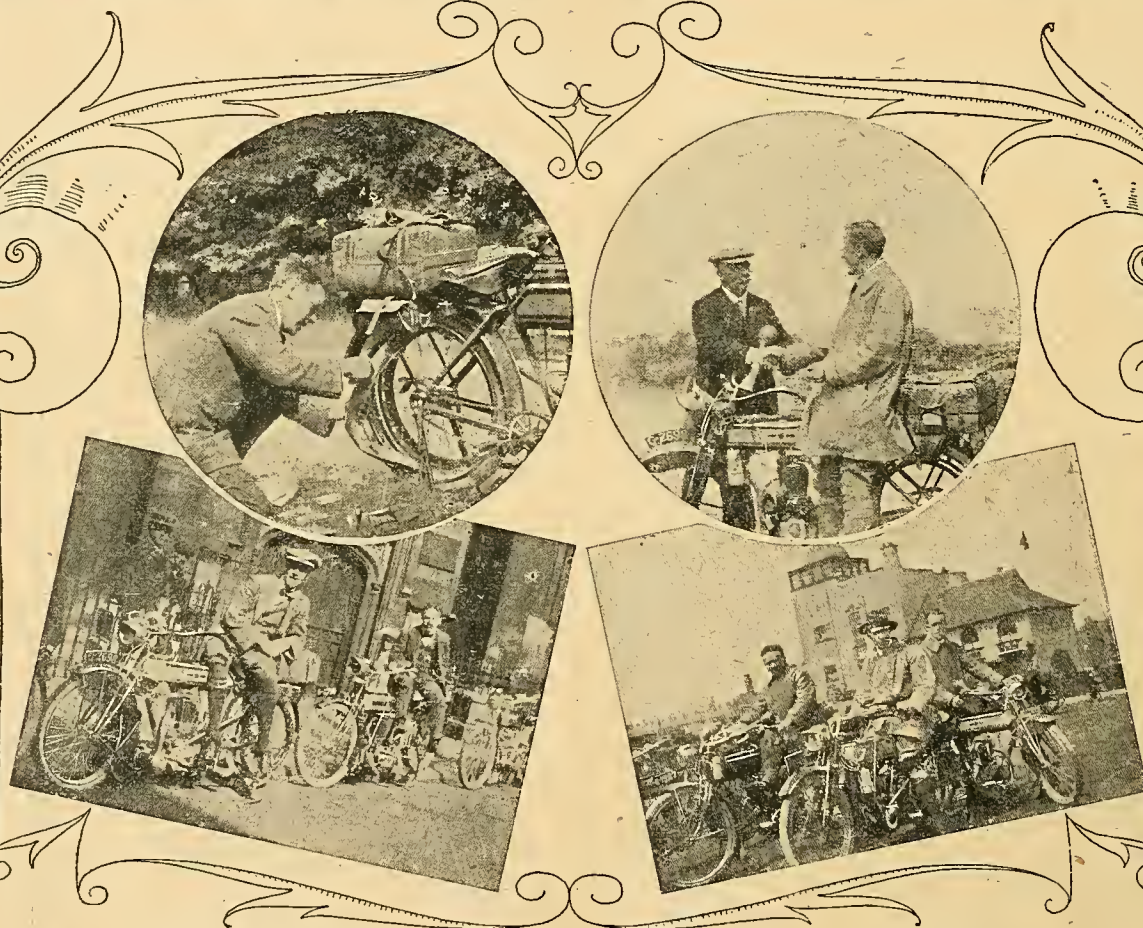
The Diary of a Tour.—

wick Papers"). After this the party proceeded on its way, and three of them (the Secretary, Captain, and President) proceeded off their way to the extent of eight miles there and back. However, a foregathering was made at the Cups Hotel, Colchester, for the night.

Next forenoon (Friday, the 21st) was given up to sight-seeing. The Museum, with its Roman finds, was of great interest; so was the great stronghold of a Castle, and the Roman Wall, said to be the finest example of its kind in Britain. The Secretary was parted with earlier in the day, as he, being so near home, was naturally anxious to be with his "ain folk," so the cyclists numbered only three. Passing through

and consequent heat made the change of raiment and locomotion appreciated. A 'bus saw the duc begrimed ones to Anderton's Hotel, and, their baggage being in-waiting, a complete change of attire was made; and, with the purchase of three straw hats, the effect, no doubt, was very striking and, it is to be hoped, pleasing to the natives of London town. After dinner the proposal, "Let's all go down the Strand," was made, and the Pavilion Lounge found the three in great form and in congenial company—especially "H." and the Captain having the time of their lives. The hour of retiring to bed must not be divulged.

Next day (Saturday, the 22nd) saw the three finalists ready to start for Brooklands by train, with an addi-



(1) Tyre repairs near Swaffham.
(2) Opposite Harker's Hotel, York.

(3) Good-bye!
(4) A Lowestoft.

Chelmsford, the Captain and the President partook of a humble bread, cheese, and beer lunch—"H." having gone astray. The North of London was skirted by Ongar, Epping, and Enfield to High Barnet. At this point, which had been fixed upon as convenient to leave the cycles, a little difference of opinion took place, and "H." dashed off towards London on his own, with the President in close attendance and the Captain whipping in. A Rudge-Whitworth agency in Holloway Road was made the garage. It was a relief, after eight days' riding by this indirect but charming route from Glasgow to the Metropolis, to doff our overalls for a day or two. The continuous sunshine

tion in the person of one well-known to "H." and the Captain. Twenty miles by rail, and a short walk to glorious Brooklands. An hour's wait, and Beaumont rose gracefully and speedily flew over the heads of the assembled thousands in the direct line for Hendon. Védrines and Hamel followed in quick succession. The party saw Lieutenant Porte come a nasty cropper, but, luckily, he was uninjured, and got a great ovation over his miraculous escape.

Next morning (Sunday, the 23rd), the President was astonished to find the Secretary had spent the night in the hotel, having been met by "H." in the Empire lounge and carted home to Anderton's. The party,

The Diary of a Tour.—

with this augmentation, went to Hampton Court and on the river, which was a ravishing sight. Paddling up and down the river for three hours was great enjoyment, and also some concern and amusement to others when the Captain or President was at the head of affairs with the paddle. The return to London was made by train.

A Start for Home.

Monday (the 24th) saw the President, Captain, and "H." again in overalls, and a start was made for home. This day's run is worthy of note in so far as the only lady motor cyclist the party had the pleasure of seeing in all this tour was met.

Next day the party went through Northampton, where "H." was in real trouble with his back tyre. However, he managed to keep going through Market Harborough to Leicester, and finally Derby. This was a sore day for friend "H."

Wednesday (26th) saw a new tyre on (at wholesale price, 30s. 2d.), and happiness reigned supreme over all. The way lay by Belper, where the River Bath proved too seductive for the President and Captain, so "H." kept on alone. The party was now a mere skeleton of its former self, being reduced to two; but these two were well met, and didn't care a button when they got home—a 100 miles a day was to their liking. The River Bath was no success—there was too little river. The Peacock, near Haddon Hall, gave a nice lunch, and the cigar in the garden was unalloyed joy. Past Haddon Hall, on to Buxton, and away for Manchester went the pair. The Captain had some bother with his exhaust cable, and decided fifteen miles short of Manchester to have it made right once for all, so the President went on, on his trusty Triumph alone, and bumpity-bumped it into Market

Street, Manchester. At the base of a statue sat the President, who looked like a tramp, but, careless of appearances, smoked his cigar, read his afternoon paper, enjoyed himself, and waited for the Captain. The Captain turned up all right, and Manchester was immediately left behind, and the two bumped on to Chorley for the night.

The following morning (Thursday, 27th) Kendal was reached for lunch. A slight swirl of rain—which was indeed refreshing—came on as the two inseparables entered Kendal, and became much heavier when lunch was being discussed. The rain was relished in a way, as it was practically the only rain that had fallen during the tour. At lunch the two were joined by a very talkative but withal gentlemanly man, who made the feeding hour pass very pleasantly. The road for the next twenty miles was greasy, but Ambleside saw sunshine and dry roads, and on the two sped to Keswick, Bassenthwaite, and Bothel, and ultimately Carlisle. The Captain, unluckily, had a puncture ten miles short of Carlisle, but it was soon located and mended.

Home Again.

Friday (28th) again broke fine, and a great run was made to Abington for lunch. Ewen's Aerodrome was taken on the way, and Glasgow was reached by the Clyde Valley. At Hamilton the Captain took the President round by Blantyre and East Kilbride, and by curious—very curious—paths to Carmunnock, where a call was made at Ferguson's Hostel. A glorious sunset was seen from the Carmunnock heights. A further call was made at "Wee Peggy's" at Queen Park Gates for cigars, and the never-to-be-forgotten tour of nearly 1,200 miles ended by the Captain and the President shaking hands "good-night" at Wee Peggy's door.



THE CAPE PENINSULA MOTOR CYCLE CLUB.

Some of the members gathered to celebrate the first anniversary on Tuesday, 21st ult., with the first annual dinner at Camp's Bay.

Cost of Running a Motor Cycle.

More Replies to a Reader's Query.

Sir,—The following may be of interest: Cost of upkeep for three Triumph motor cycles used by the Toronto Police during the season of 1911, from May 1st to December 1st. These machines are in commission daily, and are used for catching motorists who break the speed laws. The distance run was 20,525 miles, gasoline consumed 305 gallons at 20 cents per gallon, 61 dollars; 6 gallons of Price's A air-cooled oil, 14.25 dollars; average running per gallon, 3,420 miles.

The total cost for everything, including tyres, speedometers, and spares was \$188.05, or $\frac{2}{3}$ fraction of one cent per mile. A cent = about $\frac{1}{2}$ d. The machines have given such good satisfaction that a further order is expected. In all that running the machines were not out of commission a minute.

TANGENT CYCLE CO.

Toronto.

Sir,—My expenses list may be of sufficient interest to appear among your letters *re* cost of upkeep. The motor bicycle is a 1910 $2\frac{1}{2}$ h.p. twin of known make, and has been run under two years:

Total expenditure, including machine ...	£70 16 0
Motor sold for ...	£23 16 0
Sundry spares, tools, etc., not sold ...	9 0 0
	<hr/> 32 16 0

Net cost for 6,400 miles ... £38 0 0

Running costs (all) ...	£17 7 6 = .65d. per mile
Licences and insurance ...	4 10 6 = .17d. „
Depreciation ...	16 2 0 = .60d. „
	<hr/> £38 0 0 = 1.42d. per mile

A.F.W.

[The depreciation item is very heavy, and should not under ordinary circumstances exceed 20-25%.—Ed.]

Sir,—I have been very much interested in reading the letters *re* cost of running a $3\frac{1}{2}$ h.p. motor cycle. Perhaps my experience may be of interest to others. Most of your correspondents appear to have run their machines for "the season." I bought one second hand, which had done about 1,000 miles, for £34 5s. It had a two-speed gear in the hub. I commenced to run it in March, 1910, and exchanged it for a new one in May this year, being allowed £25 for it. It was in use practically every day, and often in the night, over highways and byways in all weathers. The total mileage was 10,000. I had all my repairs done at one garage, where I bought all I required.

I find that my bills total ...	£60 12 10
Licence and registration ...	1 5 0
Insurance ...	1 15 0
Loss on machine when exchanged ...	9 5 0

£72 17 10

I have in hand spares, lamp, tubes, and tyre ... 6 13 6

£66 4 4

= 1.58d. per mile.

Tyres were a source of trouble, not wearing down to the canvas, but hursting at the bead or getting badly gashed by stones. The gear also gave a lot of trouble, and once had to be sent to the makers for repairs.

I had not ridden a motor cycle previously, and had not time nor, I am afraid, ability to do repairs. The machine was ridden almost entirely for business purposes, mostly short journeys, rarely totalling 100 miles a day. Only on three occasions did I fail to complete my journeys. The purchase of the machine was an experiment, having previously done the work by horses and train. The result has been satisfactory. Of course, there was no snow to interfere with running last winter. If there is any this I intend to try and surmount the difficulty by using a sidecar.

From my experience, I should say that a motor cycle for rough every day work should have stronger tyres, bearings both to engine and wheels which would wear better, and the transmission should not require adjusting so often.

FIRST YEAR'S MAN.

Sir,—The correspondence you have published regarding the cost of running a motor cycle is most interesting. I must, however, take exception to the letter of "Viator," as being inaccurate and misleading. He claims to have run a 4 h.p. twin for five years for a total expenditure of £10. This is absolutely ridiculous. His licences and taxes, registration, etc., must have cost him £5 15s., which leaves £4 5s. for tyres, petrol, oil, repairs, insurance, and all the sundry expenses that occur from time to time, and this over a period of five years! I have had considerable experience of motor cycles, having owned six different machines, and say, unhesitatingly, that it is impossible to do what "Viator" claims to have done. I challenge him to publish his balance sheet.

VERITAS.

Sir,—I have read with great interest the many letters you have published on this subject, and must lay stress on the point of Mr. Pirie's letter that the mileage in some cases has not been sufficient to give a figure of any value. In the first place, I am a motor cyclist who visits the repairer as seldom as possible, as with many it is the small sums spent for having valves ground in, various little accessories fitted, and the machine cleaned after a muddy ride that run up the costs for the whole year.

From 1906 until this year I have ridden a $3\frac{1}{2}$ h.p., and it was not until after many days of persuasion and a trial that I ordered a 1911 $2\frac{1}{2}$ h.p., two-speed, chain-drive A.J.S., as I could not fancy that a $2\frac{1}{2}$ h.p. would have the reserve of power necessary for extensive riding. I was soon disillusioned, as one can maintain an average speed of 30 m.p.h. and climb any hill. I longed for a better transmission than belt drive, and the chain undoubtedly is better, as after 11,000 miles my original back chain is still in use, whilst the front one I renewed after 9,800 miles, eleven of the rollers having disappeared. Five times I have been stopped from transmission causes—three times for the small bolt coming out of the front chain, once the spring clip broke on the coupling link of the back chain, allowing it to slip out, and once the back chain was thrown off, as it was very loose, whilst carrying a passenger pillion fashion.

As regards treatment of the chains, I have three times taken them off, washed them in paraffin, and immersed them in hot gear grease, which seems to bring the dirt from under the rollers to the surface of the liquid; then, when the mass cools down, take the chain out just before the grease solidifies.

Again, the chain drive is considerably cheaper from the renewable point of view.

There is no getting away from the fact that a $2\frac{1}{2}$ h.p. is much cheaper to run than a $3\frac{1}{2}$ h.p., it being so marked when petrol and oil consumption and the economy in tyres are looked into.

I have just sold my machine, therefore the depreciation is actual, and the other costs shown below are grouped together as well as possible.

Cost of running $2\frac{1}{2}$ h.p. two-speed A.J.S. 11,490 miles.

Petrol consumption 137 m.p.g.:	
Eighty-four gallons of petrol ...	£5 1 0
Five gallons of lubricating oil ...	0 17 6
One T.T. Hutchinson tyre ...	£1 19 6
Tyre repairs ...	0 6 9
Extra for butted tubes ...	0 10 0
Repair outfit, patches, corset ...	0 5 3

Front chain, spare link ...	3 1 6
Valves, plugs, carbide ...	0 3 6
Licence, Inland Revenue, registration...	1 12 4
Lamp (Powell and Hammer), depreciation...	1 6 0
Overalls, depreciation ...	0 7 0
Hedging gloves ...	0 5 0
Overhaul, new piston rings, etc. ...	0 1 9
Sundries, tools, etc. ...	2 14 0
Depreciation on machine ...	0 9 6
	<hr/> 11 0 0

£26 19 1

This works out at approximately 0.562d. per mile.

BASIL ADAMS

A SIDECAR IN CORNWALL.

THE remarks under this heading should be left unread by all expert motor cyclists; their appeal is to the man of little knowledge who has visions of driving his friends about the country in a very inexpensive fashion, but regards sidecaring with suspicion as being difficult and dangerous, and thus foregoes the pleasures of motoring until he can afford to purchase a small car.

My experiences of motor cycling can claim only 5,500 miles, over 2,000 of which have been with a sidecar. I am of the type called in motor cycle circles "potterer"—in other words, I hate having to do anything save drive, and beyond mending punctures, shortening belts, and cleaning plugs and points, am more or less helpless. I have not the slightest desire to encounter the risks of taking corners very fast, and though loving pace on a broad road, a timed hill-climb would be anathema to me save as an interested spectator.

An expert and daring driver could ascend hills at which I should invariably fail, because he would attack them more boldly. Yet there are very few hills, un-

the gear has never given the slightest trouble as I have kept it well oiled.

Notes on Gears and Belts.

The low gear is not low enough to climb precipices or start on a very bad hill, and I am convinced that for the *complete* comfort of the "potterer" a three-speed gear is essential. But when one has only two speeds a lower low gear than the N.S.U. would mean very slow climbing on average roads; for the few occasions on which the gear is not low enough, there are many on which a lower would be a nuisance. After all, if one fails, the passenger can be put out or the driver run alongside, and at the worst both can get out, and, the low gear being engaged, the driver jog alongside briskly. I had only to do this twice—on part of the hill from the Logan Rock to St. Buryan and between St. Anthony in Meneage and Manaccan.

Many accusations have been hurled against belt transmission, yet there is no need for trouble if one uses rubber belts in dry weather and belts such as the Whittle in wet. The rubber belt stretches fairly



2. Kynance Cove and the Lizard Head from the Rill.

1. St. Mawgan Church, from the road to Mawgan Porth.

3. The Land's End (Peel Point).

less one looks for precipices, which worry me greatly.

My motor is a 3½ h.p. Triumph (1910 free engine), N.S.U. two-speed gear, and Gloria sidecar, and my experiences have been chiefly on the Dublin and Wicklow Mountains and about 700 miles in South Cornwall in August. Barring punctures, the only involuntary stoppages I have had are slipping belts (several), once for choked petrol pipe, and the last—the only mechanical breakdown I have ever had—broken crown spindle, the front axle going in consequence. It sounds very terrible, but we subsided quite quietly, and my passenger was not even jolted badly. Engine troubles have been completely absent;

often at first, but gives a sweeter drive; the leather belt is harder on the engine pulley and engine, but if kept properly dressed never slips.

If the potterer desires to explore hilly country, a two or three-speed gear is absolutely essential, unless the hills admit of rushing.

The Cornish Roads.

My Cornish experiences with a sidecar are almost completely confined to the Land's End and Lizard peninsulas, where there are comparatively few hills of single figure gradients, except on by-roads, and yet hardly a hill which one can take at high speed. The only two hills between Heiston and the Lizard

A Sidecar in Cornwall.—

are very good examples of the typical South Cornwall hill. A sudden descent, a bridge, a sharp turn to the right and a still sharper to the left, and an abrupt ascent. The gradients are not very severe, though I think the Contour Road Book errs on the side of leniency, but they are troublesome, because no potterer will drive very fast round a sharp left-hand corner, for the only disadvantage which I can see that the sidecar suffers from, as compared with the small car, is the risk of upsetting if corners on the sidecar side are taken too fast.

If care is taken on corners, the sidecar is as safe as any car. It is faster than the average small car, much safer in grease (for a rigid sidecar cannot side-slip), and costs in upkeep about one-third of an 8 h.p. car, which it can leave far behind.

Much has been written about the folly of pedals on a $3\frac{1}{2}$ h.p. motor bicycle—if you are going to attach a sidecar leave them on. There are occasions on which they will be found most useful, especially when one has to slow down on a hill on account of traffic. A few sharp turns of the pedals assist the little engine wonderfully and afford healthy exercise.

So far as my experience goes, it is almost impossible to over-lubricate a $3\frac{1}{2}$ h.p. engine when driving with a sidecar. Someone told me to increase the supply from one charge in fifteen miles when driving solo to one in twelve or ten when with sidecar. If the country is hilly, one in six is not a bit too much; one in eight is a good average, with a few extra charges thrown in on the bad hills.

A Few Hints to Sidecarists.

As there are possibly some readers of this journal who are less experienced than myself, the previous and following hints may be of use. If a hill is encountered on which the driver knows he must change down, always change before the engine slows down. I am dealing, be it remembered, with a $3\frac{1}{2}$ h.p. driven by a novice. Sharp left-hand corners should be taken slowly, but as closely in as possible, so as to use the camber of the road. A writer to *The Motor Cycle* recently drew attention to the excessive camber of the roads in Cornwall, and the difficulty thus caused when passing vehicles, especially without a passenger in the sidecar. My experiences coincide with his, for even with a passenger both of us had to lean out as far as possible on several occasions in order to avoid upsetting.

South-west Cornwall.

The possession of my "moke" afforded me the most delightful holiday I have ever had, bringing, as it did, South-western Cornwall to the doors of Carbis Bay, our abode during August. Then to the joys of the immediate neighbourhood of St. Ives—not least of which was the beautiful beach of Carbis Bay, safe, firm, and affording entrancing views—were added the joys of visiting what is to me the most fascinating and most unspoiled corner of England, magnificent in its rugged coast line, stern though relaxing at times into lovely coves where the tamarisk grows to the water's edge—a country which everywhere speaks of hoary antiquity by its many stone monuments of prehistoric times, and by its venerable churches, veritable haunts of peace, tells of the faith and hope of the days that have been, that are, and that are to be.

No 60 h.p. motor can bring the tourist to the finest coast scenery unless he is prepared to walk as well as to motor. If he is not afraid of some rough walking, a $3\frac{1}{2}$ h.p. motor bicycle and sidecar will take him about almost as well as the biggest car, the only difference being that the car will descend to a few places where the cycle is best left on the road or in a field above. It can be so left with absolute safety, for despite the Cornish reputation in the past for wrecking, a more honest or more kindly people does not exist.

Cornish Inland Scenery.

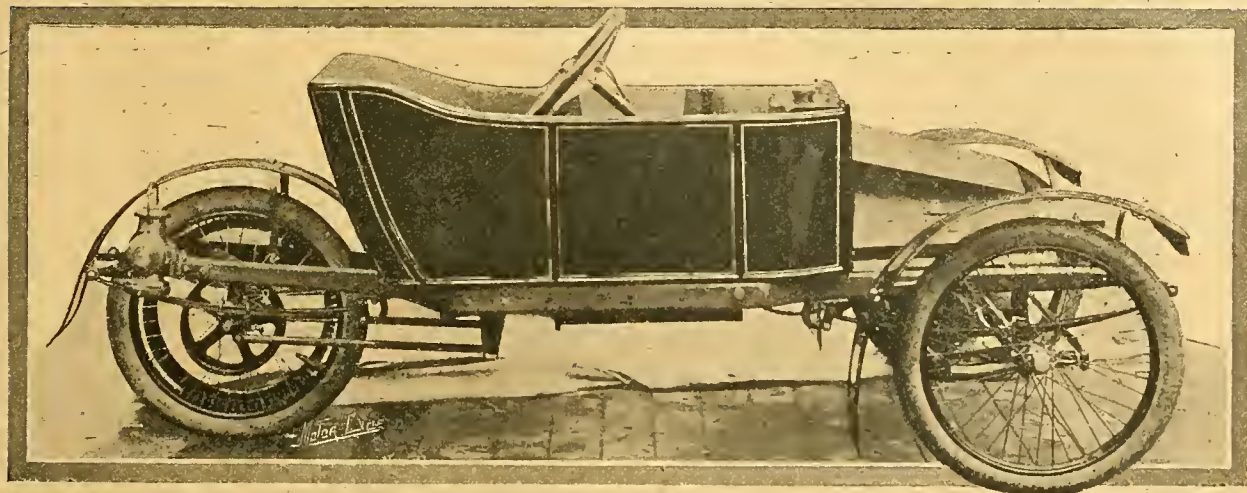
That the guide books are fair to the interior of the country I deny utterly. [We agree entirely, *e.g.*, the River Fal, the valleys of the Glyn and Camel, and all the neighbourhood of the Helford River.—ED.] The Lizard and Land's End peninsulas are full of wild moorland spots, painted with gorse and the glorious Cornish heath, of old-world villages, bleak and bare in the Land's End, clad with almost tropical verdure in the Lizard, such as Manaccan, where roses bloom in mid-winter. A country as yet untainted by civilisation, speaking by its many churches of its faith in God, and by the simplicity and friendliness of its people of its faith in man; its coasts presenting on the north cliffs which challenge the ravages of the Atlantic, on the south coves where island, jagged rock, and ultra-marine water combine to delight the eye far more wonderfully than pen can tell; such was revealed to me and to those whom I drove about by the aid of a motor bicycle and sidecar. C.B.



A REMINISCENCE OF THE SUMMER. Mine Host inspecting the steed at a wayside inn.

NEW BROUGH SOCIABLE.

A neatly-designed Chain and Belt-driven Three-wheeler with Variable Gear.



Broadside view of the new 6 h.p. Brough sociable.

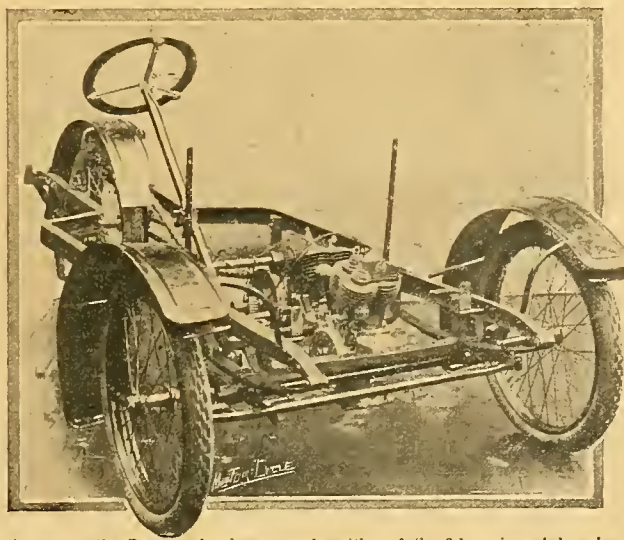
LAST week we examined the first of a new pattern three-wheeled sociable which is being placed on the market by W. E. Brough and Co., of Basford, Nottingham, and which was to make its *début* in competition in a no less severe trial than the M.C.C. twenty-four hour winter run to Exeter and back. We were much impressed with the general design of the machine, which will appeal to that large section of non-active and elderly motor cyclists who desire something more stable than the motor bicycle for all-weather work, something more comfortable and cosy, and withal inexpensive in first cost and upkeep. The machine we examined was a 6 h.p. 77 x 88 mm. two-seater, but early in the New Year the 8 h.p. 85 x 88 mm. type will be available either in its single or double-seated form.

A Variable Pulley Gear.

The frame, which is suspended front and rear on semi-elliptical springs, is of pressed Vanadium steel; inswept at the front to enable a good steering lock. The twin-cylinder V type air-cooled engine is mounted in line with the motion of travel on two cross members immediately behind the front axle, and drives by means of a chain to an equal-sized sprocket mounted on a cross-shaft. On the latter a gear wheel is mounted meshing with another gear wheel of equal size, which in turn drives a wheel fixed to one flange of a gin. pulley, enabling an infinitely variable gear, the final transmission, as will be gathered, being by

means of a belt. The operation of this gear is distinctly ingenious. A shaft passes through the centre of the pulleys, and on its periphery is formed a slow pitch worm of special design. At the right-hand end of the central shaft a gear wheel is mounted meshing with a quadrant suspended from the crossbar. The action is as follows: Rotating the central shaft by means of a side lever performs a double purpose. The worm causes the right-hand flange to move laterally, so expanding and contracting the pulley groove and varying the gear ratio. The gear wheel, by rolling around the fixed quadrant, causes the whole pulley to swing radially around the transverse shaft, thus taking up the belt slackness on the low gears.

Two points in connection with the gear are worthy of special mention. The connecting link between the transverse and vertical operating rods has a tunnel formed for a spiral spring; another spring is



Chassis of the Brough, showing exposed position of the 6 h.p. air-cooled engine.

The variable pulley gear.

- A. Channel steel frame.
- B. Driving chain from engine.
- C. Fixed pulley flange driven by and moving radially around the train of gears.
- D. Movable flange operated by a worm on a central shaft.

New Brough Sociable.—

placed outside and a milled nut provided to adjust its tension. The object of the springs is to absorb all shock or jar to the rider's hand in changing the gears. The second point applies to the positive nature of the gear changing. One lever does all the work; nothing could be simpler, and a free engine is instantly obtainable.

Other Features.

Steering is by rack and pinion, and is of sturdy design. The tubular axle is $1\frac{3}{8}$ in. diameter, and the steering heads have adjustable ball bearings.

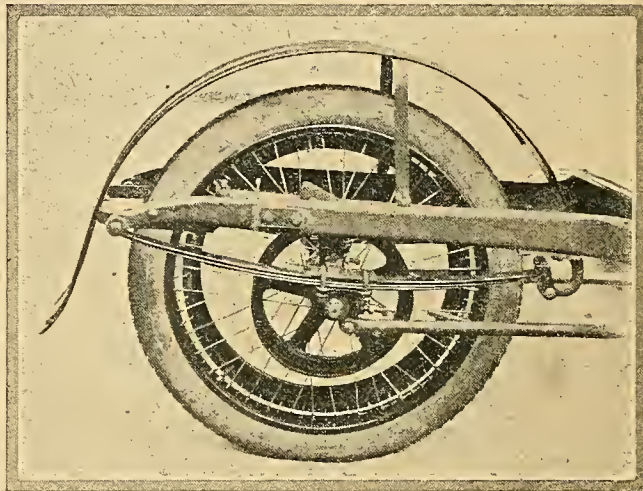
The accessibility of the back wheel is an important point in the design of a successful three-wheeler, and Messrs. Brough have not lost sight of this fact. Five minutes would be an outside estimate for removing the Brough driving wheel, for one merely need unscrew the axle nuts and brake connection and the axle slides out of open jaws formed in the underpart of the supporting bracket.

The driving chain is adjusted by sliding the engine bodily forward, the holding-down bolts passing through slots for the purpose.

The engine starter is by means of a kick-down pedal inside the body geared up to the engine 2 to 1. The mudguards are of large dimensions, and splayed in front. The retarding effect consists of a Raybestos-lined band brake and a belt rim foot-applied brake.

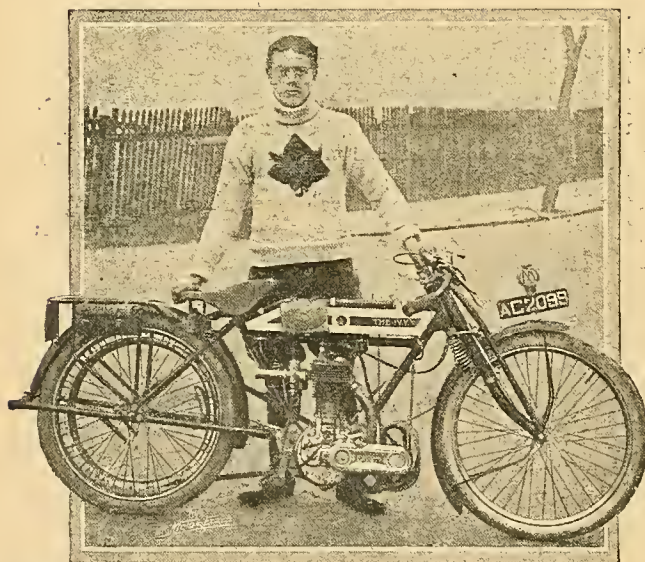
The dimensions are as follow: Wheelbase, 6ft.; length overall, 8ft. 6in.; track, 3ft. 9in.

Altogether, we expect great things of the new Brough runabout. The neatly designed flush-sided body gives it an attractive appearance. The quality of Brough productions has long since been proved, and we are looking forward to an extended trial of the sociable at no distant date.



Showing springing of driving wheel, channel steel frame, torque rods, and large sized band brakes.

Sutton Coldfield A.C. Two-Day Trial.



SUTTON COLDFIELD A.C. MOTOR CYCLE CHAMPION. H. C. Newman ($3\frac{1}{2}$ h.p. Ivy Precision), winner of the Sutton challenge cup and gold medal, and also Murratti Ariston trophy and gold medal for best performance in all Sutton Coldfield A.C. competitions throughout the year.

The result of the week-end reliability trials on the 16th and 17th inst. is as follows: 1, H. C. Newman ($3\frac{1}{2}$ h.p. Ivy-Precision), Sutton challenge cup and gold medal, also Murratti Ariston trophy and gold medal for best performance in all club competitions throughout the year; 2, W. B. Gibb

($2\frac{3}{4}$ h.p. Douglas), gold medal (presented by the Triumph Co.); 3, F. A. McNab ($3\frac{1}{2}$ h.p. Trump-Jap), non-stop, bronze medal; 4, J. J. Woodgate (4 h.p. Singer), non-stop, bronze medal; 5, H. C. Pickering ($2\frac{1}{2}$ h.p. A.J.S.), non-stop, bronze medal; 6, W. H. Sheldon ($3\frac{1}{2}$ h.p. Regal-Precision), non-stop, bronze medal. W. H. Sheldon also wins silver medal for best performance of a novice.

Newman's performance in the final trial was exceedingly good, for, despite the difficulties of the course, his total error for the two days was only $2\frac{1}{4}$ minutes.

WAYSIDE ADVERTISEMENTS.

Motorists and others using the roads of this country have their sense of beauty offended every day by the sight of hoardings advertising motor car necessities which obtrude themselves on the road. In many districts the charm of the landscape is quite spoilt by these advertisement boards, which, unfortunately, appear to be increasing in number. It is known that in many cases these boards are erected almost unwillingly by firms compelled to meet the competition of their rivals, and these firms would be quite ready to withdraw them if their competitors would agree or were compelled to do the same. In three counties—namely, Hampshire, Gloucestershires, and Surrey—byelaws have been framed to prevent the exhibition of advertisements "so placed as to disfigure the natural beauty of the landscape," and the General Committee of the R.A.C. and Associated Clubs has now resolved to take steps to secure a more general adoption of such preventive measures.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and should be accompanied by the writer's full name and address.

Second-hand Machines and Agency Conditions.

[6178].—I am in support of letter 6134, and think it is a subject which needs ventilation. I have been riding a particular make for three years, having had three machines. I have purchased outside my district because I have business relations with an agent. Am I, therefore, under the new conditions mentioned by your correspondent, to be dictated by the makers of the machine as to where I shall buy?

Again, what is to prevent anyone buying a machine from one of the several largely advertised houses? These firms invite you to get a quotation from them and offer a good allowance for your old machine. It appears to me to be carrying things too far, and I doubt very much if it is a good policy, as in my opinion the buying public will not be dictated to. The agent is being held in, too, because one agent may have a large district and not many customers, while another may have a small district with a large population and many customers. From my own point of view, I intend to buy where I like, and don't intend to be dictated to by any motor cycle manufacturer, the only result being that I should change the make of machine. WASKA.

Lining on Tanks.

[6179].—I noticed in *The Motor Cycle* of November 30th that "R.J.D." wishes to know if lining could be done by an amateur.

I found myself in the same quandary. I wanted to paint my tank aluminium, with black panels and double thin lines. The three coats of aluminium paint were easily applied, but, try as I would, I could not draw straight lines nor draw the panels with neat straight edges.

By good luck I casually mentioned the matter to a chemist where I was making a purchase, and he made up some sort of black paint, which is both water and petrol-proof when dry, and does not blur when being put on. It is used with a special pen, also a ruler or straight-edge, and you line your tank as if you were ruling lines on a piece of paper with an ordinary pen, ruler, and ink, also you can make the lines as thin as a pin or as thick as a pencil.

As I have had many valuable "tips" from your paper, I am only too pleased to help a brother motor cyclist. The name and address of the chemist who supplied me is Roland Bros., 7, Castle Street, Edinburgh. W.D.

Tolls and Taxes.

[6180].—I think it an opportune time to call the attention of the motor cycle world to what I consider a serious item to the financial side of the pastime. I refer to the tolls on the principal highways, and one in particular, Bursledon Bridge, situated on the main road between Portsmouth and Southampton. All the South Coast traffic from Brighton to Weymouth passes, or should pass, through this gate, so it really affects hundreds. One expects to pay when crossing a river by motive power, such as a floating bridge, but when a toll is demanded for crossing a structural bridge not fifty feet long and situated on the King's highway, I shall have many supporters when I say that such tolls should be abolished. With a heavy tax on our shoulders, surely we can claim some assistance to obtain such an end. Granted that the bridge was erected by a private company, I maintain that it has paid for itself a hundred times over (I have paid over £5 during this year), and should now be thrown open to the public or else acquired

by the County Council. Of course we cannot expect the company, who are reaping large dividends, to part willingly with such a gold mine, which is indifferent to the rise or fall of stocks and shares, but, with a little pressure to bear from the right quarter, we might at least obtain some concession if only in the reduction of the toll, which is at present extortionate, viz., 3d. single, 4½d. return, available for day of issue only. It is possible to avoid Bursledon Bridge by going *via* Botley, but even then one is faced with a toll of 2d. near Botley, besides the extra five miles the latter journey entails. Apart from the financial question of highway tolls, what is more aggravating than stopping and fumbling for a few coppers, especially when it is raining and one is nicely snugged down. The question of this toll might well be looked into by the A.A. and M.U. with advantage, not only to the motor cycle community, but to pedal cyclists and motorists as a body. C.R. 1030.

Adjustable Petrol Jets and Chain Drive.

[6181].—Letter 6123 describes a home-made adjuster or jet. A good many of us could make this if it be satisfactory. I cannot see that one would get a constant petrol level; if it were possible there would be no economy in running on a small hole in adjuster. It seems to me that the regulating device must be at the top of the jet.

At the Show I bought a small spiral spring with a conical top to slip on jet. When fitting I tilted the carburetter a little to get a good head of spirit. Whether the much increased power I got is given by the tilt of the carburetter, or the coil in atomising the spirit I have not had time to ascertain. At rest there is no dripping of petrol, but the consumption is greater.

Now that chain drive is being discussed, I would like to point out that a very great many 3½ h.p. owners use their machines with sidecar, and without same, say, alternately. With belt drive, it is a five minutes' job to make one's gear suitable for both purposes, but what about chain? My ideal for a 3½ h.p. for passenger work and solo riding is an enclosed chain to a large adjustable pulley on the bracket, thence by belt to the wheel, with a three-speed hub if that hub be capable of hard wear. R. H. ADAMS.

An Unusual Experience.

[6182].—I have been a motor cyclist for several years now, and as a pastime it is undoubtedly unsurpassed, but when I read in your periodical about the reliability of the modern machine I cannot help feeling rather sceptical.

For instance, about two months ago I bought one of the best sidecar machines on the market, with change-speed gear box, costing altogether about £100. Now for this sum one would expect to obtain a reliable machine, but what happened?

Riding the combination home, the back voiturette tyre burst. I had to insert a new inner tube, and the next time I took it out the gear lever dropped off in the road.

I took these troubles philosophically, but when on my next trip the steering head came loose, and I took a flying leap over the front and landed on my shoulder with £100 worth of motor cycle and sidecar on top of me, I thought I had just cause of complaint.

The agent I purchased the machine from approached the makers who disclaimed all responsibility, and duly charged for the repairs.

I think you will admit that this is enough excitement in the first fifty miles. SYD. J. TINNER.

Continental Touring.

[6183.]—It is not necessary for motor cyclists to go to the worry and expense of taking out international passes when touring abroad, at any rate in France and Switzerland.

Last year the A.A. and M.U. informed me it was necessary, but I was in a hurry and decided to risk it. I have noticed that most of your contributors who have toured abroad took out a pass. Personally, the best thing to do, I think, is to join the Touring Club de France for the modest sum of 5s. (6fr.) a year, which, not only ensures all lack of trouble at the customs, but politeness and civility wherever one may go in France. It is a very simple matter to get a small photograph of oneself to fix to the membership card. It took me not more than a minute to pass the customs at both Dieppe and Valloske, in the first case a *permis* having to be obtained, and in the second the number of the machine verified.

This contrasted favourably with my reception by the customs at Newhaven on my return. I was detained for over half an hour by a fussy under-official, who, in spite of my travel-stained appearance, my A.A. and M.U. card, and the name Triumph on my equally travel-stained machine, insisted that I might be going to sell it and wished to weigh it, and goodness knows what besides.

It was not till I found the chief customs officer that I could get out of his clutches. A French visitor would, probably, have been unable to get away at all that night.

W. D. G. BALLEN.

Do Records appeal to Buyers?

[6184.]—I often wonder what is the use or benefit to motor cyclists as a body in everlasting breaking of records. To amateurs who do not fully understand, these records must be terribly misleading. You hear a dealer say to a prospective customer, "The — got the hour record again, so you see you cannot do better than buy a — its the fastest machine on the market." The deluded one buys one and finds he can only do, say, fifty to fifty-five at the most, and this only for a short distance. He does not understand how it is, and fails to understand that the record machine is specially altered and tuned for the track, and if it were possible to buy such a machine he would find neither comfort nor reliability in riding it after a few miles.

To my mind, there seems more commonsense in doing long distances on the road on standard machines.

But to expect sixty-five miles per hour from one of these is out of the question, unless you happen to be friendly with the firm or a "shamateur." Manufacturers should encourage more clubs by giving prizes for competition, and let the amateur members prove what a machine can do, for they are the men from whom makers get their profit and for whom they cater. I contend that for an ordinary rider to win a hill-climb on his own machine should be more guide to a buyer than all this record breaking.

I may take a wrong view, but I fancy if the man in the street had the case put before him he would agree with me.

I might conclude by adding that so far as I am concerned it does not interest me in anyway which machine has broken this or that record, and further it would not influence me in anyway in purchasing a new mount. C.B.R.

Motor Cycle Design.

[6185.]—Several notes have recently appeared in your columns, by "Ixion" and others, running over desirable features in machine design. There is now on the market a British machine which contains practically all these points, and it may be worth while to summarise them.

Illustrations were given of a new American machine with a cantilever spring seat pillar. My British one standardises it. The top rail is dropped and the position is very comfortable and low. The footboards are five inches wide and twenty inches long, curved up comfortably at the front.

"Ixion" had a tilt at gear and brake pedal positions. The pedals on my machine are just behind the engine, below the magneto, very handy in use and, I should think, absolutely safe in case of a fall. The machine rests comfortably on the footboards when leaned over. The toolbag is carried at the back of the carrier on a second shelf, and is bolted to uprights at the back. The number is painted on the flap.

The belt rim edge is well rounded, and the rim is wide enough for a 1in. belt (the machine is a 3½ h.p.). The transmission is by belt to a two-speed hub gear with variable

engine pulley. There is a small screw in the gear which, merely screwed home, gives a fixed gear to ride home on in the unlikely event of gear trouble. The starting is by handle. Lubrication by sight drip feed, also two-way pump.

The back mudguard extends over the belt; the front has side wings from end to end. The tyres are 26 × 2½in., and the sidecar fittings are incorporated in the frame. The lamp bracket is very strong, and the generator bracket is fitted on the frame. The priming valve is a needle valve controlled from the top of the tank, dropping petrol straight into the compression cock. The front forks are Druid, and the filler caps are 1½in. diameter, with fine gauze strainer in petrol opening. The machine is a Rex. J. STUART WHITE.

The Passenger Question.

[6186.]—There are few motor cyclists who do not cherish two ideals—one, to be able to take a friend on their machine, the other, to dispense with overalls.

Up to the present the sidecar, chiefly on account of its speed and low cost, has met the demand best, but the rider still has to don his overalls. There can be no doubt that there is a great potential demand for a three or four-wheeler which will not fear comparison with the average motor cycle on a steep hill, and which will approximate to the sidecar in first cost and upkeep. Up to the present the development of these self-contained vehicles has been along normal commercial lines, as opposed to what one might term the forcing house of racing, to which we owe the perfection of the modern motor cycle.

Has not the time come to call upon the A.C.U. to provide a T.T. race for these vehicles, so that their development may be fostered to the same extent?

What delightful little vehicles would then appear. The greatest care would have to be taken to define the limits beyond which this type must not go. Weight and price should do this. After these two factors comes, in order of importance, appearance, steering, and stability; three or four wheels, and the transmission. For the last three points we must look to racing for a decisive answer. But it may be said that (a) three wheels makes the positive drive easy but good steering difficult; (b) four wheels makes good steering easy but (at motor cycle price and weight) involves belt drive.

In regard to belt drive, it seems as if the geared-up pulley is going to give it a new lease of life. If the belt drum were on the inside of the wheel and on separate spokes it would scarcely be seen. Silence, which is of vital importance, should be cultivated. H.M.



The first lady member of the Leeds Motor Cycle Club—Mrs. E. Smith, who, although a motor cyclist of but three months' experience, is a skilful manipulator of her 2½ h.p. three-speed Hobart.

Winter Mudguarding.

[6187].—I shall be most happy to accept Mr. Eric Longden's challenge, and am willing to meet him on the roughest day he can choose, and shall welcome a hilly course. The machine I propose using will be my 7 h.p. Indian and sidecar. To remove the back wheel I have simply to undo one axle nut, withdraw two brake pins, and spring the connecting link of the chain, therefore I do not anticipate that I shall be far behind in this part of the contest, and believe that I can complete the job without unduly soiling my fingers.

ERNEST FRASETTI.

Hill-climbing.

[6188].—As Mr. Frank Smith is confident of his ability to climb any hill on the Clyno, may I suggest the following route:

Keswick, Portinscale, Stair, Newlands, Buttermere, Honister Pass, Seatoller, Borrowdale, and Keswick.

Although this route is only about twenty-four miles, it contains two hills that are real teasers, the first up to Buttermere Hause and the other up Honister.

This latter has never been climbed by a motor cycle, although many have tried, and, personally, I think it is beyond the Clyno's power.

A. NEWMAN.

Touring in North Devon.

[6189].—Without wishing to take up the cudgels on behalf of "Kuklos"—who is well able to take care of himself—I must disagree with your correspondent, Mr. L. W. Spencer, when he says that Malmsmead Bridge is at the entrance to the Doone Valley, and readers of "Lorna Doone" should also be well aware that this is incorrect. The Doone Valley lies three miles to the south of the famous Malmsmead Bridge, and, except for the first hundred yards or so, there is only a footpath leading to it—quite impassable for motor cyclists. The valley is plainly marked on Bartholomew's North Devon, sheet No. 35.

FRANK A. REEVES.

[Malmsmead Bridge is at the foot of the valley where the Bagworthy water joins the Lynn stream. The town of the Doones was, of course, some distance up this valley, but it is the same valley, and that is what Mr. L. W. Spencer means. Neither he nor anyone else said that there was a road up John Ridd's famous water slide and through the Doone Gate.—Ed.]

Where to Pay Local Taxation Licences.

[6190].—The time will shortly arrive when motor cyclists will have to pay their annual motor cycle tax. With the Editor's permission, I should like to ask all my fellow motorists to pay the money into those counties or county boroughs which have kept their roads free from the police trap. It is some consolation to know that, although the payment of the tax is compulsory, we can at least "get our own back" once a year, and now is the time to do it.

SHAZBAZZIK.

[6191].—Will you kindly grant me the privilege of appealing to all motor cyclists to take out their Inland Revenue licences for the new year in one of the following "clean counties": Bedford, Cornwall, Derbyshire, Durham, Hereford, Leicester, Monmouth, North Hants, Rutland, Suffolk, Wilts., or Westmorland.

By clean, I mean free from the unmanly and un-English police traps prevalent in the remaining counties.

The figures are not yet available for 1911, but in 1910 all the foregoing were entirely free from traps.

May I ask all London men particularly to avoid payment in the county of London, which contained twenty-three traps in that year, Middlesex twenty-seven, and the notoriously vindictive Surrey the record number of sixty. I am glad to say that I induced forty-two motor cyclists last year to take out their licences in Bedfordshire; many of them also registered their machines in that county, whilst several induced their friends to take out dog and gun licences in a similar manner.

It is a matter for much regret that up to the present no concerted steps have been taken by motorists to organise themselves into a strong compact body, and by these means make their influence directly felt.

W. H. BROWNE.

Are Provincial Shows Wanted?

[6192].—I have read in trade papers and elsewhere of the keen feeling amongst motor cyclists and the retail trade at the studied efforts of the Manufacturers' and Traders' Union to boycott any exhibition outside Olympia. One can understand the feelings of these two great sections of the people interested in motor cycling, and without which the M. and T.U. might shut up shop to-morrow. You will be interested to hear that the arrangements for the annual show for Leicester and Midlands gives promise of being a bigger success than ever, and will be held in Leicester February 7th-10th of next year. Nearly all available space is booked, so I do not write with any particular personal feelings in the matter.

HERBERT E. SMITH.

Secretary, Leicester Motor Cycle and Cycle Exhibition.

Analysis of Carbon Deposits.

[6193].—As the substance sent to me by "Archibald" as cylinder deposit was actually taken from his tobacco pipe, the presence of road matter proves that Archie is a "snapper up" of unconsidered trifles dropped by gentlemen.

When "A.'s" fund of knowledge has been increased so as to become a positive quantity, he might look at the analysis of tobacco ash in the third volume of T. E. Thorpe's "Dictionary of Applied Chemistry," page 850. He may then see what an exhibition of himself he has made in his troglodytic effort to be humorous.

The elements found are all present in ash from tobacco, even "ferric oxide and road matter."

W. ELDER.

[6194].—I note in *The Motor Cycle* a letter signed "Archibald," about an analysis of carbon deposit.

I have looked up Mr. Elder's analysis, and find in it nothing whatever to indicate that it is not "strictly accurate," as "Archibald" states.

Tobacco ash always contains a considerable amount of ferric oxide, calcium oxide, and magnesium oxide, and usually some silica, besides, of course, carbonaceous matter when obtained from such a source as a pipe bowl, where the leaf is incompletely burnt.

The presence of such matter was naturally attributed by the analyst to road matter, since engine oil is free from such mineral substances.

I can assure "Archibald" that 16.90% of residual ash in his pipe deposit does not indicate adulteration, rather the contrary in fact.

HENRY W. MOSS.

Mudguarding—Transmission—Silence.

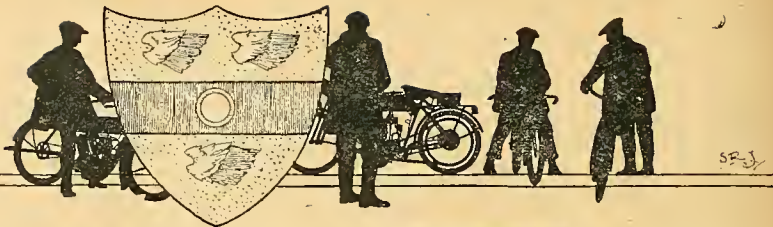
[6195].—As one who has ridden motor cycles constantly since 1908 in a general medical practice, I think I can lay just claim to knowing a thing or two about these machines. In the above time I have owned ten motor bicycles of different makes, and have by now naturally very strong opinions on certain subjects, viz., mudguarding, transmission, and silencing. I quite agree with the letters written by "Clericus" and F. T. Marley. Shaft drive is bound to come into general use, and the sooner it comes the better. So-called experts condemn it, so did they condemn the pneumatic tyre in its early days, but it came and stayed, and so will the shaft drive. Eric Longden's letter is amusing; if the belt is so superior, why was it done away with on cars, where it could have been fully protected? When, sir, will you be able to knock out of the head of a certain class of rider the idea that a silent motor cycle is dangerous to the public? Is a silent motor car dangerous? Of course not. I have never had a noisy motor cycle yet, as I have had them all properly silenced. To compare the unnecessary noise made by a motor cycle to the—I grant objectionable—noise made by a trolley, which is not preventable, is ridiculous.

"Critics the Second" is condemned out of his own mouth. Why should his engine seize and so throw him over the handle-bars? To argue like this, one might demand an extra strong front wheel in case one ran into a wall. I rode a chain-driven machine many years ago, for two years, with the greatest satisfaction, and have never had a broken chain, been over the handle-bars, or had a seized engine.

To conclude, I always ride, and have always ridden, a silent machine, and have not hurt anyone, and the sooner everyone is made to ride silent machines the better for the sport, or whatever it is called.

H.T.M., M.D.

CLUB NEWS



Wimbledon M.C.C.

A meeting will be held during the first week in January, 1912, to found a club for Wimbledon, and elect the officers. All who wish to join should write to Mr. E. P. Lyon, 31, Queen's Road, Wimbledon.

Selby and District M.C.C.

At a preliminary meeting, held at the George Hotel, on the 14th, it was decided to form a club under the above title. Motor cyclists who are interested should communicate with the hon. sec., Mr. Joshua J. Day, Green Lane, Selby.

Ipswich and District M.C.C.

The above newly formed club held a very successful run to Diss on Saturday afternoon, the 16th inst., tea being served at headquarters on the return journey. An interesting discussion was also held the same evening on the various machines exhibited at the recent Olympia Show. A run was also held on Boxing Day.

Sydney M.C.C. (N.S.W.)

The above club's non-stop reliability trial to Lithgow, held recently, proved very successful. There were sixteen starters, and all arrived at Lithgow with the exception of F. Flew (6 h.p. Roc), who met with an accident at Wentworth Falls, damaging his machine, and was, in consequence, unable to continue the journey. R. W. Allen (3½ h.p. Zenith) and P. Bayley (3½ h.p. N.S.U.) tied for the best performance, both completing the journey without loss of points. These riders have agreed to divide the first and second prizes. D. St. Clair (5 h.p. Rex) and J. W. Empson (3½ h.p. L.M.C.) also made non-stop runs, but both lost points through arriving early at control. During the trip a hill-climbing contest was held on Gould's Hill, Bowenfels. The course was about half a mile in length, the last 100 yards having a gradient of 1 in 6. This event was won by R. W. Allen (3½ h.p. Zenith), who negotiated the course in 63s.; R. Glanfield (3½ h.p. Bradbury) being second, and taking 66s. to ascend the hill.

The Grosvenor M.C.

The annual meeting will be held at headquarters on January 4th, 1912, when officers will be elected for the year.

Coventry and Warwickshire M.C.

The members' yuletide run to the Dun Cow Hotel, Dunchurch, will start from the corner of Whitley Common, at 3.30 p.m., on Saturday next.

South Birmingham M.C.C.

The first general meeting will be held on January 11th, 1912, at 8.45 p.m., and the first annual dinner on January 17th, both at headquarters, the Mermaid Hotel, Stratford Road, Sparkbrook.

Sutton Coldfield A.C.

A library and reading room are to be formed at headquarters. The club would be glad to receive catalogues from manufacturers and accessory dealers to be filed for the use of members. These should be sent to the hon. secretary, Mr. H. Smith, Royal Hotel, Sutton Coldfield.

Derby and District M.C.C.

The annual dinner took place at the St. James's Hotel on the 13th inst. There were many excellent speeches. Mr. Sewell, in replying to the toast of "The Visitors," congratulated the club upon its achievements, and said that it was a great thing to win *The Motor Cycle Cup*. The Secretary mentioned that the Rev. A. Gamble, in addition to presenting the club with the Henmore Cup, had given a speedometer for use in competitions. The date of the winter run has been altered to January 20th.

Westmorland M.C.C.

The annual meeting was held on the 8th inst. at the Commercial Hotel, Kendal. Mr. T. H. Armstrong was elected to the post of treasurer, Mr. C. B. Robinson hon. secretary, and Mr. H. Goodwin, of Orton Hall, president. Brigsteer Brow was provisionally chosen for the annual open hill climb.



GONMETZ-LE-CHATEL HILL-CLIMB. Granvand driving a La Ponette, winner of his class in the French winter hill-climb. This interesting design of quadcar was described and illustrated in our issue of November 30th, page 1331.

CURRENT

CHAT

TIME TO
LIGHT CAMPS

SPECIAL FEATURES



Dec. 28th	...	...	4.56 p.m.
„ 30th	...	...	4.57 p.m.
Jan. 2nd	...	...	4.58 p.m.
„ 4th	...	...	5.0 p.m.

Tourist Trophy Races, 1912.

Mr. H. P. E. Harding, one of the judges in this year's Tourist Trophy Races, has very kindly requested the A.C.U. Committee to place the out-of-pocket expenses to which he was entitled as a judge to the credit of the fund which is established to defray the expenses of the T.T. Races for 1912.

Brooklands and the Six Days'.

In connection with next year's annual 1,000 miles reliability trials, *The Motor Cycle* suggests that the last day's run be held on Brooklands Track, in the form of a high-speed reliability trial. If our suggestion were adopted, it would mean four days touring on the difficult West-country roads, one day riding to Brooklands, and one day on the track. See our leading article this week.

Auckland (N.Z.) M.C.C. Hill-climb.

This event, the first of its kind held by the club, attracted a large number of entries and spectators. The stiff gradient of the hill and the bad turns put both machines and riders to a very severe test. B. E. Jenkins, on a $3\frac{1}{2}$ h.p. L.M.C., made a fine performance. He rode a standard touring machine. Results:

1. B. E. Jenkins ($3\frac{1}{2}$ h.p. L.M.C.), $36\frac{1}{2}$ s.; figure of merit, 52.83; gold medal.
2. C. E. Atkin ($3\frac{1}{2}$ h.p. Triumph), 45s.; figure of merit, 62.42; trophy.
3. F. J. Harris ($3\frac{1}{2}$ h.p. L.M.C.), $47\frac{1}{2}$ s.; figure of merit, 64.11; trophy.
4. S. Brooks (5-6 h.p. Matchless), 35s.; figure of merit, 64.23; fastest time.

English-Dutch Trial.

Brief regulations governing the English-Dutch M.C.C. trial appeared in our last issue (page 1288), and next morning we began to receive entries from British motor cyclists, so that presumably this international trial in Holland will prove a popular event. It may be recalled by some readers that Messrs. W. Cooper and W. Pratt first suggested this trial through the columns of *The Motor Cycle*, and on seeing the regulations in print, have written offering to captain the amateur and trade teams respectively, and two more experienced competition riders could not be selected. Names received up to the present are as under:

PRIVATE OWNERS.

- W. Cooper (Harrow).
- F. C. Wasley (Bristol).
- G. Smith (Coventry).
- L. A. Baddeley (London).

TRADE RIDERS.

- W. Pratt (London).
- J. Woodhouse (Birmingham).
- F. W. Barnes (Weybridge).

Gometz-le-Chatel Hill-climb.

In the above event (described on pages 1401-3 last week), A. J. Moorhouse (Indian) should have been placed first in the amateur class with W. H. Bashall (Matchless) second, the times being 28 $\frac{3}{4}$ s. and 33s. respectively. In the inscription to the photograph published last week we pointed out that Moorhouse made second fastest time of the day; this he accomplished in the unlimited class, the time being 28 $\frac{3}{4}$ s., Bashall's time in this class being 28s.—the best.

A.C.C. de France 1912 Programme.

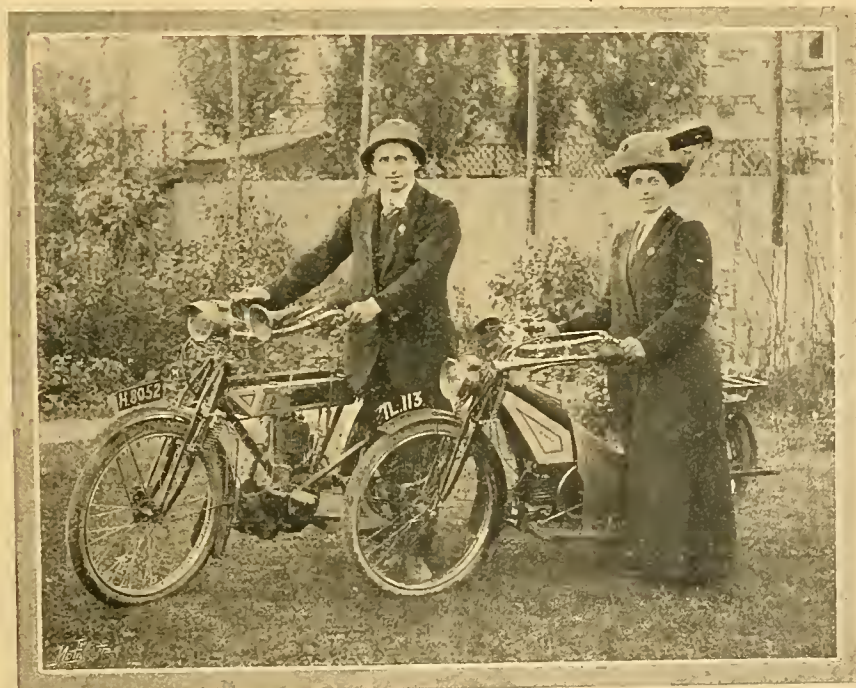
The organisers of the Gometz-le-Chatel hill-climb, encouraged by the success of the event described last week, have issued an ambitious programme for next year. The events which this club will organise comprise the Tour de France reliability trial, on a circular route which embraces practically all the principal towns of France, and is over 1,500 miles in length. This event is for touring motor cycles only. Track races for one hour and 100 kilometres (62.1 miles), when attempts will be

BROOKLANDS AND THE SIX DAYS' TRIALS.**A SIDECAR IN CORNWALL.****DESIGN OF RIMS AND TYRE BEADS.**

made to beat records. Attempts on road records for the kilometre and the mile, with standing and flying start. A road race on a properly guarded circuit over a distance of 155 to 166 miles.

The Feeling Towards Motor Cycles in Holland.

Mr. Citroen tells us that on the occasion of the international contest on August Bank Holiday the Dutch M.C.C. expects to collect together at least sixty motor cyclists, and this, he considers, will be a great thing for the future of the motor cycle pastime in Holland. In public eyes, he adds, motor cyclists are still a danger on the open road in Holland, and the club's endeavour is to do what it can to allay that idea. At present, the Dutch M.C.C. is doing its utmost to prevent the use of the silencer cut-out in towns and villages, and the club looks to the British competitors to help it in using the cut-out only on the open road, and only then if absolutely necessary.

MARRIED COUPLES WHO MOTOR CYCLE.

Mr. and Mrs. F. G. Newbury, of Southgate, London, N., whose mounts respectively are a $3\frac{1}{2}$ h.p. Bradbury and a $2\frac{1}{2}$ h.p. Douglas.

Running Costs.

A correspondent whose letter appears this week under "Cost of Running a Motor Cycle," proves he has ridden 11,490 miles at a cost of a little over a halfpenny per mile.

Touring in Switzerland.

Motor cyclists who tour in Switzerland will be interested to know that dating from June 1st next year they will be able to use the road connecting Martigny and Chamounix under special regulations which will be issued by the authorities of the Canton du Valais. The Swiss are coming round.

Stolen Machines.

Between 11 p.m. on the 16th and the afternoon of the 17th, thieves entered the premises of Robertson's Motor Agency, 157b, Great Portland Street, W., and removed a 5.6 h.p. 1911 Bat with P. and M. two-speed gear and Rom tyres. The two-speed gear cover has a home-made oil flap, and there is a home-made handle to the oil pump. The number of the engine is 6520. The victims of the theft inform us that this is not the only case which has occurred in the neighbourhood lately. If this machine is offered to any of our readers will they kindly communicate with Messrs. Robertson's at the above address.

The Institution of Automobile Engineers.

The third meeting of the session of the Institution of Automobile Engineers was held on the 13th inst., when a very able paper was read by Mr. L. H. Pomeroy, Wh. Ex., on "Engine Design for Taking Advantage of Horse-power Rating Rules," the author basing his claims on actual experience with engines constructed and run by the Vauxhall Motor Co. Interesting particulars were given of an engine with a bore of 3.12 in., but with a stroke of no less than 8 in. Copies of the above paper may be obtained in pamphlet form price one shilling each. During the evening it was announced that twenty-five elections had been taken up since the last announcement, and also that over forty applications had been dealt with by the council that evening.

Dunkerry Beacon, or Light on Exmoor.

We all know that the Doone Valley as described by Blackmore does not exist. Any tourist who set out to find the Doone Gate, John Ridd's Waterslide, or Lorna's Bower, would return disappointed. "Kuklos" goes very thoroughly into the matter in the *Daily News* of the 20th inst.; and considerably amends his previous statements. He now says he knew all about the road referred to by our contributor and shown on the map. So he may have done, but it looks very much as if it had escaped his memory. "Kuklos" appears to have been misled by the words "via the Doone Valley," which he seems to have taken absolutely literally, which we did not. The road in question passes the bottom of the valley through which the Bagworthy water flows, and this was the valley in which lived Sir Ensor and the rest (according to Blackmore). We agree with "Kuklos" that the road through Dunster, Timberscombe, and Wheddon Cross is the better, but the coast road gives an unequalled opportunity of seeing fine coast scenery.

The Popular Motor Cycle.

Mr. F. Warwick, presiding at the annual meeting of Components, Ltd., at Birmingham last week, said there was quite a small boom in motor cycles, and it was likely to assume very considerable dimensions. It was a very interesting question as to whether there was to be a revival in the fortunes of the cycle trade due to the motor bicycle. The present was an age of rapidity of transit, and a large majority of those who could afford it would purchase a motor cycle in preference to a "push" cycle. The motor bicycle was no longer an athletic and speed instrument, but a handy vehicle for pleasure, travel, and holiday which could be used by both sexes.

FUTURE EVENTS	
Dec. 30.—North West London M.C.C. Twelve Hours' Winter Trial to Gloucester and back.	1912.
Jan. 20.—Herts. County M.C.C. Open Trial.	
" 20.—A.C.U. Annual Dinner.	
Mar. 2.—Auto Cycle Union Open One Day Trial.	
" 23.—B.M.C.R.C. Race Meeting.	
" 30.—Derby and District M.C.C. Open Hill-climb.	
Apr. 5-8.—N.W. London and Herts. County M.C.C. Joint Trial and Open Hill-climb (Yorks.) and Ladies' Competition.	

Enquiries re Second-hand Machines.

A correspondent named S. J. Hewes, of Brockley, Kent, who advertised a 2½ h.p. Minerva in *The Motor Cycle* for £6, received a foolscap sheet of paper containing thirty-six distinct queries as to the condition and capabilities of the machine, all of which showed that the enquirer had a considerable knowledge of motor cycles, and did not intend to buy "a pig in a poke." At the same time it is rather a trial to fill up definite replies to thirty-six queries regarding a second-hand machine value £6. Motor cyclists are so keen irrespective of the price paid for a mount.

Activity of the R.I.A.

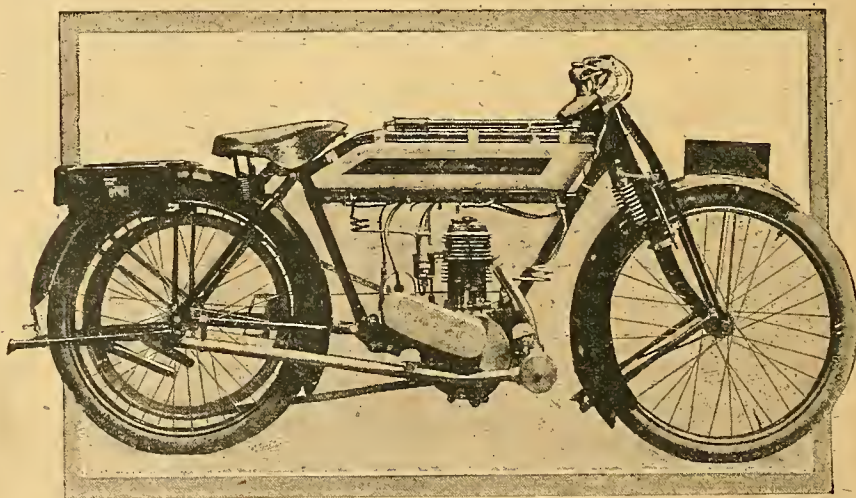
The Roads Improvement Association has been very active of late. Meetings have been held of the following centres of the organisation: Bristol, Yorkshire (North Riding), Lancashire and Cheshire, and Sussex. Various recommendations for improving roads, widening roads at bad corners, and alterations to narrow bridges were forwarded to the authorities. Altogether the R.I.A. is to be congratulated on the good work it is doing on behalf of motor cyclists and road users in general.

Benefiting a Clean County.

Motorists are evidently bent on showing their disapproval of the un-English police trap. We have received quite a number of letters urging our readers to take out their local taxation licences in "clean" counties which were free or practically free from police traps during the present year. Some are going further and paying their licence fees for dogs, guns, carriages, male servants, and so forth, in the clean counties. There is no law to prevent one from taking out a licence in any county one chooses, and so considerably benefiting the funds of the clean county, whilst still showing disapproval of the methods of the "black" county.

Despatch Carrying in Australia.

A relay ride of great interest and value will take place next April, under the auspices of the Dunlop Rubber Co., of Australasia, from Adelaide to Sydney, a distance of 1,149 miles. The despatch carriers will be in three divisions, cyclists, motor cyclists, and motor cars, with scheduled speeds of sixteen and a half, twenty-five, and twenty-eight and a half miles per hour respectively. There will be sixty-four relays of cyclists, twenty-five of motor cyclists, and four of cars. The object of the test is to see which division will get their despatch through first, the cyclists having a start of twenty-four hours from the motor cyclists, and thirty hours from the autocars. The Dunlop Co. are receiving applications from those wishing to take part from all parts of Southern Australia.



A NEW T.T. MODEL.

3½ h.p. Campion-Jap for 1912—a make of machine which is well-known in the Notts. and Derbyshire district. A T.T. mount is a new departure for the Campion Co.

THE MOTOR CYCLE IN CEYLON.

HAVING covered some 3,500 miles this year on my 1910 T.T. Roadster Triumph, the following notes and photographs may be of interest to riders at home. So far I have found no hill in Ceylon on a public road which my machine will not go up easily, in any weather, on a gear of $5\frac{1}{2}$ to 1, and I can get up most on a 5 to 1 gear. This is a pretty good testimony to the flexibility of the T.T. engine, when I add that the roads are usually only eight feet wide, and many of the corners absolute hairpins, which it is impossible to round at more than ten to twelve miles an hour. The gradients, though very long, are nowhere really steep, though one or two short stretches of 1 in 8 may be occasionally met with. The average gradients are 1 in 12 or 1 in 15. Belt drive is not altogether satisfactory

The Rainfall of Ceylon.

A belt shield is an advantage, and magneto and sparking plug covers a *sine qua non* in an island where the rainfall sometimes reaches 200 inches in the year, or even more. Nearly all my riding has been up country, at elevations varying from 1,500 to 6,200 feet above sea level; but I have had some interesting experiences in the low country, especially in the Monsoon. I have several times found the roads under water near Colombo, and had to put myself and motor cycle in a catamaran, made of a dug-out tree trunk with an outrigger fitted to one side, to be ferried across the flood. Again, I have ridden my machine along the side of the railway track for three miles, when the road to my destination happened to be eight feet under water.



in the hills, as one gets a great deal of wet weather, which, of course, makes belts slip at the critical moment; but otherwise I find them last fairly well, a $\frac{7}{8}$ in. rubber belt lasting me 1,500 miles, and rubber-studded tyres on back wheel about 1,800. The continuous corner work and braking when meeting carts, etc., of course, greatly shortens the life of belts and tyres. I consider a two-speed gear for solo work quite unnecessary on any machine of $3\frac{1}{2}$ h.p. and over if fitted with an adjustable pulley giving an ample range of gears, but a light clutch is certainly an advantage (though I don't find the need of one myself). I would not have pedals at any price. They always hit the ground at corners, and are of no use that I can see on a modern machine, except those with clutch in the back hub. Even in this case handle-starting would be preferable.

Almost any machine will do for the "potterer" in Ceylon, but for a man who wants to keep up a decent average the more power the better. I can average eighteen miles an hour over long distances up country, on give and take roads, but if I had a 5 or 7 h.p. machine I could certainly raise my average very considerably.

Passenger Machines.

Sidecars have so far not made much headway out here, but I have seen two castor wheel models, both fitted to clutch Triumphs, up country, and hear they are doing very well, the engines being geared, I believe, about 6 to 1. My ideal machine for this country would be as follows: $3\frac{1}{2}$ h.p. single, or 6 h.p. twin, m.o.i.v., low compression engine; semi-automatic carburetter; magneto high up and well protected;

- (1) A low country village near Kegalle, on the Colombo-Kandy road.
- (2) On the Ginagathena Pass, which rises to a height of 2,400 feet.
- (3) Part of the Kelain Valley, about 100 feet above sea level.
- (4) The top hairpin corner on the Kaduannawa Pass. The gradient at this point is about 1 in 12.
- (5) Colour-sergeant Johnson, of the Ceylon Planting Rifle Corps. He has ridden his Roc all over the island on duty as instructor to the Volunteers.

The Motor Cycle in Ceylon.—

variable pulley; rin. belt; both brakes on back wheel; non-skid tyres both wheels; very low and short frame; two sets footrests; tank to hold two gallons of petrol (depots are usually fifty miles apart); and large pan seat instead of saddle. There are a number of machines on the market which almost fill the bill, and nearly all the leading makers are represented out here. We hope to have some competitions next year, and possibly a hill-climb at Christmas. By the way, I see everyone is agitating for silent silencers at home. These would be very nice out here. (I have tried a 5 h.p. Indian which really was silent!) But a cut-out or exhaust whistle is absolutely necessary, as the native never hears a motor till it is right on him, and a horn has no effect, so the noisier the exhaust the better, except, of course, when on a straight road or when passing horses or private bungalows.

Dogs and cattle seem to have a great dislike to

motor cycles. The former are not usually dangerous, but a nuisance, as they pursue one for a considerable distance; but cattle are much more dangerous, as they often charge at one quite unexpectedly, and one has to be very nippy to get away. A small revolver is the best thing for pariah dogs; it is the only thing that has any effect on them, but one soon becomes quite an adept at potting dogs from the saddle.

In conclusion, to anyone coming out to Ceylon I would say, certainly bring a motor cycle. The scenery is lovely, and the roads fairly good. Prices of petrol vary from Rs. 1/50 per gallon in Colombo to Rs. 2/50 in out of the way parts, and oil is about Rs. 4/50 per gallon. Ordinary spares, belts, plugs, and tyres can be obtained in the large towns, but it is as well to bring out spare valves, etc., for one's own particular machine to avoid waiting two months for new ones. *The Motor Cycle* is widely read out here—long may it continue. "U 32."

NOTES ON TYRE MANUFACTURE.

THERE are a few points which buyers of motor cycles would do well to note when selecting the tyres to be fitted to their machines.—In the first place, it is unwise to be under-tyred—that is to say, the tyres should be of ample size for the work they have to do; the cost may be greater in the beginning, but this policy will be found to be cheapest in the end. Users of sidecars will do well to fit the 650 x 65 mm. car tyres to their back wheels. An efficient non-skid should also be selected. Steel studs are good on country roads, but not on the sets and tramlines found in towns, even when dry. Combination treads are useful, but personally I prefer an all-rubber non-skid of sound construction with plenty of rubber in the tread. These suggestions are, of course, fairly obvious, but there are other points which do not so readily occur to the mind.

Most makers are now moulding their tyres under pressure to the shape they will assume when inflated on the rim; this is a great advance. If a tyre is made like a flat band and then bent round, the rubber is in tension, and when cut will at once open and admit damp and dirt to the great detriment of the canvas lining. Of course, cuts in any tyre should be mended with tyre stopping as soon as discovered, but if a tyre is made in the right shape and the right way, these cuts will not open but keep tightly closed.

The Strength of the Beads.

This is a point the importance of which seems to have escaped the notice of many makers, but fortunately not all. Of course, all makers think their beads are sufficiently strong, but some few do not impress this upon buyers, and in their illustrations sometimes show sections of tyres in which the bead is apparently most inadequately attached. I examined many sections of tyres at Olympia, and saw several examples in which only one thickness of canvas surrounded the bead, the other two sections being inside, where there is little or no strain. One section actually had two thicknesses outside the bead on one side of the tyre and only one on the other, showing that one maker at least did not attach much importance to this point. In the cheaper lightweight tyres one

naturally only found one thickness outside and one inside, but when there are three layers of canvas in a tyre two most certainly should surround the bead, and makers should draw the attention of purchasers to this point. An additional strip of thin canvas is sometimes added—this is a good plan.

A Few Hints to Buyers.

In conclusion, I would advise all buyers to obtain sections of the tyres they fancy; note the shape they retain without being held; then make some cuts with a knife in different directions (a wet blade will make this easier), and see if the cuts open when the section is curved as it would be on the rim (in making this test, be careful not to bend the tyre more where the cut has been made than elsewhere, or the cut will open in any case). And, finally, take particular notice of the canvas outside the beads; there should be at least two layers at this point, and these two

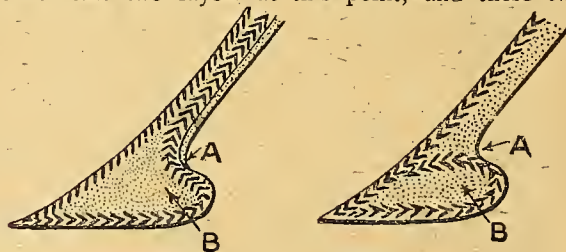


FIG. 1

FIG. 2.

Fig. 1.—Bead as it should be made, showing two layers of canvas at the point A where the strain is. B. Hard rubber of bead.

Fig. 2.—Bead as sometimes made. Note the weakness at A.

layers should surround the tyre; in some cases they cease just above the bead. If small pieces of rubber can be pulled off with the finger nails, the tyre should be rejected at once, for the quality of the rubber is not what it should be. The rubber should feel smooth and silky to the touch, never gritty or rough. There were some few sections at Olympia so excellent in form, design, and quality of rubber that it would be hard to select the best, but, on the other hand, several could at once be discarded as quite unsuitable for motor cycle requirements.

AURIGA.



THE heading of this article is rather ambitious, as under certain circumstances it is impossible to prevent side-slip. The subject of side-slip has had much written about it, and it is not proposed to enter into the merits and demerits of various non-skid devices, but to give a few hints as to how the risk of serious skids can be best avoided.

The first rule to observe is to gear low, and not to try and ride too slowly. A high gear and a slow powerful kick of the engine are apt to cause the rear wheel to spin, and this "relative motion" is the cause of more side-slips than anything else. For the same reason, it is not advisable to accelerate quickly in grease. Never apply the brakes suddenly, for to lock the wheel is as deadly as to let it spin. Keep as far as possible off the camber of the road, and, when tramlines have to be crossed, cross them at as wide an angle as possible. Keep your tyres well inflated, but not board hard, for, whereas a soft tyre tends to roll, a board hard one tends to bounce, and so cause the wheel to spin.

The Importance of Correct Alignment.

Be very careful to see that both wheels are in line. In many cases a motor cycle frame gets slightly strained, especially if occasionally used for sidecar work. This causes the wheels to stand at different angles, and should this occur the fault should be remedied at once, and the repair is best left in the hands of the maker.

Note that your spring forks have no side play. This is important, and any shake should be taken up before it causes an accident. The same applies in the case of certain spring frames. If belt drive is used, do not ride with too tight a belt, as it causes jumpy running at low speeds.

Frame design has an important bearing on side-slip, and here is the weak point in the modern very low saddle position, for though one can more easily get one's feet to the ground in case of a skid, one has not the control over the machine that a higher position gives. The saddle should, also be as far in front of the rear axle as possible.

A Practical Illustration.

To illustrate these points, the following instance may be quoted. The writer has been riding a very low semi-racing machine during the past season, and, in spite of the frame being true, the wheels in line, and although all ordinary precautions were taken, the machine was distinctly bad in grease. At the approach of winter, the engine, wheels, tyres, etc., were taken out of this frame and put into a comparatively high frame. The new frame was about 1 in. longer, but the saddle position was nearly $4\frac{1}{2}$ in. higher, and a good deal further in advance of the rear axle. The effect has been to make the machine quite steady, even in the bad grease we have had lately, and in spite of the fact that the tread is worn

off the rear tyre, leaving a smooth surface. Remember that it is a bad plan to carry heavy toolbags on the handle-bars or front forks—even the generator, if a heavy one, is better carried on the frame—as any unnecessary weight on the bars and forks affects the steering adversely.

Non-skid Tyres.

Many and various are the non-skid tyres now marketed, all of which are, of course, "the best," but, as a matter of fact, it is hard to choose the best among those produced by several well-known firms. Probably the best for all-round use are those with rubber studs or patterns, or a combination of the two, for though a steel-studded tyre is a more effective non-skid in certain forms of grease it is often extremely dangerous for a two-wheeler in tramlines or on stone setts. Riders of two and three-speed, or variable geared mounts should not attempt to hold on to their high gears, when going slow in bad grease, and owners of clutch machines should be even more careful than usual not to let in their clutches with a bang.

I have made no reference to corner work, for it is obvious that corners require a certain amount of care and commonsense when the roads are greasy; but it may be as well to add that slowing up gradually on the throttle is preferable to raising the exhaust lifter, and dropping it quickly when the throttle is still open to a fair extent.

General Hints.

- Gear low.
- Do not drive fast or too slow; strike the happy medium.
- Keep off the camber of the road.
- Cross tramlines at as nearly a right angle as possible.
- See that your wheels track.
- Avoid side play in your spring forks.
- Do not go in for the lowest possible saddle position, but arrange the saddle so that you can comfortably put your feet on the ground, and keep it as far forward as possible.
- Do not carry heavy articles on handle-bars or forks.
- Use any good make of non-skid tyre (rubber tread preferred).
- Do not let in your clutch with a bang, and do not "blind" round corners.
- All motor cyclists of long standing know most of these tips by heart, but it is hoped that they will be of use to the later additions to our ranks, many of whom I know have been hesitating to buy on account of the supposed terrors of side-slip.
- In conclusion, let me add that if reasonable precautions be taken and a machine be driven with ordinary commonsense, there is no reason to prevent many enjoyable runs, even on greasy roads.

UBIQUE.

QUESTIONS & REPLIES

A selection of questions of general interest received from readers and our replies thereto. All queries should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, E.C., and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy, for ease of reference. Letters containing legal queries should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Licence for Sidecar.

? I have just purchased a second-hand 8 h.p. Bat and sidecar, and after registering the same, the licensing authority (Cardiff) sent me a form to fill in for the licence. (I have not yet had delivery of the machine.) This form, which appears to be a general one and not issued locally, says that a sidecar requires an additional licensing fee. I understand the one fee of £1 covers both. Would you please advise me on the matter.—F.B.

It is usually accepted that the £1 fee (10s. after October 1st) covers a motor bicycle and sidecar, the combination being regarded as a three-wheeled motor cycle, but some licensing authorities endeavour to enforce an additional fee. There does not, however, appear to be any rule on the matter as regards England, though in Scotland it has been definitely decided that a motor cycle and attachment count as one vehicle. See also reply to "Sidecar," Peckham, page 1412 of last week's issue.

Lightweight for India.

? Briefly I will give you what special points I require in a motor cycle. (1.) Lightness, to enable the machine to be carried without difficulty in and out of boats, the carriers often having to wade thigh deep through mud. (2.) Ability to go indefinite distances on the low gear, over the worst of roads, without overheating, the temperature being 120° in the shade at times. (3.) Accessibility to all parts, and ability to go without constant "fiddling" and adjusting. These are the chief points. Do you consider a P. and M. lightweight would suit my purpose? I should never want to go more than 20 m.p.h.; my weight is under 11 stones. The chief thing, however, is to be able to "crawl" for long distances. Can you recommend the Parsons Rapid repair kit? Does it take the place of solution and patches?—INDIAN POLICE.

We can confidently recommend the machine mentioned in your letter. It is light, will travel long distances on the low gear if driven carefully, and is accessible, while its reliability is well-known. The machine would travel comfortably at 20 m.p.h. We can thoroughly recommend the Parsons repair outfit.

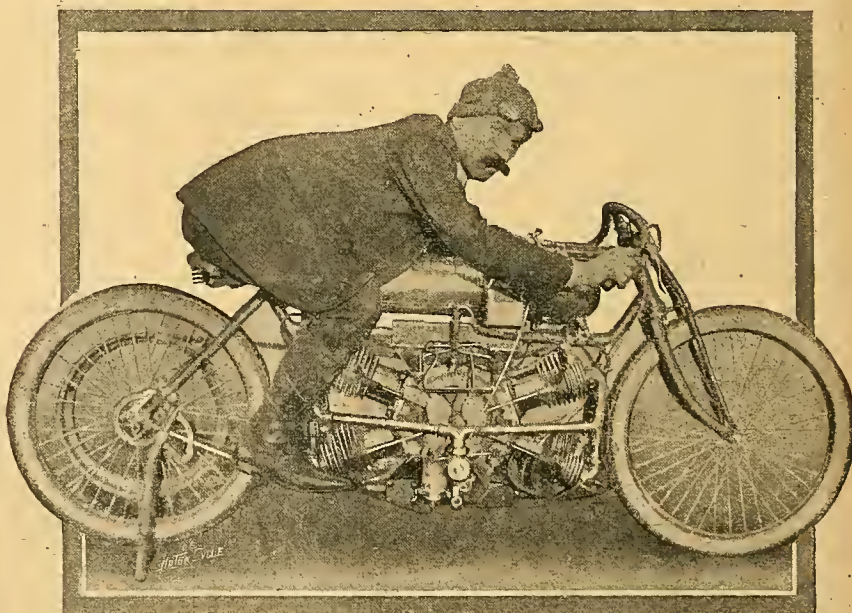
Sidecar Queries.

? (1.) Would a 3½ h.p. machine with two-speed gear be satisfactory for sidecar work, more particularly in the Southern and Eastern Counties, or (2) would it be better to get a 5-7 h.p. twin-cylinder, taking into consideration such points as cost of upkeep, keeping in tune, running cost, etc.? I am the youngest of novices and do not want a machine which might give trouble. It seems to me that a single is so much more simple than a twin. I can alter the timing of my present mount, a 3½ h.p. Bradbury standard, but very much doubt whether I should be able to manage the same job on a twin. (3.) If I arrive at a decision in favour of the single, would it be better to get a new two-speed Bradbury or fix, say, a B.S.A. two-speed to my present mount, a 1911 Standard, or an Albion in the back hub? (4.) What would be about the cost in each

of these cases? (5.) Which is the most economical form of sidecar to run, and which is the safest? My intended passenger is extremely nervous. (6.) I shall be glad if you will give me your candid opinion of the Bradbury machine.—B.P.B.

(1.) The 3½ h.p. machine with two-speed gear would be satisfactory for sidecar work in East-Anglia, but not in some of the Southern Counties, where steepest hills abound. (2.) You had better get the 5-7 h.p. twin, preferably chain-driven. (3.) It would be better to get a new two-speed, chain-driven machine than to fix a two-speed gear to your existing mount. (4.) Of course, it would be slightly more expensive to buy a new machine. You may reckon the cost of a two-speed gear to be roughly £10. (5.) A rigid sidecar. (6.) We have a high opinion of the machine referred to here. It has a larger engine than most single cylinders, and hence is very suitable for sidecar work.

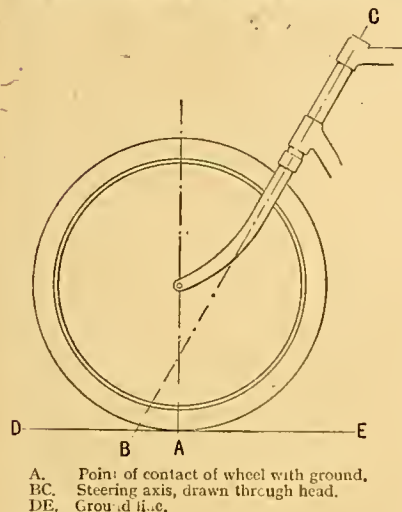
A RACING MONSTER AT THE GOMETZ-LE-CHATEL HILL-CLIMB.



Mouriou and the peculiar design of four-cylinder Rene-Gillet machine on which he hoped to accomplish fastest time. The bore and stroke are 90 x 100 mm., and transmission is by two belts. A well-known formula gives the horse power as 22½.

Trailing Action of Front Wheels.

I have had an argument with a friend of mine, and we have decided to abide by your decision. The argument is this. We both agree that the front wheels of machines trail—or most of them. Now the question is, where and how does the manufacturer get the point from where to trail? How does he arrive at it, or the point to see how much it trails? I say he measures from a straight line down the head proper to the ground. My friend says, down the forks.—CONSTANT READER.



You are right, and your friend is wrong. The amount of trail is measured from the point where the steering axis produced meets the ground. The steering axis is, of course, through the centre of the head, the shape or position of the forks having nothing to do with the matter provided the steering angle of the head and the position of the wheel is laid out as described. The accompanying sketch will make all clear. The distance from A to B shows the amount of trail.

Machine for Sidecar.

Can you thoroughly recommend the Indian motor cycle for outn solo and sidecar work, and (1) would you mind advising me which model to get? (2.) Is the control of these machines really as simple as it seems to be on paper, and is it easy to get used to it after being used to the ordinary two-lever carburettor control? (3.) Is chain drive better than belt drive for an all-weather machine? (4.) Do the automatic carburettor and the mechanical lubricator work well at all speeds, and is the whole machine simple and reliable?—"DI 75."

(1.) Yes, we can thoroughly recommend the machine referred to in your letter. The 7 h.p. with two-speed gear is suitable for sidecar work, more so than any other the company sell. (2.) The control is quite simple, and it is easy to get used to it. (3.) Opinions differ, but we prefer chain drive for constant sidecar work, the Indian drive is quite satisfactory. (4.) Both the automatic carburettor and mechanical lubricator are thoroughly satisfactory, and the machine is reliable.

Porth (Glam.) to Sherborne.

I have it in my mind to go from here (Porth) to Sherborne in Dorset. (1.) Is it possible to do the return journey in one day? (2.) Also could you kindly give me names of most important places on route, and number of miles?—A.W.

(1.) We should not think you could get back in the day, especially at this time of the year. (2.) Your best route would be as follows: Porth, Pontypridd, Caerphilly, Newport, Severn Tunnel Junction (by train to Pilning under the river Severn), thence through Bristol, Whitechurch, Pensford Station, Shepton Mallet, Castle Cary, Marston Magna, to Sherborne. The distance is approximately ninety-four miles.

Croydon to Manchester.

Please inform me as to the best and shortest way of reaching Manchester from S. Croydon, avoiding London, if possible, and the big towns. I am contemplating starting at 5 a.m., and wish to finish the same day. If you could also give me the distance so much the better. The machine to be used is a T.T. Ariel-Swift. I should also like an estimate of the approximate time the journey is likely to take.—P.W.W.

To avoid London you will have to make a rather long detour, and go through Croydon, Castleton, Sutton, Kingston, Hounslow, and Uxbridge. The route is then Amersham, Aylesbury, Buckingham, Towcester, Daventry, and along Watling Street to Atherstone, as far as a point two miles south of Lichfield. Go through Lichfield, Abbots Bromley, Uttoxeter, Cheadle, Leek, Mansfield, Stockport, to Manchester. If you are starting as early as 5 a.m. you would considerably shorten the distance by going straight through London, and passing Regent's Park; go up Finchley Road, through Barnet to St. Albans. You would find far better roads all the way, except in the vicinity of Regent's Park, and not much traffic at so early an hour, whereas the route to avoid London necessitates byroads and roads on which there are tramlines. It is a long ride for one day at this time of the year. The distance is approximately 200 miles.

Re-magnetising a Magneto.

I have been running my motor cycle for three years, and I have an idea that the magnets have lost power, as the spark is very weak. Is it necessary to have them remagnetised, and who is a likely person to do it, and can they be charged too strongly?—W.W.

The magnets of a magneto machine should keep their magnetism for at least three years, probably longer. If, however, you have reason to suspect that the magnetism is not so strong as it should be, which is generally demonstrated by bad starting and failure to run at slow speeds, it would be advisable to send the magneto to the makers, or their representatives. You cannot over-magnetise the magnets.

Three-speed Gears.

I have an old $3\frac{1}{2}$ h.p. Riley, which I have used for the past two years with sidecar and "Fit All" two-speed gear. As the gear is now worn, I should be much obliged if you could give me your opinion of the advantages and disadvantages if any of the following gears for sidecar work with $3\frac{1}{2}$ h.p. Riley engine: (1) Armstrong three-speed; (2) Sturmey-Archer three-speed.—H.C.P.

Either of the two gears mentioned would suit your purpose. Of these (1) is a well-tried article, the top speed is indirect, and the machine can be started on the stand. The other is only just placed on the market, but this has the advantage, in the opinion of some, of having the top speed direct, and engine can be started with the back wheel on the ground.

EXPERIENCES WANTED.

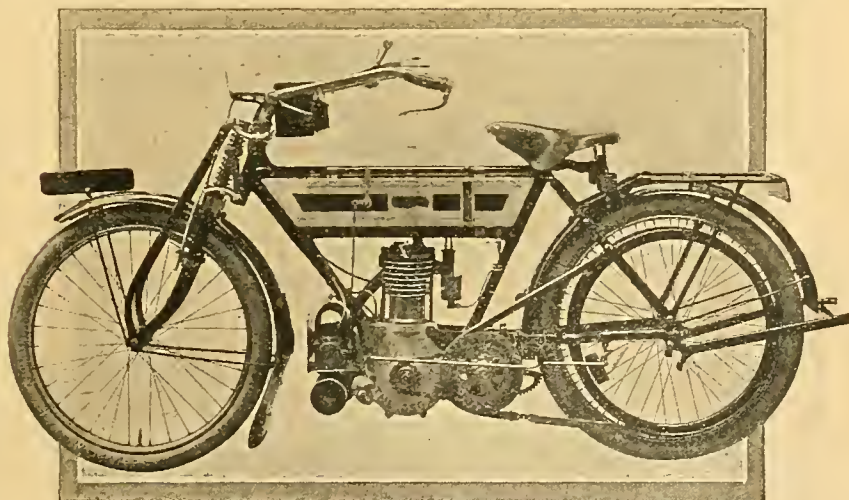
"A. G. B." (Birmingham) desires readers' experiences of the Triumph (FE model) for commercial traveller's use.

"A.W." (Beckford). Fitting a modern carburettor to a 1907 four-cylinder F.N.

"E.B.R." (East Putney). P.V. spring frame with and without sidecar—steadiness in grease and wear of belt.

"W.J.T." (Norton-on-Tees).—1911 two-stroke Scott with sidecar.

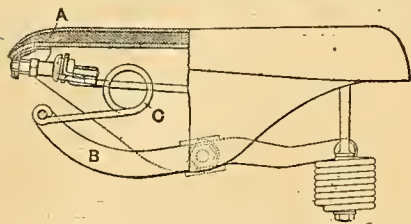
"A.J.R." (London). Lincoln Elk, especially as regards life of engine.



Belt side of the latest model $3\frac{1}{2}$ h.p. Brown, with Bowden two-speed counter-shaft gear.

Saddle Spring Arrangement.

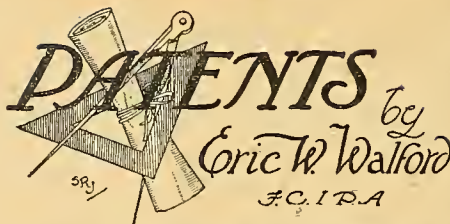
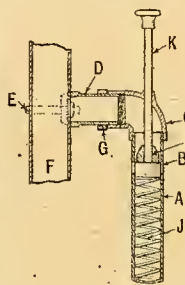
The peak A of the saddle is resiliently supported upon the frame B by double lever coil springs C. These springs



are arranged to project backwardly beneath the saddle, so that a neat and effective construction is arrived at.—J. B. Brooks and J. Holt, No. 29,669, 1910.

The Garner Exhaust Whistle.

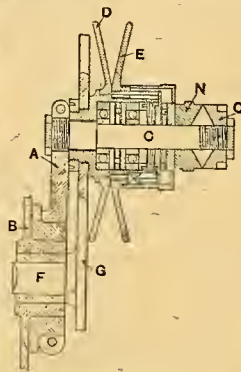
This exhaust whistle is foot-operated, and does not involve the fitting of any extraneous operating mechanism. It comprises a tube A, having sound holes B, which is connected by an elbow C to a branch D secured by a clip E to the exhaust pipe F, which is, of course, drilled to allow the passage of the exhaust gas. The connection between the elbow C and branch D consists of a screw thread allowing the elbow to be turned to the most convenient angle, and locked by a nut G. Within the tube A slides a piston H, which is normally forced upwards by a spring J, to close the sound holes B. When the piston is depressed by the rod K, the sound holes are



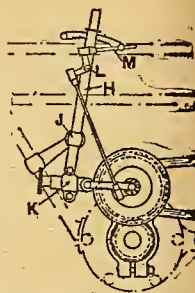
opened, and variation of the distance between the sound holes and the piston provides a variation in the tone produced.—H. Garner and W. J. Parker, No. 11,656, 1911.

The Wooler Transmission System.

This is the patent covering the Wooler driving gear, which comprises an adjustable pulley, mounted upon a rocking quadrant, providing for belt adjustment. The quadrant A is mounted upon the crank case B, and carries a counter-shaft C, upon which is mounted the pulley D, the flange E of which is movable to vary the effective diameter, and therefore the gear ratio. Motion is transmitted from the engine-shaft F to the pulley D by spur or chain gearing G. The operating mechanism comprises a hand lever H pivoted at J and connected to the counter-shaft C through a spring device contained in the cylinder K, the object

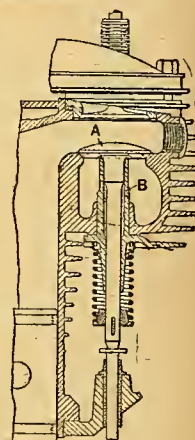


of which is to minimise the shocks of transmission. Pivoted on the lever H is a bell-crank lever L, having a sliding guide rod M at one end, and at the other end connected to a face cam N co-operating with a second face cam O for the operation of the movable pulley flange E. The parts are so proportioned that as the lever H is oscillated the face cams vary the adjustment of the pulley, and at the same time the quadrant A is rocked about its pivot to maintain the belt at the correct tension.—John Wooler, No. 24,618, 1910.



Valve Construction.

By this construction the valve stem is protected from burning. The head A is recessed on its underside, and the guide B is extended to a point within the recess. The exhaust gas, in travelling past the valve, therefore only impinges on the guide B, which is of considerable sectional area, and is formed with a radiating flange at D, to dissipate the heat absorbed from the burnt gas.—Rudge-Whitworth, Ltd., and J. V. Pugh, No. 25,474, 1910.

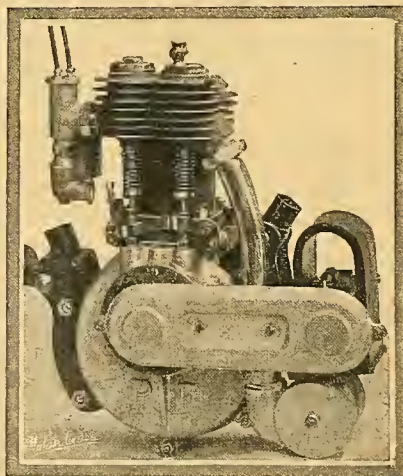


1912 Peugeot Engine.

A single-cylinder Peugeot engine, with bore and stroke of 84 x 90 mm., capacity 499 c.c., is now being handled by Mr. J. Taylor, Warwick Road, Birmingham. The new engine has side by side mechanically-operated valves, and weighs 56 lbs. The flywheels are 8in. in diameter, which should conduce to steady running. The height of the engine overall is 17in., and the width of crank case 9in. It can be obtained with silencer, magneto, and bracket and carburetter complete.

A Portland Street Addition.

A new firm known as Robertson's Motor Agency will shortly be opening premises at 157b, Great Portland Street, W. The managing director of the concern is Mr. Robertson-Brown. They will be agents for the Ivy-Precision, Norton, and Zenith, also sole agents for the Turner sidecar. Spare parts will be stocked of the best known machines, and especially of J.A.P. and Precision engines. They will specialise in F.R.S. and Miller lamps, and lamp repairs will be undertaken. Beginners will be specially catered for. The firm has also arranged for a wholesale and retail agency for the Cowey speedometers. An interesting item in connection with the business is that the whole staff are practical motor cyclists and as the staff is increased only motor cyclists will be engaged.



New model Peugeot single-cylinder side-by-side valve engine, 84 x 90 mm.

Corah and G.N. in London.

Godfrey and Applebee, 208, Great Portland Street, W., have been appointed sole London agents for the Corah motor cycle. They have also been made exclusive West End agents for Indian motor bicycles, while negotiations for the sole agency for the G.N. runabout are almost complete. Their showrooms are well filled with the best known makes of new and second-hand motor cycles and sidecars.

An All-weather Finish.

A demonstration was held recently at Norfolk House, Laurence Pountney Hill, E.C., of work done by the Marino Electrolytic process. Various articles, such as nuts and bolts, were shown galvanised by this method, which, as there is no heat used, allows even steel springs to be so treated without affecting their temper. Zinc or any alloy of zinc may be used, or, in fact, any other metal. There is no possibility of the metal peeling off afterwards. By its aid aluminium can be soldered. The joints are first tinned by the electrolytic process, and then ordinary solder can be used. Readers who are contemplating overhauling their machines, or wish to protect the bright parts of their mounts against the ravages of winter, should make enquiries respecting the process from the Harvey Electro-Chemical Co. Ltd., at the above address.

1912 MODELS 1912

PREMIERS. CHATER-LEA.
MATCHLESS. CLYNOS.
RUDGES.

Early Deliveries—Best Exchanges.

TRIUMPH, 1909, two speeds	£37 10
PHANOMEN, 6 h.p. twin, two speeds	£35 0
TWIN REX, 6 h.p., accumulator ignition	£13 10
PREMIER, 1911, free engine, only run 100 miles	£45 0
MINERVA, 1 twin, 4 1/2 h.p., spring forks	£16 10
N.S.U., 4 h.p., brand new, single-cylinder, ideal sidecar machine: listed £48	£36 0
REX DE LUXE, 5 h.p., twin, two speeds, handle starting, M.O.V., 1911 model	£48 10
REX DE LUXE, 5 h.p., twin, two speeds, 1910	£42 10
REX, 3 1/2 h.p., spring forks, magneto, h.-b. control, 1909 model	£22 13
HUMBER, 3 1/2 h.p., 1909, two speeds, handle starting, h.-b. control	£26 10
REX, 3 1/2 h.p., 1908, spring forks, magneto, h.-b. control, beautiful condition	£16 10
N.S.U., 3 1/2 h.p., two speeds, magneto	£19 10
N.S.U., 3 1/2 h.p., magneto, road order	£16 10
QUADRANT, 3 1/2 h.p., magneto, spring forks	£16 10
REX, 5 h.p., twin, with forcercar	£11 10
N.S.U., 3 1/2 h.p., M.O.V., magneto	£15 10
N.S.U., 3 h.p., M.O.V., nice order	£10 0
REX DE LUXE, two speeds, magneto, handle starting, h.-b. control	£28 13
ENFIELD, 2 1/2 h.p., M.O.V., acc. ignition	£9 13
TRIUMPH, 2 1/2 h.p., 1911	£6 10
HOBART, 3 h.p., vertical engine, low	£8 10
ROYAL STAR, 2 1/2 h.p., vertical engine	£6 10
KERRY, 2 1/2 h.p., 26in. wheels, vertical engine	£8 10
OLYMPIC, 3 1/2 h.p., vertical engine, 26in. wheels	£6 10
PREMIER, 3 1/2 h.p., 1912, three-speed gear	£58 0
PREMIER, 3 1/2 h.p., 1912, three-speed gear	£47 5
QUADRANT, 3 h.p., vertical engine	£5 10
ARIEL, 3 1/2 h.p., vertical engine, M.O.V., 26in. wheels, nice condition	£8 10

PUSH CYCLES TAKEN IN EXCHANGE.

TRICARS.

TWIN REX, air-cooled, belt drive, fit-all two-speed gear	£14 10
STEVENS 4 h.p., single-cylinder, air-cooled Roc two-speed gear, handle starting	£14 10
TWIN REX, 5 h.p., air-cooled	£11 10

CARS.

DARRACQ, 9 h.p., two-seater	£15 15
EAGLE, 14 h.p., four-cylinder, five-seater, two speeds and reverse	£27 10
HUMBER, 5 1/2 h.p., two-seater, bucket seats, two speeds and reverse	£18 10
PHENIX, 8 h.p., two-cylinders, magneto, boots, screen, and lamps	£56 0

MISCELLANEOUS.

Darracq Chassis, with wheels, tyres, steering gear	£5 0
Gear Box, three-speed and reverse	£4 0
Longueville Carburettor, H.B. control	7/6
Ditto B. & B. and Amac	12/6
Back Wheel with Roc 2-speed and 2 1/2 tyre	£5 0
Twelve Accumulators, want cleaning, each	1/6
New Pistons, 8 1/2 in. bore	2/6
New Twin 100 C.V. under, M.O.V.	12/6
Good Rigid Sidecar	57/6
Pattern for 2 h.p. Water-cooled Engine	30/-
Hand Shaping Machine	£3 10
Hand Flaming Machine	£3 10
Carburettors—Longueville and F.N.	4/6
New Amac Carburettor H.B. control	6/-
Long Handcar, drop 15 in.	5/6
Coronet silencers for 2 h.p.	3/4 and 4/6
XLALL Spring Forks	9/6
Gripkin Belting 3/4 in. 2/3, 1 1/4 in. 1/4	1/-
Wide Mudguard 3/4 in. 2/3, 1 1/4 in. 1/4 pair, handle-bar watches, with holders	4/3
New Sidecar Frame and Wheel	35/-
Trembler Coils, 6/4 Plain	2/11
Powell and Hammer 41 Lamp	11/6
16 Guinea Lowen Sidecar	£5 0
Nearly New Coronet sidecar	£3 10
New 41 Screw-cutting Lathe	£9 10 or exchange.
New 3 1/2 in. treadle lathe	£3 or exchange

MOTOR BICYCLES FOR SALE.

TRIUMPH, 1910, October, 1911 improvements, fine condition, as new; £38.—W. Bramley, Cross Gates, Leeds.

CLYNOS and Rudges, multi-speeds; deliver March; book now to secure.—Smith, Motor Agent, Hordbury.

1911 2 1/2 h.p. Moto-Reve Lightweight, in new condition, mileage 1,000; £30, or offer.—17, Peel St., Accrington.

NEW 3 1/2 h.p. Rex, in makers' crate; cost £48, offered; bought car.—Motorist, 22, Belvoir Gar dens, Skircoat, Halifax.

ZENITH-GRADUA, 1911 machine, run 800 miles, new condition, Whittle belt; £45, or best offer.—Townsend, Normanby, Yorks.

1912 Lightweight, 2 1/2 h.p. Precision engine, bought at Show, never ridden; cost £36, best over £30 gets it; getting sidecar machine.—Leacey, Victoria St., Goole.

SEE, Write, or Wire, Geo. Merrick; he's the man for Bradbury; in stock, Rudges, B.S.A., A.J.S., N.S.U., and runabouts.—Merrick's Stores, Listerhill-Bradford. Tel.: 2439.

1911 Torpedo Precision Lightweight, 2 1/2 h.p., Amal Bosch, with lamps, tools, and horn, splendid climber, new September; cost £37, sell £28.—E. Heard 12, Bridge St., Darwen.

1911 Spa-Jap, 3 1/2 h.p., Chater spring forks and fittings, speedometer, lamp, J.A.P. adjustable pulley, watawata, toolbag, enamelled in colours, only run 350 miles; £42.—Markland and Co., Deansgate, Bolton.

3 1/2 h.p. N.S.U. Magneto Motor Cycle, 2-speed gear, free engine, new belt, nearly new tyres, splendid condition; £20; can be seen and tried any day by appointment.—G. Hey, New St., Denbigh, near Bradford.

T. PARISH, Douglas and Bradbury agent, has 1911 2-speed free engine Douglas, £36; Bradbury, 1910 with sidecar and screen, £36; 5 h.p. Hummer, 2-speed, free engine, £27; 1910 3 1/2 h.p. Centaur, free engine, £27.—81, Fishergate, Preston.

1911 Bargains.—Bradbury, shop-soiled, £39; 2 1/2 h.p. 2-speed F.N., in splendid order, £32; 3 h.p. Premier, run 150 miles, £35; 14-guinea Milford castor oil sidecar, hardly used, £11/5.—The Brighouse Motor Agency, Bullfinch Bridge, Brighouse.

1911 Douglas, 2-speed, lamp, horn, all spares, £36; 1911 T.T. Singer, complete with spring and rigid forks, touring and racing bars, speedometer, lamp, 3 pulleys, etc., £40; 1910 2 1/2 h.p. Enfield, £23; 1910 Triumph, splendid condition, lamp, horn, etc., £34.—Tarr and Fox, Cemetery Rd., Sheffield.

SECTION III.

Carnarvon, Denbigh, Flint, Cheshire, Derby, Stafford, Shropshire, Montgomery, and Merioneth.

1911 Triumph, 5 months old, perfect condition; £43.—C., White Lodge, Bromborough, Cheshire.

MINERVA 2 1/2 h.p., in perfect order; bargain, £16/10.—Hanley Garage, Ltd., Cheapside, Hanley.

F.N., 4-cyl. in perfect order; any trial; new back tyre; £30, cash.—Hanley Garage, Ltd., Cheapside, Hanley.

HUMBER, 3 1/2 h.p., 2-speed, free engine, last year's model, in sound order; £35.—Hanley Garage, Ltd., Cheapside, Hanley.

F.N., 1909, 5-h.p., 4-cyl. magneto, perfect order; cash 20 guineas.—E. Smith, Rutland Sq., Bakerswell.

1911 Ivy-Precision, 3 1/2 h.p., perfect condition, with accessories; £30.—Norman Whitehouse, Bridgton, Cannock.

TWIN-CYL. Rex, magneto, very fast, has not been used for some time; £13/10. Great bargain.—Williams, motor agent, Bala.

1911 2 1/2 h.p. Royal Enfield, chain drive, 2-speed, free engine, handle starting, Dimplos, good as new; sacrifice £35.—Corser, Madeley, Salop.

REX de Luxe, 1911, 2-speed, 5 h.p. twin, new Norembur, and only run 50 miles, in perfect condition; owner given up idea of sidecar, and is purchasing lighter machine.—Dr. Turnbull, Whitehall, Patebury, Salop.

RUDGE T.T., July 1911, good competition machine, capable 60 miles per hour, and has not been faked, spares, £38; 1912 variable geared Rudges, at £60 and guaranteed delivery in February; standard models immediate delivery.—Wedge, Willenhall.

SECTION IV.

Nottingham, Lincoln, Leicester, Rutland, Northamptonshire, and Warwickshire.

DOUGLAS, model D, 1911, fine condition; £28.—Colmore Depot.

SCOTT, 1910, overhauled and put in good order, a scarce model.—Colmore Depot, Birmingham.

DOUGLAS, model E, 1911, 2-speed, free engine, four boards, in thorough going order, only a few months old, £40; and another, more used, £38.—Colmore Depot, 27, Colmore Row, Birmingham.

MATCHLESS, 3 1/2 h.p., 1911, J.A.P. engine, a fine fast machine, runs better than when new, turned up and guaranteed in perfect condition; £38.—Colmore Motor Cycle Depot, 27, Colmore Row, Birmingham.

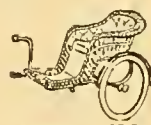
CORONET SIDE CARS

SATISFIED USERS.

We can show a pile of testimonials (unsolicited). Each one represents a delighted owner of one of our sidecars. Why not add your name to this list, and do not take the risk of being disappointed with inferior makes.



MODEL C.—£7 2s. 6d.



MODEL A.—£5 5s.



MODEL E.—£7.



MODEL D.—£7 12s. 6d.

Instructive Catalogue post free, giving illustrations and full particulars of all models of Coronet Sidecars. Every model certain to satisfy and save money for buyers. Full of improvements. Quick detachable joints. Latest car pattern mudguards. Wicker, cane, or coach-built bodies. Child's reversible seat. Excellent upholstery.

NOTE front arm which grips main tube of sidecar, which is the only correct mechanical method, nothing lopsided about this attachment.

Delivery from stock to suit TRIUMPHS, N.S.U.'s, REXES, P. & M.'s, BRADBURY'S, etc. Discounts to Agents.



TEE BEE LOW SEAT-PILLAR,
5/- each.

GREAT CLEARANCE LINE.

New Dunlops, 28 x 2 and 2 1/2, wired edges ..	19/6
Dunlops, 28 x 2, beaded, heavy treads	14/9
24 x 2 and 2 1/2 Beaded Clipper Covers, new ..	8/6
Best Quality Butt-ended Tubes	7/9
150 New Tubes 26 x 2 1/2	5/11
Rubber-studded Covers, best make	25/-

ENGINES:

4 h.p. Twin N.S.U., with Bosch gear-driven magneto, brand new from makers	£11 10
4 h.p. Twin N.S.U., with magneto	£9 0
1 1/2 h.p. CLEMENT GARRARD pattern ..	27/6
3 h.p. FAFNIR, silencer, etc.	£3 10
Water-cooled FAFNIR with broken crank case ..	£1 10
9 h.p. DARRACQ, water-cooled	£9 11
10 h.p. CLEMENT, two cylinder	£12 10
3 1/2 h.p. REX, M.O.V.	£3 10
3 1/2 h.p. AUTOMOT £2 0 | 2 CYCLONE, M.O.V. £1 15	
1 1/2 h.p. MINERVA £1 8 | 2 1/2 h.p. BROWN ..	£3 5
3 h.p. QUADRANT £3 0 | 2 1/2 h.p. MINERVA ..	£3 6

Exchanges entertained.

MAGNETOS. MAGNETOS MAGNETOS.

We have a large stock of the best makes from 55/6. Your old coil and acc. taken in exchange.

NEW CARBURETTORS FOR OLD.

22/- and your carb. secures a new 1911 B. and B. with h.b. control.
20/- and your carburettor secures a new 1911 Amac with variable jet and h.b. control.
Delivery per return.

BOOTH'S MOTORIES,
KEIGHTLEY MILLS, BEDFORD ST. NORTH
(off Pelton Lane, HALIFAX. Tel.: 1062.

Booth's Motories,

Keightley Mills, Bedford Street North, Halifax.
Tel. 1062.

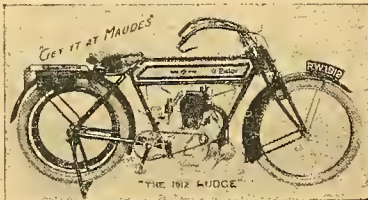
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MAUDE'S BARGAINS

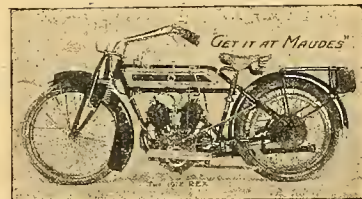
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Don't Pay Premiums!

1912 MODELS.

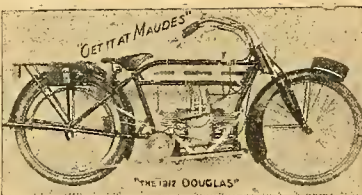
Best Terms. Best Deliveries.



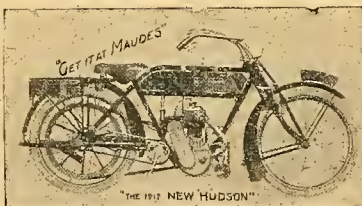
DELIVERY FROM STOCK.



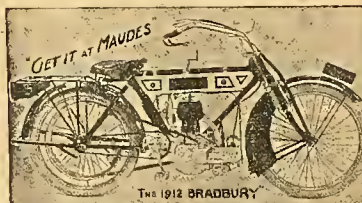
DELIVERY FROM STOCK.



DELIVERIES JANUARY.



DELIVERIES JANUARY.



DELIVERIES DECEMBER.

Best Exchange allowances on above or any other makes.
Catalogues post free on request.

CASH OR EXCHANGE
MAUDE'S MOTOR MART
136 GT. PORTLAND ST. LONDON W.C.

MOTOR BICYCLES FOR SALE.

1911 B.S.A., very little used, as new; £35 cash; no offers.—2, King St., Leicester.

V.S., 6h.p., excellent condition throughout, lamp, accessories, spares; £18.—Thomson, Barwell Rd., Kirby Muxloe.

3h.p. Fafnir, h.b.c., good tyres, new belt, just overhauled, spares; £10; seen by appointment.—R. R. Evans, Heath Terrace, Leamington.

JAMES, T.T. model, 3h.p., splendid condition, only done 1,200 miles, new late August; £35.—Cond, 143, Great Charles St., Birmingham.

1911 Humber Lightweight, adjustable ignition, complete tool kit, 2 new belts and spare inner tube.—8,624, The Motor Cycle Offices, Coventry.

1911 Triumph Motor Cycle for sale, with or without sidecar, had very little use, all latest improvements; owner buying car.—F.C.I., 75, Northumberland Rd., Coventry.

1912 Triumph, 248/15, first cheque has it; 1912 Rudge, Bradbury, Matchless, Douglas, Zeniths; handsome present to all customers.—Clifford's Motories, Eastwood, Notts.

PIGGIN and Cullen.—Triumph, late 1908, perfect order, new Palmer back, new Clincher front, new belt, headlight, and generator, Brooks guinea carrier bag, tools, etc.; what offers?

TRIUMPH, 1909, first-class condition, re-plated and re-enamelled, new Kempshall back, headlight and generator, just overhauled, spares, and tools; £36.

TRIUMPH, 1909, Cowey speedometer, headlight, and generator, in good condition, Whittle belt; £34.

SOLE Agents for A.S.L., Nottingham and district, Piggan and Cullen, Burton St., Nottingham. Tel.: 4512.

SINGER, 2h.p., magneto, spare tank, toolbag and tools, tyres, perfectly sound, thorough good order, very fast and powerful; £10; cash wanted urgently.—Grannill, Burch, Lincolnshire.

1911 Scott, brand new, never been used, for immediate delivery, £60; splendid opportunity; also S.H. 1910 Scott, for £35; guaranteed.—Colmore Depot, 51, Colmore Row, Birmingham.

SINGER, 3h.p., 1911-12, with or without N.S.U. 2-speed gear, condition equal to new; price with spares and gear, £48; without gear £45.—No. 9,041, The Motor Cycle Offices, Coventry.

1910 5-7h.p. V.S. and 1911 Montgomery 10 guinea sidecar, fitted with Palmer cord tyres, in grand condition throughout; cost over £70, to be sold, complete with many extras, price £45.—Quine, Union Bank, Market Rasen, Lincs.

SECTION V.

Norfolk, Suffolk, Cambridge, Huntingdon, and Bedford.

1911 Triumph, in perfect order.—Lambert, Thetford.

1910 Twin Moto-Reve, in perfect order and condition, all spares; £18, complete.—3a, Bridge St., Cambridge.

LAMBERT, Thetford, for early deliveries of 1912 Triumphs, Bradburys, Matchless, Humber, Rudges, B.S.A., etc.

NEW Imperial 3h.p., F.E., Olympia 1911 Show model, beautiful machine.—Particulars, Anson Cycle Works, Gt. Yarmouth.

B.S.A., B.S.A., B.S.A.—Early deliveries of all models of these celebrated machines; second-hand machines part payment.—A. F. Garnham and Co., sole agents, Ipswich.

SECTION VI.

Worcestershire, Herefordshire, Radnor, Brecknock, Monmouth; Glamorgan, Carmarthen, Cardigan, and Pembroke.

ZENITH, 1911, 6h.p., delivered September, done under 1,000 miles, as new; cost £69/6, £50.—Below.

DOUGLAS, 1910, 2h.p., thoroughly overhauled, perfect; £25/10.—Below.

4-CYL. F.N., thoroughly overhauled and re-enamelled; £17/10.—Clarke's Garage, Port Talbot.

HUMBER, 3h.p., free engine, 2-speed, good order; £45/3, bargain, £32/10.—Below.

MOTO-REVE, 1911, 2h.p., little used, as new, cost £45/3, bargain, £32/10.—Below.

PREMIER, 1910, 3h.p., good order; £25/10.—Clarke's Garage, Port Talbot.

2h.p. Douglas, 1910, perfect condition, recently overhauled by Douglas; £18.—Deeley, Bromsgrove.

MOTO-REVE 2h.p. Twin, late 1909, Continental front, Clincher back, excellent running order; accepted £18.—Lucy, Aveley House, Stourport.

TRIUMPH, free engine, 1910, condition as new, spares, new spare belt, large lamp. Nightingale whistle; £45.—Boyle, Waterloo St., Swansea.

MAUDE'S BARGAINS

F.N., 4h.p., four-cylinder, like new	£30
REX 5 h.p. de Luxe, new, 1911 models	£50
BRADBURY, 3h.p., vertical engine, spr. forks	£18
PREMIER, 3h.p., 1910, twin, very fast	£32
MINERVA, 4h.p., twin, spr. forks, good tyres	£22
REX, 5 h.p., 1910, model de Luxe, two speeds	£42
SCOTT, two speeds, magneto, Palmer tyres	£28
REX, 1910, 5 h.p., M.O.V., gold medal winner	£35
REX, 1911, 7 h.p., two speeds, excellent order	£51
REX, 5 h.p., magneto, very fast	£24
TRIUMPH, 1909, 3h.p., standard model	£32
ARIEL, 1910, 3h.p., footboards fitted, F.E.	£30
N.S.U., 1908, 5h.p., two speeds, perfect	£25
TRIUMPH, 1908, 3h.p., X.L. All saddle	£34
REX, 1907, 5 h.p., free engine, spring forks	£18
REX, 5 h.p., 1910, two-speed, M.O.V.	£42
PEUGEOT, 7-9 h.p. Twin, magneto, pan seat	£26
ARIEL, 2h.p., lightweight model	£10
MATCHLESS J.A.P. 8 h.p., side valves	£37
ANGLIAN, 2h.p., good running order	£8
KERRY ABINGDON, 1910, 3h.p., clutch	£32
REX, 1911, 7 h.p. tourist model, very fast	£37
HUMBER, 1911, 3h.p., two speeds	£37
REX DE LUXE, 3h.p., two speeds, magneto	£24
REX DE LUXE, 3h.p., 1911, as new	£44
RUDGE, 1912, clutch models in stock	£56
RUDGE, 1912, standard, in stock	£49
TRIUMPH, 1911, clutch model, as new	£44
T.A.C., 1910, 7 h.p., four-cylinder, three speeds	£45
N.S.U., 3h.p., magneto, cream finish	£22
TRIUMPH, 1911, clutch, Montgomery sidecar	£50
V.S., 5 h.p., 1908, magneto, Truffauts	£32
REX Sidette, 5 h.p., 1911 model, as new	£45
N.S.U., 3h.p., 1910 model, like new	£28
ANTOINE, 5 h.p., footboards, just overhauled	£20
HUMBER, 3h.p., 1909, two-speed	£32
TRIUMPH, 3h.p., 1909, footboards	£34
N.S.U., 3h.p., magneto, spring forks	£22
CALTHORPE, 3h.p., model, as new	£33
ZENITH, 4 h.p., 1911 model	£42
N.S.U., 3h.p., very low, magneto	£17
V.S., 7/10 h.p., two speeds, fine sidecar mount	£38
SINGER, 3h.p., 1911, only done 100, F.E.	£47
TRUMP-JAP, gray finish, 1911 model	£32

50/- deposit secures—

LLOYDS, 2 h.p. ..	£10	BARTER, 2h.p.	£8
MINERVA, 2 h.p. ..	£6	L.C. 3 i.o.	£10
CUNARD, 3 h.p. ..	£10	RIP, 2h.p.	£8
QUADRANT, 1h.p. ..	£8	ANTOINE, 2h.p.	£7

Balance £5/- weekly.

CARS AND TRICARS.

REX Littettes, 1911 models, as new	£50
BROWN 3h.p., two speeds, air-cooled	£16
STAR Car, 9 h.p., three speeds, engine under bonnet	£25
REXETTE, 6 h.o., latest model	£22
REX Litette, 5 h.p., free engine	£22
BEDELIA Car, 1911 model, two speeds, magneto, only done about 300 miles	£45

GENUINE MICHELIN TYRES.

	Beaded.	Wired.	Tubes.
26 x 2	17/-	16/6	9/6
26 x 2 1/2	18/6	17/6	9/9
26 x 2 3/4	21/-	18/6	10/-
28 x 2	19/-	17/-	10/-
28 x 2 1/2	19/-	—	10/6

Butted tubes 2/- extra.

Carriage paid. All carry makers' guarantee.

Prompt delivery.

1911 REXES. 1911

We have a few 1911 REXES, all brand new and guaranteed, to clear at special prices.

All Models. Write us for prices.

Special exchange allowances.

MAUDE'S MOTOR MART.
136 GREAT PORTLAND STREET,
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Telephone 552 Mayfair
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(LISTS POST FREE)

The Halifax Motor Exchange

Largest Rex Dealers,

16, WESTGATE, HALIFAX.

'Phone, 766.

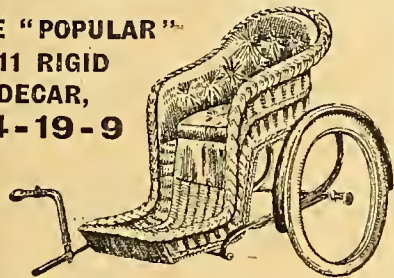
Telegrams: "Perfection."

1912 BRADBURY
REX

LIBERAL
EXCHANGES.

THE "POPULAR"

1911 RIGID
SIDECAR,
£4-19-9



"Superbe" type, with bes. tyre, apron, etc. ... £6 0 0
Ditto, with reversible child's seat ... £7 0 0
Ditto, with best coach-built body ... £7 12 6
Improved Quick-detachable Joints are fitted to all models. Prompt delivery to suit Rexas, Triumphs, N.S.U.'s, Indians, and any other make.
Discount to Trade. Exchanges entertained.

GUARANTEED IN RUNNING ORDER.

1912 Twin REX Sidette, in stock	£75 0
1911 3 1/2 h.p. Tourist REX, done 750 miles	£32 10
1911 2 1/2 h.p. 1st-speed REX Junior	£39 10
1907 3 1/2 h.p. REX, clutch model	£37 10
1911 5 h.p. 2-Speed REX DE LUXE	£47 10
1907 1/2 Twin REX DE LUXE, brand NEW	47 Gns.
1910 3 1/2 h.p. T.T. TRIUMPH, grand machine	£43 10
1910 7 h.p. REX DE LUXE, two speeds	£39 0
1910 7 h.p. Twin REX, HOT STUFF	£37 10
1910 5 h.p. Twin REX, very fast	£29 13
1910 5 h.p. REX DE LUXE, fine sidecar machine	£42 13
1910 3 1/2 h.p. REX, very fast, special machine	£27 10
Two-speed, free engine Twin REX DE LUXE	£27 10
Twin REX DE LUXE, Roc clutch, wants tuning up	£16 10
1908 3 1/2 h.p. Magneto REX, very fast	£24 10
1907 3 1/2 h.p. Magneto REX, spring forks	£19 19
5 h.p. Twin REX DE LUXE, Roc clutch, sp. forks	£24 10
Brand New 3 1/2 h.p. REX, spring forks and pedals	£31 0
Brand New Twin Magneto REX	£37 15
1910 1/2 h.p. 2-Speed Magneto F.N.	£27 10
Magneto TRIUMPH, spring forks, specially low	£25 0
3 1/2 h.p. REX, very good order	£8 10
3 1/2 h.p. REX, very fine condition	£15 10
5 h.p. Twin REX, extra good	£16 10
Four-cylinder F.N., magneto, spring forks	£13 18
F.N. Magneto Lightweight	£18 10
3 1/2 h.p. MINERVA-CHATER-LEA	£14 10
3 1/2 h.p. WOLF, Stevens engine, h.b. control	£12 10
Twin Magneto MOTO-REVE	£17 10
3 h.p. QUADRANT, spring forks, h.b. control	£12 10
3 h.p. HUMBER chain drive	£9 10
MOTOSACOCHE, Druid forks	£14 10
WOLF, Lightweight	£10 10

Easy Payments at Special Rates.

£4 DOWN and 5/- weekly secures prompt despatch of any of these machines.

3 1/2 h.p. MINERVA-CHATER-LEA	£14 10
3 h.p. QUADRANT, 1 1/2 h.p. control, st. forks	£12 10
4 h.p. ANTOINE, M.O.V., good order, reliable	£14 10
Lightweight MOTOSACOCHE, spray, runs well	£14 10
3 h.p. QUADRANT	£10 10
2 1/2 h.p. KERRY	£10 10
Twin Magneto MOTO-REVE	£17 10
3 h.p. WOLF, spray bar, h.b. control	£12 10
5 h.p. Twin REX, fine machine	£16 10
3 1/2 h.p. MINERVA, M.O.V., 20in. wheels	£15 10

CARS.

3 1/2 h.p. 4-cyl. REX REMO, Bosch magneto grand touring car, many accessories, spares	£166 0
16-20 h.p. 4-cylinder WOLSELEY, 2-seater	£49 10
5 1/2 h.p. single-cyl. BABY PEUGEOT, 2-seater .. OFFERS	
6 h.p. HUMBERETTE, 2-seater .. OFFERS	

WE have a few Brand New 1911 TOURIST and DE LUXE REXES on hand, and we are prepared to make liberal allowances for Second-hand Rexas in Exchange.

MOTOR BICYCLES FOR SALE.

SECTION VII.

Gloucester, Oxford, Buckingham, Berks Wilts, and Hants, and Channel Islands.

1911 Latest Model 4-cyl. T.A.C. equal to new; cost over £80, valuable spares; £49 nett.—A. Ward, Home Farm, Ascot.

BRADBURY (October, 1909), only done 6,500. kept perfectly by experienced chauffeur, nearly new Palmer cord tyre and tube, Lucas King of Road lamp, Brooks pannier bag, horn, and spares; £28.—Gueterbok, 17, Upper Belgrave Rd., Bristol.

7 h.p. T.A.C. 1911, 4-cyl., 3-speed, and Griffin coach-built sidecar, complete with hood and tail screen; this machine is in first-class order, and has only been in owner's possession a 2 months; complete with P.R.S. head lamp, horn, Rom tyre, tools, etc.; price 70 guineas, or gear offer; trial with pleasure: sole reason for selling have bought car.—Apply, Chauffeur, c/o Captain Mont gomerie, Farnham Common, near Slough.

SECTION VIII.

Hertford, Essex, Middlesex, Surrey, Kent and Sussex.

WILTON Cycle Co., Victoria, S.W.

WILTON.—1911 Triumphs, as new, clutch model; th accessories, £45, £48; another, with side car, £50.

WILTON.—1911 Bradburys, as new, with accessories, 2-speed gears, and sidecars; £50, £55.

WILTON.—1911 Bradbury, standard, with accessories, and Chater-Lea sidecar; £43.

WILTON.—1911 8 h.p. Bot, with P. and M. gear Gloria sidecar, and accessories, as new; £68.

WILTON.—6 h.p. Matchless T.T. roadster, overhead valves, fine condition; £38.

WILTON.—1911 Clyno, brand new, delivered show week; £60.

WILTON.—4-cyl. F.N.'s, splendid condition, with accessories; £20, £22.

WILTON.—1911 Kerry-Abingdon, with 2-speed gear and special Kerry sidecar (panel), with accessories, as new; £50.

WILTON.—Moto-Reve, 2 1/2 h.p., new; £39.

WILTON.—Clyno and Matchless sole S.W. agents; delivery January.

WILTON.—Bradbury authorised agents; delivery from stock 1912 models.

WILTON.—Lincoln Elk, new 2 1/2 h.p.; £25.

WILTON.—Clyno, Matchless, and Wilton sidecars from stock.

WILTON.—Exchanges and instalments arranged. Please write for forms.

WILTON Cycle Co., 110 Wilton Rd., Victoria, S.W. 'Phone: 5115 Westminster.

3 h.p. Triumph, adjustable pulley, h.b.c., tyres excellent, tools, smart machine; £19/10.—Below.

1911 Douglas, like new, not ridden 900 miles, complete with lamp and bags.—Below.

2 1/2 h.p. Royal Enfield, hardly ridden, perfect condition 2 1/2 lamp, stands, and bag; £29.—Below.

2 1/2 h.p. Motor Cycle: £9; exchanges; repairs promptly carried out.—Godfree's, 124, Romford Rd., Stratford.

NYE'S offer a nearly new 1911 3 1/2 h.p. N.S.U. latest design, spring forks, etc., a bargain at £28.

NYE'S offer a nearly new 1911 3 1/2 h.p. Rex. Dunlop studded tyres, spring forks, beautiful condition; only £23.

NYE'S offer a 1907 Triumph, 3 1/2 h.p., magneto, spring forks, etc., good tyres; a bargain, £22.

NYE'S Sale Bargain.—A genuine 1908 3 1/2 h.p. Triumph, just being overhauled, new tyre; a bargain for £25.

NYE'S Sale Bargain.—1907 3 1/2 h.p. magneto Quadrant, spring forks, good condition; £18.

NYE'S.—1911 3 1/2 h.p. Zenith Gradua, beautiful condition, Hutchinson tyres, very little used; £43.

NYE'S have many other bargains for cash or exchange. Send for list.

NYE'S.—1911 3 1/2 h.p. New Hudson, nearly new tyres, and condition perfect, only a few weeks old; accept £49.

NYE'S for Bargains, 138, Gray's Inn Rd., Holborn, Lond.-W. Tel.: 6299 Holborn.

1908 1/2 Free Engine Triumph, excellent condition, all accessories; £27.—12, Market Sq., Horsham, Sussex.

NEW Hudsons, Triumphs, Bradburys; order now for early deliveries.—Godfree's, 124, Romford Rd., Stratford.

ZENITH Gradua, early delivery of 1912 models; exchanges arranged.—Storey's, 337, Euston Rd., London, N.W.

5, HEATH ST.,
REY, HAMPSTEAD

Close to Hampstead Tube Station.

Telegrams: "Rey Hampstead." Tel. 2678 P.O., Hampstead

EXTENDED PAYMENTS

Taken on any Machine or Runabout.

NO EXTRA CHARGE

on the following 1912 Machines in STOCK:

TERMS: QUARTER DOWN, BALANCE IN TWELVE EQUAL MONTHLY PAYMENTS.

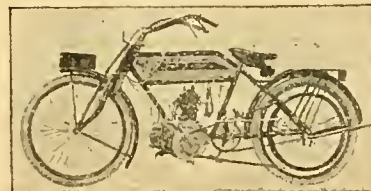
BRADBURY, 1912, standard	5% extra E.P.	£48 0
BRADBURY, 1912, T.T.	" "	£48 0
BRADBURY, 1912, free engine	" "	£54 10
RUDDGE, 1912 standard model	No extra E.P.	£48 15
RUDDGE, 1912 T.T.	" "	£48 15
RUDDGE, 1912 free engine	" "	£55 0
ZENITH, 1912, 3 1/2 h.p., in stock	" "	53 Gns.
ZENITH, 1912, 6 1/2 h.p. (in ten days) ..	" "	67 Gns.
BAT, 1912, 3 1/2 h.p., two-speed	" "	£59 0
F.N., 1912, 2 1/2 h.p., two-speed gear ..	" "	45 Gns.
F.N., 1912, 5-6 h.p.	" "	50 Gns.
SINGER, 3 1/2 h.p., 1912, free engine ..	" "	£55 0
LINCOLN ELK, 1912, 2 1/2 h.p.	5% extra E.P.	£28 10
LINCOLN ELK, 1912, 3 h.p.	" "	£30 10
LINCOLN ELK, 1912, 3 1/2 h.p.	" "	£34 0
DOUGLAS, 1912, Model H	" "	£47 0
TRIUMPH, 1912, T.T. Roadster	" "	£50 0
BEDELIA Cars (in six weeks)	7 1/2% extra E.P.	59 Gns.
G. & N. Runabouts, 8 h.p. (in 6 weeks) ..	" "	87 Gns.
A.C., special sociable type (in Feb.) ..	" "	£87 10

Any other makes on application.

Above machines for immediate delivery.

1911 New Machines to clear at Bargain Prices.

HOBART, 2 1/2 h.p., lightweight, £38 model	£29 0
TRIUMPH T.T. Roadster, £50 model	£47 0



Sole London Agent for the famous LINCOLN ELK. Finest value on the market for quality and reliability. All models on view and for immediate delivery.

Second-hand Machines at Bargain Prices to clear.

QUADRANT, 3 1/2 h.p., 1911, good condition	£26 0
BAT, 8 h.p., good condition, all accessories	£28 0
BAT, 8 h.p., 1910, with Milford sidecar	£40 0
LINCOLN ELK, 3 1/2 h.p., 1911, clutch, and sidecar ..	£30 0
HOBART, 2 1/2 h.p., soded only	£29 0
MOTO-REVE, 1911 model, twin	£19 0
PRECISION, 2 1/2 h.p., 1911, almost new	£25 0
A.S.A., 2 1/2 h.p., new cylinder wanted	£4 10
F.N., 4 1/2 h.p., good order	£18 0
F.N., 2 1/2 h.p., two-speed, good condition, 1911 ..	£27 0
F.N., four-cylinder, 1911, almost new	£29 0
F.N., 5-6 h.p., four-cylinder, 1910	£22 0
REX, 6 h.p., 1911, F.E.	£37 0
REX, 4 h.p., T.T., twin, 1911 model, splendid order ..	£26 0
DOUGLAS, 2 1/2 h.p., 1910, fine order, all accessories ..	£25 0
DOUGLAS, 2 1/2 h.p., 1910, good order	£23 0
DOUGLAS, 1911, Model D, all accessories	£26 0
DOUGLAS, 1911, two-speed	£33 0
ZENITH, 1910, good order	£32 0
ZENITH, 1911 3 1/2 h.p.	£39 0
ZENITH, 1911, 3 1/2 h.p.	£40 0
ZENITH, 1911, 3 1/2 h.p.	£42 0
TRIUMPH, 1910, F.E.	£39 0
TRIUMPH, 1910, F.E.	£38 0

All Accessories included on S.H. at the price advertised.



THE £3-10 REY Sidecar £4-10

With Hutchinson or Michelin 26 x 2 1/2 Tyre and Tube

30/- extra.

The famous "REY" EXHAUST WHISTLE now reduced to 12/6 each.

ONLY HOUSE IN ENGLAND FOR QUICK DELIVERY.

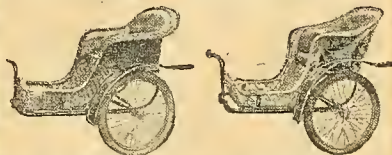
REY, 5, HEATH STREET, HAMPSTEAD.

"Follow my Leader."

OUR "last" season's improvements are now being extensively copied by enterprising makers.

TOO LATE!!

We are still 12 months ahead.



MODEL DE LUXE.
£5 5 0.

MODEL C.
with Cane Body. £6 0 0



MODEL E.
with Reversible and Detachable Child's Seat. £6 10 0

MODEL D.
with Coach Built Body. £7 0 0.

Absolutely the finest value on the market.

LESS POWER.

It is admitted by experts that, owing to the unique design, far less power is required to propel Farrar's Sidecars than any other style on the market.

NOTE OUR front arm when grips the Sidecar CENTRE, nothing lopsided about this attachment.

OUR quick detachable joints are a treat.

OUR cranked back axles are extensively copied OUR design is the safest on the market.

OUR 12 months' guarantee is honestly carried out.

ALL COMPLETE WITH MUDGUARD AND TYRES.

Discount to the Trade.

Delivery from stock to suit TRIUMPHS, REXES, P. & M.'s, N.S.U.'s, etc.

LIGHT, STRONG, AND SPLENDID VALUE.

SPRUNG LIKE A CAR.

Round or Car pattern mudguards at customers' option.

1912 MICHELIN TYRES.		
26 x 2 1/2 in. Covers	18	6
26 x 2 1/2 in. Tubes	8	8

POST FREE.

TYRES. TYRES. TYRES.

Heavy Rubber-studded Covers, 26 x 2 1/2	18	6
26 x 2 1/2 Hutchinson Heavy T.I. Covers	25	-
New 4 h.p. N.S.U. Engine, Bosch magneto	12	6
Continental Rubber Non-skids, 26 x 2 1/2 or 2 3/4	30	-
Continental, ribbed tread, 26 x 2 1/2 in.	18	6
Continental, beaded, 26 x 2	18	6
Tubes, all sizes, guaranteed	9	6
New Butted Tube, 26 x 2 1/2	8	6
New Butted Tube, 26 x 2 3/4	9	3
Special Heavy 26 x 2 1/2 Tubes, guaranteed ..	7	6

MISCELLANEOUS BARGAINS.

Lycett's Carrier Toolbags, new	7	6
1 h.p. Electric Motor, 230 volts	27	0
5 1/2 h.p. water-cooled Engine and Clutch	27	0
New 4 h.p. N.S.U. Engine, Bosch magneto	11	0
New 1911 D.A.2 Bosch magneto	75	-
Light car chassis and tyres	24	0
New Toolbags, 6 x 6 x 3 1/2	4	6
Sidecar Aprons, green or red, with studs ..	7	6
Druid Spring Forks, new	22	5
New Lycett's Tubular Carriers	4	11
New Lamp and Generator, plated	12	6
1912 Brown and Barlow carburetors	29	-
Longemare Carburetors	5	-
Brown and Barlow Carburetors	7	6

FARRAR'S

MOTOR EXCHANGE,
19, 21, 23, 25, Hopwood Lane.

HALIFAX (Two minutes from G.P.O.)

Telephone 919.

MOTOR BICYCLES FOR SALE.

BARKERS, Kensington.—3 1/2 h.p. Triumph (1912 improvements), free engine model; £55; in stock.

BARKERS, Kensington.—3 1/2 h.p. Singer, free engine model; £55; in stock.

BARKERS, Kensington.—3 1/2 h.p. Premier, free engine model; £54/17; in stock.

BARKERS, Kensington.—3 1/2 h.p. Hamber, free engine. 2-speed gear; £52/10; in stock.

BARKERS, Kensington.—2 h.p. Hamber, lightweight; £37; in stock.

ANY of above by easy payments, 5% extra.—John Barker and Co., High St., Kensington.

HUMBER, 1911, 2-speed, excellent condition, new belt, tyres re-treaded, spares; £40.—Jones, Ayteon, Eastbourne.

WANDSWORTH.—Zenith, latest 1911, 3 1/2 h.p. J.A.P. m.o.v., magneto, Gradua gear, nearly new; 10 guineas.—Below.

WANDSWORTH.—V.S., late model, 5 1/2 h.p. twin, magneto, Truffaut forks, nearly new, unmarked; £29/15.—Below.

WANDSWORTH.—F.N., latest 1911 model, 6 h.p., magneto, drip feed, just like new; £36.—Below.

WANDSWORTH.—Roe, late type, 5 1/2 h.p. twin, magneto, 2 speeds, show machine; sacrifice £32/10.—Below.

WANDSWORTH.—F.N., 1910 model, 5 1/2 h.p., magneto control, intake automatic carburettor, like new; £32/10.—Below.

WANDSWORTH.—N.S.U., 3 1/2 h.p., m.o.v., magneto, Gradua gear, Palmer tyres, nice order; £18/10.—Below.

WANDSWORTH.—F.N., 4 1/2 h.p., 4-cyl., magneto, spring forks, central intake, perfect bargain; £22/10.—Below.

WANDSWORTH.—Griffin, genuine Zedel engine, 5 h.p. twin, magneto, spring forks, runs well; £16/10.—Below.

WANDSWORTH.—Rex, 3 h.p., new tyres, guaranteed; £8/15; exchanges.—Wandsworth Motor Exchange, Ebner St., Wandsworth.

PEUGEOT, 2 1/2 h.p., practically new engine, clinking good condition, very powerful, B.B., h.b.c.; £15, best offer.—Below.

F.N., 5 1/2 h.p., 1910, recently overhauled, magneto new, 1912 Amac, condition excellent; compelled to sell; £23, or best offer.—Hunt, 16, Bath Rd., Bedford Park, Chiswick.

1912 Douglas, Model K, for delivery January; £48, leaving England since ordering.—9,194, The Motor Cycle Office, Coventry.

3 1/2 h.p. Premier, free engine model, in stock (5% extra for easy payments); £54/17.—J. Barker and Co., Kensington High St., W.

3 1/2 h.p. Triumph, 1912 improvements, free engine model, in stock (5% extra for easy payments); £55.—John Barker and Co., Kensington High St., W.

LOOK!—1911 3 1/2 h.p. Lincoln Elk, run 900, practically new; £24/10; exchange combination.—76, London Rd., Kingston-on-Thames.

P.A.C., 1911, improved model, never been on road; price £66, or offer; owner going abroad.—W.G.R., 15, The Broadway, Ealing.

CLEMENT-GARRARD, 1 1/2 h.p., thorough going order, h.b.c., Whittle belt; 5 guineas, bargain.—P. O. Webster, 14, Campbell Rd., Bow.

1910.—5 1/2 h.p. twin, Roe clutch, trembler, n.r.'s, new tubes, new accumulator, 40 amps, new belt, etc.—F. Cooper, 42, High St., Egham.

3 h.p. Motor Cycle, in good order, accumulator, nearly new Dunlops and belt; £8/10; going abroad.—E. Davis, Copthorne Rd., Leatherhead.

DOUGLAS, 1911, 2-speed, new August, in splendid condition, and good running order, ample spare and tools; £36.—Kersey, Seagull House, Felixstowe.

TRIUMPH, 1911, free engine, new, unscratched, £17 worth accessories, ridden few times only; cost £61 price £52; bought car—Lange, Hurstpierpoint, Sussex.

3 1/2 h.p. Hamber Motor Cycle, 1911, August, complete with sidecar, fully equipped, spare cover, belt; £42/10; seen by appointment.—S.A.S., Roselawn, New Barnet, N.

IF You Want Bargains in second-hand motor cycles, you can get them at Wauchoppe's—Wauchoppe's, 9, Shoe Lane, Fleet St., London, E.C., just off Ludgate Circus.

3 1/2 h.p. Rex, 1907, Druids, B. and B., h.b.c., good 2 tyres, £13; sidecar, £22/15; 3 h.p. Kerry, 1907, engine new, 26 in. wheels, low, £9; no time.—Chauveau, Pickwell, Bolney, Sussex.

3 1/2 h.p. Triumph, 1911, A.S.L. seat-pillar, guaranteed only ridden 1,000 miles, just like new, 5 months old; £42/10; no offers.—Betts, 126, High St., Wandsworth. 'Phone: Battersea 1425.

BRAND New Hamber, 2-speed, built in back wheel, control rods, etc., £7, or offers; also several frames, wheels, engines, new condition; giving up motor cycling.—Edward Duke, 37, Allyn Park, Dulwich.

BROUGH, 1911, 3 1/2 h.p., 2 months old, condition as new, faultless, expert picked engine, complete with tool kit, horn, etc.; £40; owner getting twin of same make.—R. Knight, Wingham Barton, Pyrford, Surrey.

Honest Value Every Deal.

1912 MACHINES.

1912 3 1/2 h.p. New Hudson, 3 speeds	67	Gns.
1912 2 1/2 h.p. New Hudson, 3 speeds	47	Gns.
1912 2 1/2 h.p. A.J.S., 2 speeds, chain drive	44	Gns.

MOTO-REVES.

Handy in grease, free from vibration, splendid hill-climbers.

1908 Twin-cylinder, very good	216	0
1910 2 1/2 h.p. Twin, very good	222	0
1910 Single-cylinder, record machine	222	0
1910 2 1/2 h.p. Twin, very fine order	223	0
1910 2 1/2 h.p. Twin, with 1911 fittings	224	0
1909 2 1/2 h.p. Twin, 50 x 70 mm.	220	0
All have magneto, h-b. control, Druid forks, toolbag, tools, and inflator.		

SINGLE-CYLINDER REXES.

1910 3 1/2 h.p., fine goer	227	0
1910 3 1/2 h.p., extra good	228	0
3 1/2 h.p. 1904 Speed King, extra fine	227	0
3 h.p. 1908 Featherweight Rex, Bosch mag.	213	0

TWIN-CYLINDER REXES.

5 1/2 h.p. 1909 De Luxe, 2 speeds	235	0
7 h.p. de Luxe, two speeds, M.O.V.	248	0
5 1/2 h.p., 1908, two-speed, and sidecar	232	0
5 1/2 h.p., de Luxe, 1908, two-speed model ..	228	0
5 1/2 h.p., de Luxe, 1908, two speeds, special ..	229	10
5 1/2 h.p., 1908, two-speed de Luxe, 1909 eng.	232	0

N.S.U.'s. N.S.U.'s. N.S.U.'s.

5 1/2 h.p., two speeds, Bosch, B. & B. carb.	225	0
5 h.p. Twin, Bosch magneto	219	0
1910 6 h.p., M.O.V., two speeds	233	0

OTHER MAKES. OTHER MAKES.

3 1/2 h.p. Twin Premier, very fine	226	0
1911 3 1/2 h.p. Singer, clutch model	237	0
1911 two speed Braouay, fine	237	0
1911 Lady's Hobart, Armstrong three speeds ..	235	0
3 1/2 h.p. L.M.C., 1910 model	225	0
3 h.p. Singer, Bosch, V belt drive, B. & B.	216	0
3 h.p. Quadrant, Bosch, B. & B., spr. forks ..	216	0
3 1/2 h.p. Quadrant, h-b. control, spring forks ..	216	0
2 1/2 h.p. Hamber, chain drive	27	0
1 1/2 h.p. Minerva, V belt	24	10
3 1/2 h.p. Minerva, Bosch magneto, Amac	222	0

SIDECAR COMBINATIONS.

5 1/2 h.p. Clutch Model Rex and New Sidecar ..	229	0
5 1/2 h.p. Two-speed 1908 Rex and Sidecar ..	233	0
7 h.p. Two-speed Rex and Sidecar	253	0
1910 6 h.p. N.S.U., M.O.V., two speeds, complete with N.S.U. coach-built sidecar ..	238	0
All fitted with Magneto and Spring Forks.		

£3 DOWN SECURES ANY OF THESE. BALANCE 5/- WEEKLY.

3 1/2 h.p. Brown Bicar, M.O.V., 26 in. wheels ..	212	0
3 1/2 h.p. Fafnir, vertical, M.O.V.	211	0
2 1/2 h.p. Hamber, chain drive, spray carb.	27	0
1 1/2 h.p. Minerva, V belt, spray carburettor ..	25	0

£4 DOWN SECURES ANY OF THESE. BALANCE WEEKLY.

3 1/2 h.p. Quadrant, h-b. control, spring forks ..	218	0
3 h.p. Quadrant, h-b. control, Bosch mag.	216	0
2 h.p. Singer, Bosch magneto, h-b. control ..	218	0
1908 Twin Moto-Reve, magneto	216	0

£6 DOWN SECURES ANY OF THESE. BALANCE 10/- WEEKLY.

4 1/2 h.p. N.S.U., Bosch mag., h-b. control ..	219	0
1910 2 1/2 h.p. Twin Moto-Reve	222	0
1911 2 h.p. Single-cylinder Moto-Reve	222	0
1909 2 1/2 h.p. Twin Moto-Reve	220	0

CARS AND TRICARS.

5 1/2 h.p. Aster Car, 3 speeds and reverse	219	0
5 h.p. Hamber Car, two-seater, good gear ..	222	0
3 h.p. Peugeot Car, two-seater	235	0
Motor, Bosch magneto	245	0

MISCELLANEOUS BARGAINS.

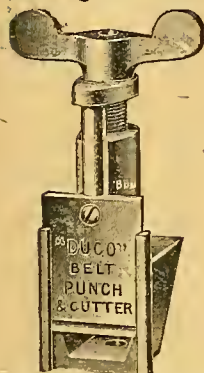
New Screwcutting Lathe, 4 in. centres	26	10
Farrar's Sidecar, quick detach joints	23	15
Farrar's Sidecar, new wicker body	23	15
Portland Sidecar, 26 in. wheel	23	10
Fulford Castor Wheel Sidecar	25	0
Prested Accumulators, new, 15 amp.	9	6
Tricar Frame, suit 6 h.p. engine	35	-

Farrar's Motor Exchange

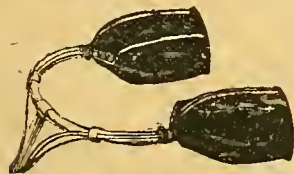
19, 21, 23, 25, Hopwood Lane,

Telephone 919. HALIFAX (Two minutes from G.P.O.)

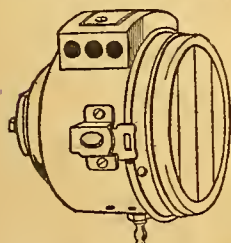
BROWN BROTHERS, Limited



The "Duco" Combined Belt Punch and Cutter. Punches a hole and cuts the belt to the correct length in one operation. The cutting blade is detachable, so that it can easily be sharpened when necessary. Well made and finished in best style. One size only, suitable for $\frac{3}{4}$ or $\frac{1}{2}$ in. belt. Each 4/9.



"ROBI" SHIELDS. Keep your hands warm and do not interfere with handle-bar controls. Mackintosh lined. Prices from 9/6.



The "Duco" Motor Cycle Lamp. The body is made in one piece, and covered with a heavy coating of vitrified enamel. This highly glazed surface needs only an occasional wipe with a damp cloth. Fitted with mirror lens. No. 11116b. Enamelled black with nickel-plated mounts, 12/- each.



Lodge Motor Cycle Sparking Plug. Gives the greatest satisfaction. Price, 4/- each.

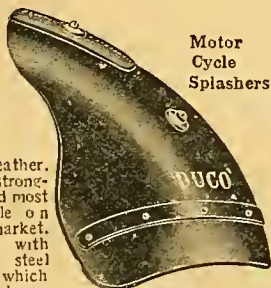
We can strongly recommend our "DUCO" Plugs. Particulars will be sent on request.



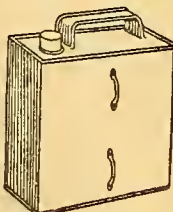
"FLASH" Antiseptic Hand Cleaner. "Flash" cleans every thing better and quicker than soap, it leaves the skin absolutely clean and free from injurious and unhealthy matter; never chafes or roughens; is thoroughly antiseptic beneficial to the skin, and may be used with hard, soft, hot, cold, or salt water.

6d. and 2/6 per tin

Motor Cycle Splashes.



All leather. The strongest and most durable on the market. Fitted with spring steel strip, which always keeps it in shape. No. 11548c, size 15 x 12, each 3/9. Patent waterproof leather, supported with spring steel strips. 11548d each 2/6.



Spare Petrol Can.

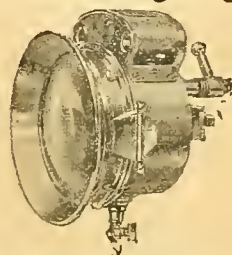
Neat and compact. Designed with metal loops for strapping to carrier. Enamelled green with brass stopper.

11617a, 1 gall. size, each 2/6.
11617b, 1 gall. size, each 2/-.

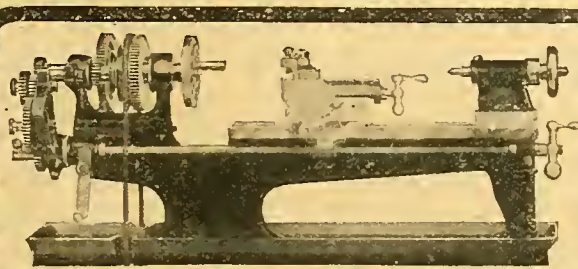


"A.K." Knee Grips for Motor cycles.

Give the rider a firm hold on the machine, thereby leaving the hands free to manipulate handle-bar levers. Per pair, 6/6.



Autoclipse Motor Cycle Lamp. The finest light giver and best constructed lamp on the market. Write for new 'Autoclipse' folder, describing latest models.



Improved English Made 3 1/2 in. Centre, Sliding, Screwcutting, and Boring Lathe. The flywheel is balanced, and extra heavy; this, in conjunction with the large cone on the headstock, makes the lathe very powerful. Testing—Every lathe tested to bear twice the strain that any use could put upon it. Full specification up request.

No. 7703b. Bench Lathe only £10 10 0.
No. 7703k, for Treadle or Power £13 10 0.

We invite applications for particulars of any kind of tools



The Bluebird motor cycle type with clip. Brass 10/6 nickel 12/- each. Finished blue, 2/- extra.

Write for 'Duco' Booklet.



The "CELERIO" Belt Fastener.

A thoroughly reliable belt hook which can be quickly detached, but will never slip apart at any speed, will fit $\frac{1}{2}$ or 1 in. belts. Price 9d. each.



'Duco' Model X Combination Rubber & Steel studded Non-skid Motor Cycle Tyre.

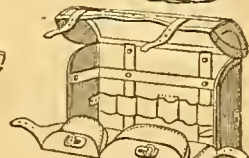
A specially strong and heavy non-skid cover suitable for powerful machines, 26 x 2 1/2 in., cover 50/-

The "Challenge" Watch

For fixing on handlebar. Nickel-plated finish. Complete with handlebar attachment with secret fastening, each 5/9.



No. 10299s.
'King Dick' Belt Drill, each 1/6
No. 10299t.
'King Dick' Belt Punch each 1/6.



Motor Cycle Tool Bag. No. 10145a. Metal frame, well made and strong. Size 9 x 3 1/2 x 6 in. Each 8/- NOTE: Latest pattern has one large purse and no fall front.



The "Duco" Adjustable Lamp Bracket for Motor Cycles. Supplied for round or oval clips. Price, each 4/9. Adjustable in every sense of the word, and designed for fixing on the front fork girders and is strong enough to carry the heaviest lamp. Its chief advantage is that the lamp can be tilted to any angle.



MOTOR CYCLE HORN.

No. 11016m, Motor Cycle 2-note Horn, each 4/3
No. 11016n, " " 3-note " large size 7/9
No. 11016p, " " 3-note " small size 6/-



Valve Grinding Tools—for Motor Cycles. Specially made with a view to overcoming the difficulty of reaching valves that need grinding. No. 18722a, plain, 2/- each. No. 13722a, adjustable, 2/6 each.

"N.A.B." Spring Seat-pillar for Motor Cycles. Supplied for various weights & diameters. No. 12125, each 12/6
Spare springs 1/- ea.

London Manchester Paris

West End Showrooms: 15, Newman Street, Oxford Street, W. Wholesale: Great Eastern Street, E.C., and Deansgate, Manchester.

"THE HONOURS OF THE DAY TO THE ENGLISH."

—L'Auto.

Open International Hill Climb, La Course de Côte
de Gometz-le-Châtel, France, December 17th.

MATCHLESS

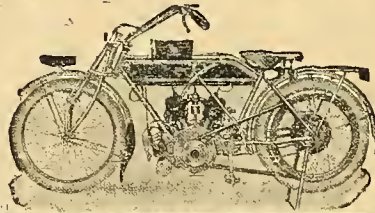
MADE FASTEST TIME OF THE DAY.

Unlimited Class, H. Bashall—**FIRST.**
Amateur Class, H. Bashall—**SECOND.**

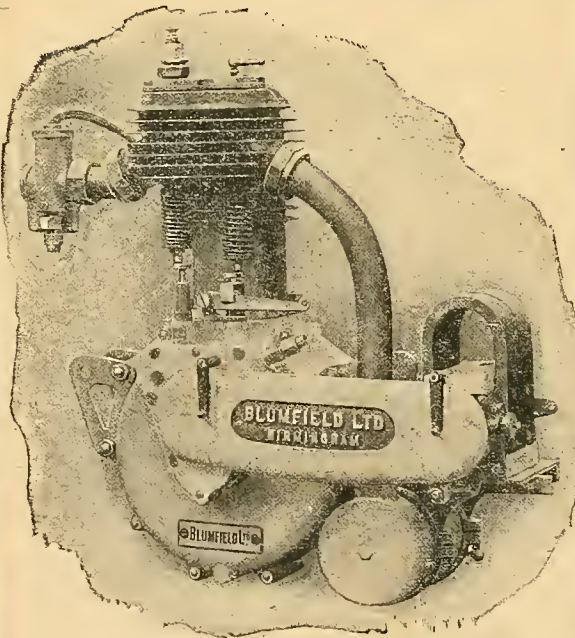
"AUX ANGLAIS LES HONNEURS DE LA JOURNÉE."

—L'Auto.

Catalogue Free from
H. COLLIER &
SONS, LTD.,



Matchless Motor Works,
PLUMSTEAD, S.E.



3 1/2 H.P. SINGLE-CYLINDER ENGINE.

THE HEART OF A MO-BIKE IS THE ENGINE.

FIT A

'BLUMFIELD'

(The engine which doesn't get tired)

**and AVOID HEART FAILURE
WHEN HILL-CLIMBING !**

Messrs. Blumfield, Ltd.,
70, Lower Essex St., Birmingham.

Sept. 7th, 1911.

Dear Sirs,

I am the fortunate possessor of a 3 1/2 "Blumfield" Single Engine, and am pleased to testify to its exceptional merits. It is absolutely "Conkless" clean, and has a fine reserve of power on the worst hills I have yet encountered. I have never been "held up" by engine trouble, and never expect to be. I am more than satisfied, and am delighted to give you permission to make any use of this testimonial you may wish.

Yours faithfully, T. RICE.

BLUMFIELD, Ltd.,

70, LOWER ESSEX ST., BIRMINGHAM.

Representatives for AUSTRALIA, NEW ZEALAND, and SOUTH AFRICA:
Messrs. Scholefield, Goodman and Sons, Birmingham and London.



THE PREMIER 2 $\frac{1}{2}$ H.P. LIGHTWEIGHT.

The neatest, cheapest, and most powerful Motor Cycle of its size on the market. Send to-day for Catalogue and Specifications.

PRICE 36 POUNDS

66 x 72 mm. (246 c.c.), Engine with desaxe cylinder, Dunlop Tyres, Lyso Belt, Bosch Magneto, first-class equipment.

The Premier 3 $\frac{1}{2}$ h.p. single and 3 $\frac{3}{4}$ h.p. even firing twin models represent just as good value at their respective prices.

THE PREMIER CYCLE CO., LTD., COVENTRY.

The largest Cycle Manufacturers in the World.

LONDON:
20, Holborn Viaduct, E.C.



BOURNEMOUTH:
64, Holdenhurst Road.



In answering this advertisement it is desirable to mention "The Motor Cycle."

ALCYON

LIGHTWEIGHT

Unexcelled.

ALWAYS FIRST.

The Foremost Lightweight.

Circuit De Melun (127 Miles).

ALCYON FIRST.

Gometz le Chatel Hill Climb.

ALCYON 1st, 2nd & 3rd (Class II.)

A.C.U. SIX DAYS' TRIAL.

Special Medal for the Most Meritorious Performance.

12 World's Records with a 247 c.c. Engine. 7 in Class A (limit 275 c.c.), 5 in Class B (limit 350 c.c.).

A.C. SOCIABLES New & Second-hand
—REPAIRED.—**A.S.L. MOTOR CYCLES.****G. N. HIGGS, 31, Vauxhall Bridge Rd., London, S.W.**

'P.V.'

Ride

the
machine
that saves
your
bones and
nerves.

British made
throughout.**Vibrationless**

The all-sprung 'P.V.' affords the most luxurious motor cycling obtainable. Holds the road better than the ordinary mount, and is less liable to skid—facts which can be demonstrated to you. The machine lasts longer and costs less to maintain than any other.

WRITE FOR PARTICULARS.**Motor Cycles** British made
throughout.

Specifications of 'P.V.' motor cycles include all the latest improvements. Fitted with either Druid or Chater Lea Forks; automatic lubrication, separate tanks, B & B. carburetter, handlebar control, etc.

SEALE & DE BECKER, LTD.,**162a, Great Portland St., London, W.**

Telegram: "Brannabor, London."

Telephone: Mayfair 4204.

Garage and Repair Shops 97, 98, 99, Bolsover St. W.

'P.V.'

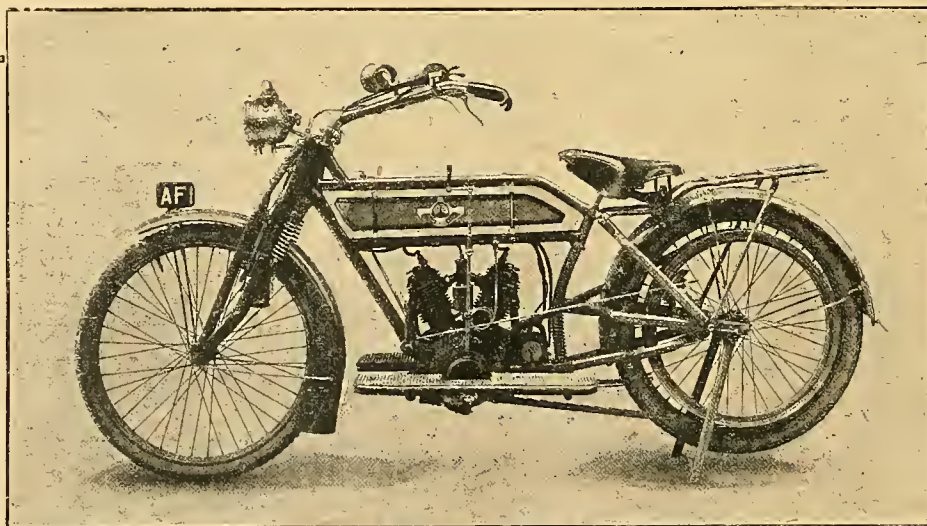
MODEL

No. 3,

3½ h.p. J.A.P.

50**GUINEAS.**

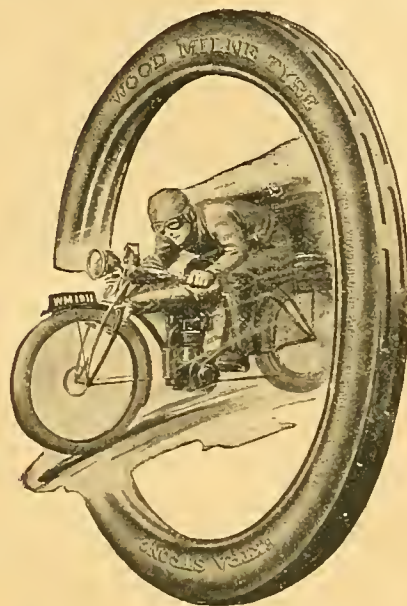
Fitted with
N.S.U. Two-
Speed Gear
7 Gns. extra.



Tyre Service

The possibilities of the motor cycle were imperfectly realised before the advent of the Wood-Milne Steelrubber Tyre. Users of Wood-Milnes experience more comfort and a greater security than ever before at a much lower cost for tyres. Sweeter running; no time wasted on tyre troubles; no need to slow up on a bit of grease; good for all roads and all weathers.

You do not carry spare wheels on motor cycles—Wood-Milnes carry you further without cuts than any other tyres. Again, a slip on a motor cycle means a spill—invariably—and most likely a bad one. The “bite” of the Wood-Milne cover is marvellous, as there is the double advantage of the splendid non-slipping substance, Steelrubber, combined with the most efficient non-skid patterns that have ever been devised.



Wood-Milne

MOTOR CYCLE TYRES

Designed and built on the same principles as the famous Wood-Milne Motor Car Tyres, and including the wonderfully durable Steelrubber tread. “GRIPRIB,” STEEL-STUDDED, AND RUBBER-STUDDED PATTERNS.

SPECIAL; equal to Extra-Special of other makes.
EXTRA STRONG; equal to a standard car tyre.

The “Special” is suitable for fast work on medium-weight machines. The “Extra Strong” is suitable for passenger carrying machines, and powerful singles. For strenuous work on high power machines, Extra Strong with Steel Studs is recommended.

Wood-Milne Tubes for Motor Cycles, Endless and Butt-ended patterns. Wood-Milne Steelrubber Belts for sure grip. If you golf, Wood-Milne Golf Balls for distance and steadiness combined are unequalled.

Write for full particulars and prices: —————



“GRIPRIB.”



RUBBER-STUDDED

WOOD-MILNE, LTD., PRESTON, LANCs.

LONDON: Manchester Avenue, E.C. BRISTOL: 36, Narrow Wine Street. GLASGOW: 10, Waterloo Street. BELFAST: Donegall Street. PARIS: 212 ter Boulevard Pereire.

The CLYNO

THE SIDECAR MOTOR CYCLE

IT LOOKS RELIABLE—AND
IT IS RELIABLE.

We say—and numerous satisfied owners will fully endorse the statement—that the "Clyno" sidecar machine is the best passenger combination ever offered to the public. We base our claim on indisputable facts—the performance of the "Clyno" in the A.C.U. Quarterly Reliability Trials (non-stop every time), in numerous Reliability Trials (highest award every time), on Porlock and Lynton Hills (first sidecar to vanquish these giants), and in general use (owners invariably satisfied).

: : : : :

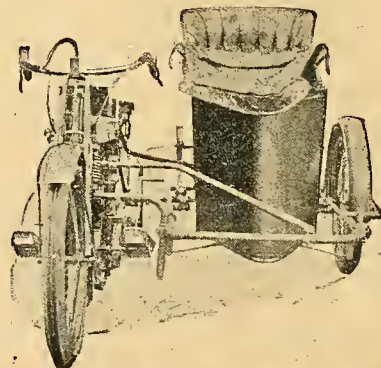
The "CLYNO" looks "good," and is as good as it looks. Every detail has been considered carefully by the manufacturers, who are practical engineers and experienced riders. During 1911, "Clyno" machines were subjected to the most severe tests it is possible to conceive, and the valuable experience thus gained is embodied in the improved models we are now offering for 1912.

IT LOOKS FAST — AND
IT IS FAST.

Don't let another day pass before writing for prices and full particulars.

THE
CLYNO ENGINEERING CO.,
Pelham Street,———Wolverhampton.

AGENTS—LONDON (except S.W.)—The Service Co., Holborn.
LONDON, S.W.—The Wilton Cycle Co., Victoria. MANCHESTER,
—L. F. Harvey & Co., Deansgate. MORECAMBE—Hitchen's
Motor Exchange Co., Ltd.



♦ the oil that lubricates most ♦

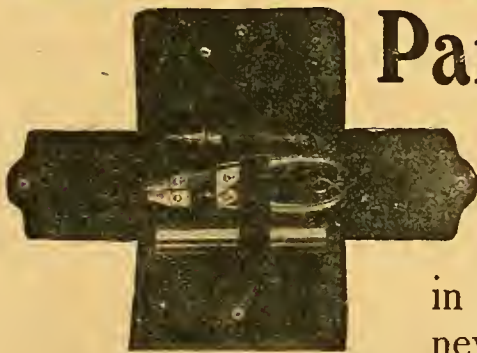
Vacuum Mobiloil

IS USED AND RECOMMENDED BY
THE MAKERS OF

Clyno	B. Mobiloil.	M.M.	B. Mobiloil.
Douglas	B. "	Motosacoche	B. "
F.N.	T.T. "	N.S.U.	B. "
Indian	T.T. "	Precision	B. "
Ivy-Precision	B. "	P.V.	B. "
J.A.P.	B. "	Rex	T.T. "
Levis	R. Medium "	S.I.A.M.T.	B. "
L.M.C.	B. "	Singer	T.T. "
Matchless	B. "	Trump-Jap	B. "

Also exclusively used by Mr. C. R. COLLIER when making World's Record of
91.37 miles per hour.

VACUUM OIL CO., LTD., CAXTON HOUSE, WESTMINSTER, S.W.



Parsons Rapid Repair Kit

Mends Motor Cycle Tyres
Quickly and Easily : : :

Kit consists of piercing tool,
stretcher, closing pliers, and 12
plugs. Weight 1 lb., size 7 x 4
(just right for the pocket).

PRICE
COMPLETE, **15/-**

Descriptive Booklet free.

... and those little plugs ... although so simple
in design and in method of application ... can
never shift or leak. Once properly compressed
they stay tight ... indefinitely. The Parsons
Rapid Repair quarters the time and trouble, and
completely eliminates the mess and uncertainty of
the old method of puncture repair.

THE PARSONS NON-SKID CO., LTD.,

23, STORE STREET, LONDON, W.C.

And at 237, Deansgate, Manchester.



E.H.G

In answering these advertisements it is desirable to mention "The Motor Cycle."

A7

CALTHORPE CONFIDENCE.

It's a feeling as uncommon as it is delightful—

Motor Cyclists who have ridden other Motor Bicycles tell us it's just incomparable—

And it's founded on that "OUT & HOME" quality—the quality which lifts the CALTHORPE to a place apart from every one of its competitors—

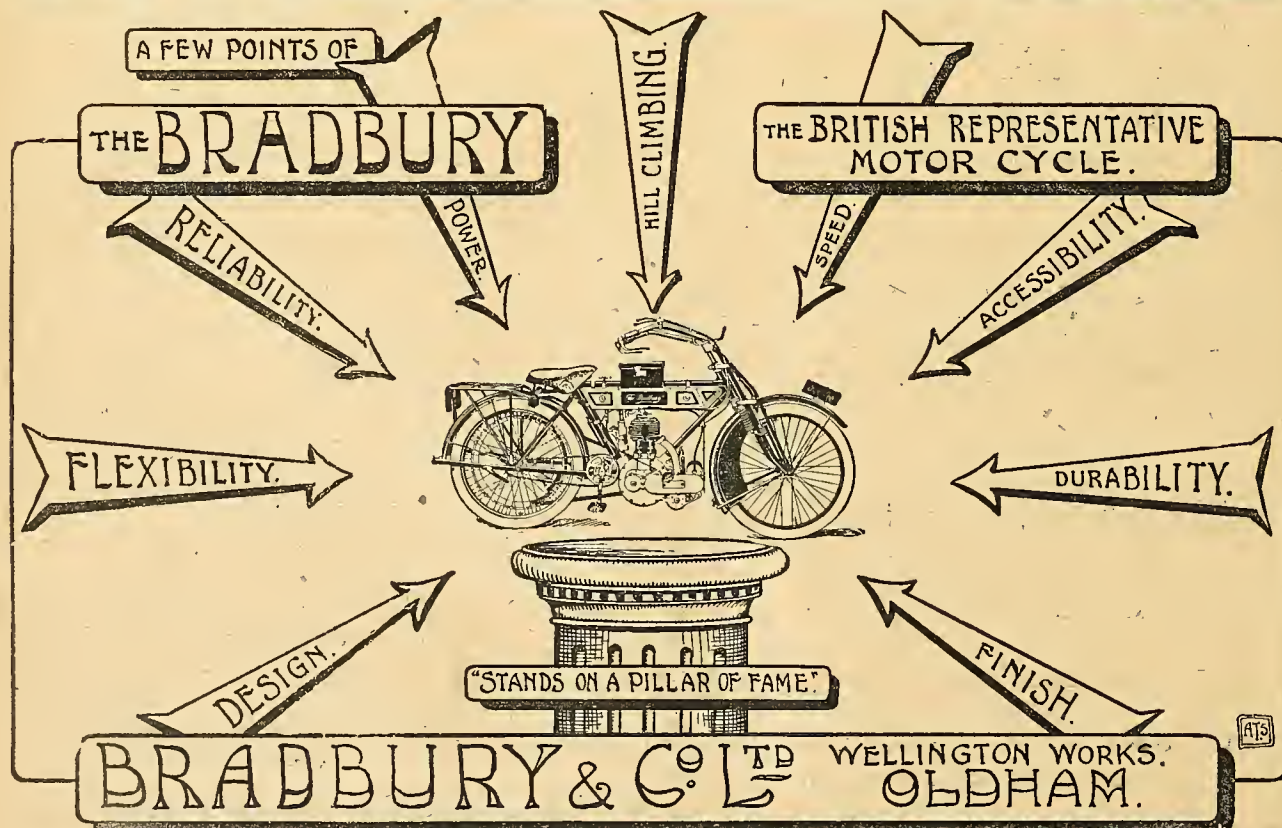
And, mind you, "CALTHORPE CONFIDENCE" does not mean increased initial cost—rather is the bicycle that bears that name easier to buy than any other that we know, and, when bought, costs less in up-keep because of its incomparable dependability.

For 1912 there are two models—THE 3½ H.P. TOURIST and THE 2½ H.P. LIGHTWEIGHT.

You should see them—also the CALTHORPE TWO-SPEED GEAR AND FREE ENGINE.

Let us send you List.

CALTHORPE MOTOR CYCLE CO., Barn St., Birmingham.



What, Lubrication!

*Watch your Drops (of oil) and the Gallons
will take care of themselves.*

Every drop of "RUSOLINE" Motor Oil counts and has full oiling efficiency. It gets right between the rubbing surfaces of the closest fitting bearing, reduces friction to a minimum, and gives you an all-round good result. For motor cycles and other fast revolving engines try Russell Bros.' products. We don't sell on our name alone, but on the good quality of our goods.

*Manufactured under the supervision of
W. RUSSELL*

(late of Price's Patent Candle Co. Ltd., London).

BY RUSSELL BROS.,
NATIONAL OIL WORKS,
Adams Street, Birmingham.

AMAC

International Hill Climb, Gometz, France,

DECEMBER 17th, 1911.

Fastest Time of the Day

was made by Mr. H. Bashall on
a Matchless,

Fitted
with

AMAC Carburetter

against the pick of the World's
International Riders.

THE ASTON MOTOR ACCESSORIES, LTD.,
TALFORD STREET, ASTON, BIRMINGHAM.

Our belief



is that after two years' scientific experimenting—two years' continuous testing—we have produced a Motor Cycle Tyre of absolutely unique merit—a tyre capable of creating World's Records in service and efficiency.

The new Tyre



is named the

**JOHN BULL
CROSS GROOVE**

It is produced by an entirely new process, and is made in three sizes, 26in. x 2in., 2½in., and 2¾in., and two strengths, viz.—"Standard" and "Tourist Trophy."

Absolute efficiency



has been our sole aim in its production—an unequalled service the object we have ever had before us—consequently we compete on quality and not, as others do, on price alone.

Policy



Ours is a "JOHN BULL" proposition—we offer you the tyre—ALL-BRITISH—unequalled in material and service and, as its price, we ask its true value.

Your order



We are anxious for your order—not for the value of it in itself, but for the repeats and recommendations which we know will follow.

Ask your agent for particulars, or, as a first step, write us for Booklet and large section.

THE LEICESTER RUBBER CO.,
Granby Rubber Works, Leicester.

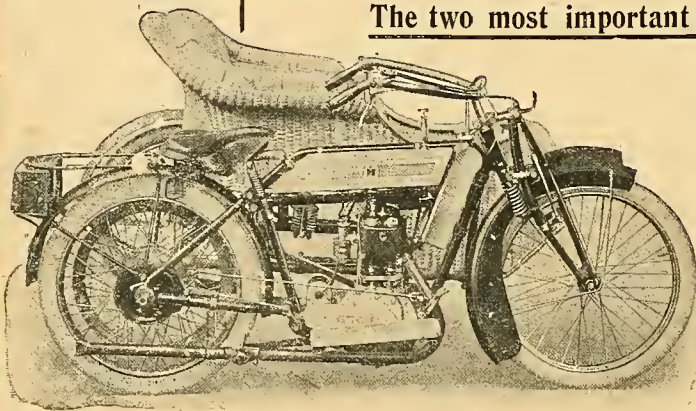
—1912—

REX SIDETTES

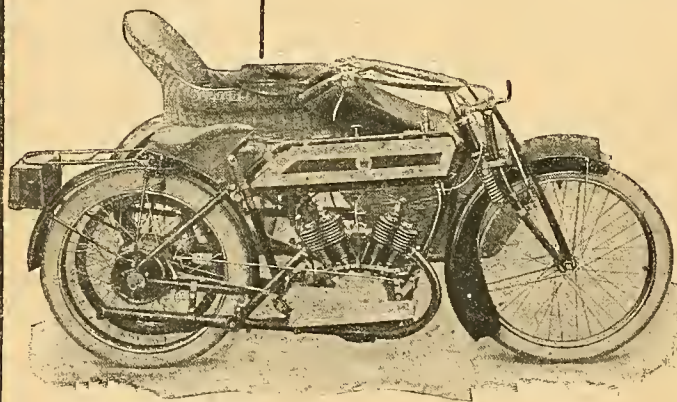
Our Leading Lines.

To the Prospective Purchaser of a Passenger Machine.

The two most important points to consider are the Engine and the Two-Speed Gear.



The New Rex 4 h.p. Water-cooled Sidette de Luxe.



The New 6 h.p. Twin de Luxe Sidette.

The new Rex engines are of entirely new construction, and built on the most up-to-date and practical lines.

The valves are all side by side and interchangeable.

The bore and stroke of the 6 h.p. is $77\frac{1}{2} \times 95$, and the 4 h.p. $84\frac{1}{2} \times 95$.

These new engines have been thoroughly tested, and we can confidently recommend and guarantee them without fear. The new 6 h.p. is a revelation of flexibility, reliability, and reserve of power.

The Rex two-speed gear (made under Roc license) is now too well known to need much elaboration here. The great points about a two-speed gear are, that it should be fool-proof, reliable, and efficient—THE REX Two Speed Gear embodies all three points.

The chassis on the Sidettes is splendidly sprung with both C springs and coiled springs. The body is of exclusive design, and is manufactured of close woven cane. It is luxuriously upholstered on the lines of the most up-to-date car, and to ride in either of these Sidettes is a revelation. The body is on the Torpedo style, and fitted with side door.

The press were unanimous in their opinion that at the recent Motor Cycle Show at Olympia this combination was one of the finest and most practical exhibits in the Show.

PRICES:

6 h.p. Sidette - £75.

4 h.p. „ - £74.

Catalogues sent post free on application.

THE REX MOTOR MFG. Co., Ltd., COVENTRY.

The SERVICE

Agents for

REX

BRADBURY

ZENITH

HUMBER

DOUGLAS

NEW HUDSON

TRIUMPH

A. C. S.

P. & M.

DOT

ETC., ETC.

London Agents

(Except S.W.)

for the Silent

CLYNO

THE sidecar

machine.

CO., LTD., give early delivery of all makes and take your present machine in part payment for a new 1912 model. Extended payments if desired. The fairest terms in the Kingdom. High-class second-hand machines always in stock

1911 F.E. TRIUMPH, many spares	£42 0
1911 TOURIST REX, cost 43 guineas	37 Gns.
1911 Standard BRADBURY, unscratched ..	£40 0
1911 F.E. SINGER, exceptionally good	£42 0
1911 TOURIST BAT-J.A.P., 3½ h.p.	£38 0
1910 SPEED KING REX 5 h.p. fast	£36 0
1911 2 h.p. HUMBER, only soiled	£33 0
1911 Standard BRADBURY, shop-soiled ..	£44 0
1911 Twin WANDERER, brand new	£37 0
1911 WANDERER, single-cyl., brand new ..	£32 0
1909 MOTO-REVE, excellent condition ..	£19 0
1910 1½ h.p. WANDERER, beautiful order ..	£24 0
1909 Standard TRIUMPH, lamp, tools, etc. .	£28 0
1911 DOUGLAS, Model E, 2-speed, free engine	£40 0
1910 V.S., 2-speed, free engine semi-caster	
wheel sidecar to match, speedometer, etc.	£46 0
1910 SCOTT, speedometer, tools very fine ..	£42 0
1910 5 h.p. INDIAN, 1911 clutch, perfect ..	£41 0
1910 ROYAL ENFIELD, like new	£26 0
1909 P. & M., just overhauled	£37 0
1910 Twin WANDERER, spring frame	£26 0
1910 Standard TRIUMPH, thorough order ..	£34 0
1910 DOUGLAS, all accessories and tools ..	£25 0
1910 F.M. Lightweight, two speeds, free engine	£25 0
5 h.p. BAT-J.A.P., magneto, Bat sidecar ..	£27 0
1911 Standard BRADBURY, as new	£37 10
1909 BRADBURY, with 1911 cylinder and	
piston, 2-speed gear	£34 0
1910 SCOTT, with 1911 improvements	£39 0
1911 REX DE LUXE, 5 h.p., and Mills-Fulford	
1911 spring wheel sidecar a fine com-	
bination	£45 0
1911 NORTON, T.T., Cap carburetter	£40 0
1911 2-speed 7 h.p. INDIAN, with sidecar,	
accessories, and spares	£60 0
1911 2-speed 7 h.p. INDIAN, fine and fast ..	£43 0
1911 MOTOSACOCHE, a little beauty	£33 0
1910 (late) SCOTT, excellent order	£37 0
1909 TOURIST REX, Triumph carburetter ..	£24 0
1910 REX DE LUXE, steel-studded tyre	£35 0
1910 REX DE LUXE, steel-studded tyre	£35 0
Several Accumulator Machines at Clearance	Prices.
1911 ZENITH-GRADUA, 6 h.p., and Millford	
Radial castor wheel sidecar, nearly new,	
complete	£67 10
1911 P. & M., only two months on road, un-	
scratched, sidecar or solo gears	£52 10
1910-11 T.A.C., four cylinders, 3-speed gear,	
bucket seat, low and comfortable	£40 0
1911 5 h.p. TOURIST REX, almost new	£37 0
1910 5 h.p. RED INDIAN, good	£25 0
1911 2 h.p. HUMBER, nearly new	£25 0
1910 5 h.p. REX DE LUXE, good	£35 0
1909 F.E. REX, magneto	£25 0
1909 P. & M., just overhauled, and parts	
renewed	£37 0
1909 P. & M., as above, slightly later model	
.....	£39 0

1912 'SERVICE' MODELS. THE SERVICE CO., LTD.,

292-293, HIGH HOLBORN, LONDON, W.C.

Telegrams: "Admittedly, London."

Telephone: 260 Central and 2071 City.

HARRODS WILL SUPPLY ANY STANDARD MAKE OF MOTOR CYCLE ON THEIR UNIQUE AND EASY SYSTEM OF DEFERRED PAYMENTS.

Briefly, the system is as follows:

One-fourth of the purchase price is payable on delivery, the balance being paid in equal monthly instalments. Harrod's clients thus have the full use of the machine from the date of first instalment, and enjoy its use while paying for it out of income without having had to disturb capital.

For further particulars or expert advice, write MOTOR CYCLE DEPT., HARRODS Ltd., LONDON, S.W. (Richard Burbidge, Managing Director)

"LINCOLN ELK" New Models, 1912.

Manufactured Completely by

J. KIRBY,

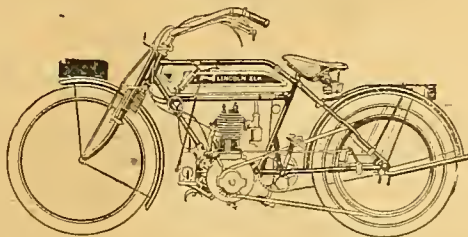
Broadgate, LINCOLN.

Telephone:

2Y5.

Telegrams:

"ELK," LINCOLN.



3½ h.p., £34 - 0 - 0.

3 h.p., £30 - 10 - 0.

2½ h.p., £28 - 10 - 0.

All Models fitted with Palmer Tyres, Bosch Magneto, and Footrests. "Druid" Spring Forks.

Sole London Agent:

REY,

Heath Street Motor Works,

5, Heath Street,

Hampstead, London, N.W.

A Happy New Year

—an old, old wish, embodying kindly thoughts. Happiness is sought by all, but found by few. Wishes cannot make happiness, but many material things can contribute towards it. A reliable motor bicycle is one of these, and in so far as motor cycling is concerned every owner of a SINGER is assured of happiness and contentment.

SINGER MOTOR CYCLES

The Embodiment of highest
quality.

3½ h.p. Roadster
Supplied in 4 models.

2½ h.p. Lightweight
Supplied in 7 models.

Write for list.

SINGER & Co. (1909), Ltd.,
COVENTRY.

London 17, Holborn Viaduct,
Showrooms: E.C.

To all Singer riders we must therefore wish prosperity and good fortune in all other matters of life during the coming year, while to those motor cyclists who have not yet tried the Singer, we would say : Get one NOW and by so doing ensure for yourselves all the pleasures that a well designed and dependable motor cycle can bring.

AN APPRECIATION OF SCOTT'S.

"Dear Sirs,—I must thank you for your courtesy in the way you have met me in this exchange, and I can assure you of my best endeavours to try and introduce any customers to you that I may meet from time to time."

"Leeds.

All Machines Guaranteed. SOLO MOUNTS.

- RUDGE**, free engine, 1911, from works July, in splendid condition throughout, Gold Medal Winner—winner, Britain 1911, £45 0
- BRAIDURY**, standard model from works June, not done 500 miles, unscratched, Gold Medal—winner, Britain 1911, £39 0
- RUDGE**, standard model, new May last, done about 500 miles Gold Medal—winner, Britain 1911, £40 0
- PORTLAND**, Fencer engine, 34 h.p., 1911, Bosch magneto, rubber non-skid tyres, new March list, little in use carefully used, £32 0
- DOUGLAS**, 1911, lightweight, rubber-studded tyres, little used, £30 0
- N.S.U.**, 4 h.p., twin, 2-speed gear, Bosch magneto, very fast, £24 0
- N.S.U.**, 3 h.p., twin, 2-speed gear, Bosch magneto, h.b.c., good and sound throughout, £21 0
- HUMBER**, 3 h.p., two speeds, Bosch magneto, handle starting, free engine, etc., £29 0
- N.S.U.**, 3 h.p., magneto, N.S.U. patent carburettor, very good tyres, £18 0
- REX**, 1911, brand new twin, all improvements, standard, £38 0
- REX**, 5 h.p., 1911, spring forks, adjustable pulley, £26 0
- REX DE LUXE**, 1911, 4 h.p., 2-speed gear, variable pulley springs, £33 0
- REX SPEED KING**, 3 h.p., especially built for the Isle of Man Races, chain drive, £25 0
- REX DE LUXE**, 5 h.p., Bosch, twin-cyl., handle starting, £23 0
- RIP**, Fencer engine, low built, racy, £12 0
- LLOYDS**, 2 h.p., smartly finished, £8 0
- ADVANCE**, 6 h.p., magneto, twin cylinder, B. & B. carburettor, £18 0

SPECIAL OFFER.

- REX**, 2 h.p., vertical engine, Longueville carburettor, spring seat, belt drive, £6 0

SIDECAR MACHINES.

- REX**, 5-6 h.p., 1911, M.O. valves, two speeds, free engine: special built sidecar; very luxurious, £42 10
- HUMBER**, 3 h.p., Rce two speeds, handle starting, and free engine, £34 0
- REX DE LUXE**, 5-6 h.p., 1911, two speeds, variable pulley, £38 0
- MINERVA**, 8 h.p., Rce two speeds, handle starting, torpedo tank, grey finish, all improvements, Mills-Pulford sidecar, £47 10
- PHOLON & MOORE**, 1911, two speeds, handle starting, complete with sidecar, condition throughout as new, £45 0
- QUADRANT**, 3 h.p., good sidecar, £15 0

CARS.

- PEUGEOT**, two speeds and reverse, bucket seats, wheel steering, good running order, £25 0

CARBURETTORS.

- BINKS'** Two Jet Carburettors, immediate deliveries, standard size, £45 0
- 10/- allowed on old carburettors in part payment.

AGENTS FOR RUGGES, ZENITHS, etc.

- RUDGE**, delivery from stock.
- SCOTT**, two-stroke, May.
- ZENITH**, February. **BRADBURY**, January.
- Let us send you particulars.

SCOTT'S,

Victoria Motor House,
POWELL & TEEET, HALIFAX.

Telephone: 433 National.
Telegrams: "Scott, Powell Street, Halifax."

MOTOR BICYCLES FOR SALE.

TOTTENHAM—1912 Models; definite deliveries: Bradbury—2-speed, T.T. free engine; Humbers—lightweight twin, 2-speed, 3 h.p., 2-speed, 3 h.p., standard; Rudge-Whitworth—3 h.p., standard, 3 h.p., free engine; all from stock: Triumphs, February; Clyno, four weeks; early deliveries Bats Matchless, and A.C. Sociables; cash or exchange—Below.

TOTTENHAM—1911 models in stock for immediate delivery, new; heavy reduction on shop-soiled machines: Bradbury, free engine, 2-speed, and standard models; Triumph, standard; Rudge-Whitworth, free engine—Below.

TOTTENHAM—1911 models, second-hand—3 h.p. Humber, 2-speed gear, £42 (July); ditto, £42; 1910 models—2-speed Humber, 3 h.p., £35; ditto, £33; Rce, 4 h.p., 2-speed, £32; R.N. lightweight, 2-speed, £32; Motosacoche, F.E., £24; miscellaneous—3 h.p. M.C. magneto, £20; 4 h.p. Fafair, magneto, £27; 5 h.p. twin Kerry, magneto, £20; N.S.U. twin, 6 h.p., variable gear, £28; ditto, 2-speed gear, £28; Triumph, 3 h.p., £17; tricar—4 h.p. Riley, 3 h.p. Triumph, all good, £12 each to clear; cash, easy terms, or exchange.—Stamford Hill Motor Co., 128, High Rd., South Tottenham. 'Phone: 1982.

1912 New Hudson, Premier, Enfield, Bradbury, Rover, Humber, and Triumph motor cycles for early delivery; Matchless in 6 weeks from order; cash or easy terms; exchanges for any machine arranged; best value allowed; Chater-Lea Duo cars built to order; speed gear conversions, overhauling, and repairing carried out; all work guaranteed; moderate charges; estimates gladly given; 10 years' motor cycle experience.—Wallace Motor Cycle Co., 36, Clarence St., Kingston-on-Thames

SECTION IX.

Somerset, Devon, Dorset, and Cornwall.

DOUGLAS, 1912, all models; any date delivery given; list post free.—Moffat, Yeovil.

52 h.p. Twin N.S.U. and B. fitted with latest Bosch magneto, B. and B. h.b.c., tyres and condition perfect; £39.—Humber, Puigatou.

SECTION X.

Scotland.

FOR Sale, or exchange for twin, 3 h.p. Humber, late 1910, fixed gear, perfect.—Clarke, The Square, Rhyne.

1912 Ariels and Triumphs; back orders now; second-hand magneto machines wanted.—Christie Bros., Garage, St. Andrews.

32 h.p. Calthorpe, Precision, new September, also new 32 h.p. Dunlop belt, Hutchinson tyres, all perfect; must sell; £34.—Lind, Whitburn, N.B.

IF You Want to Buy or want to sell a motor bicycle, tricar, sidecar, or anything in connection with the motor trade, you should at once call at Pickie's, one of the largest motor exchange places in Scotland.—Pickie's Garage, 68, Bothwell Circus, Glasgow.

1912 Sole Agents for Douglas, New Hudson, Zenith, Rover, and Kerry-Anglo; early delivery guaranteed; exchanges; sidecars and second-hand machines in stock; accessories of every description; send for list of bargains.—Dundee Motor and Cycle Co., Nethergate, Dundee.

ALEXANDER'S Motor Exchange, 272-274, Great Western Rd., Glasgow, agents for Indian, B.S.A., Bat, Rex, Rex-Jap, Trump, Royal Enfield, Williamson, Rolfe, S.I.A.M.T., Lewis 2-stroke, Norton, Lincoln Elk, Canelet sidecar; Scotland's largest motor cycle dealers; lists on application.

SCOTLAND'S Motor Cycle Experts and largest sellers.—We are now booking orders for 1912 models: Indian, Douglas, Zenith, B.S.A., Premier, Rex, P. and M., Lincoln Elk, N.S.U., Moto-Reve, Norton, James, Rce, Enfield, Trump, Bradbury, Kerry; liberal exchange offers and fair treatment.—Alexander's Motor Exchange, Lothian Rd., Edinburgh.

ALEXANDER'S Motor Exchange, 113 and 115, Lothian Rd., Edinburgh.—Agents for Indian, Douglas, B.S.A., Zenith, Rex, Trump, Rex-Jap, P. and M., Royal Enfield, Norton, Bradbury, Williamson, S.I.A.M.T., Lewis 2-stroke, Rolfe, Lincoln Elk; liberal exchange offers; over 100 motor cycles in stock; Scotland's motor cycle experts and largest dealers; send for lists.

TRICARS FOR SALE.

REX, 5 h.p., bucket seats, wheel steering, fast, splendid sidecar; trial; £32/10.—Acton, Belvedere.

REX Little, 6-8 h.p. twin, w.e., magneto, 2 speeds, free engine, as new; £29.—1, Elber St., Wandsworth.

42 h.p. Rover Tricar, w.e., wheel steering, coach-built, 2 speeds, etc., 1911 B. and B. fitted, just been overhauled at cost of £9, good tyres, any trial; £18.—Hidney Jeffery, The Hill Farm, Exning, Newmarket.

6 h.p. Tricar, Antoine twin-cyl. engine, magneto ignition, h.b.c., 2 speeds, Palmer cord tyres all wheels, coach-built seat, Brooks patent spring seat at back, painted grey; a bargain to clear £24.—Turvey and Co., The Motor House, Sunderland.

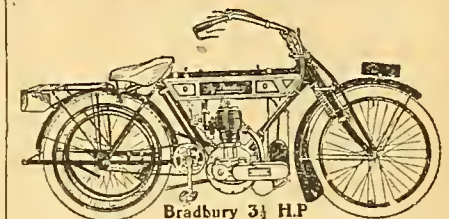
SIDECARS AND FORECARS.

GIRDER Frame Sidecars, unique designs, from £8.—F.N. Repairs Dept., Highbury Barn, N.

FOR Comfort, there is no doubt about it, the Pythian sidecar (Morrison's patent) is the best. Get particulars.—Clarke Bros. (Leicester), Ltd., Leicester.

Collier's Motories, Westgate, Halifax, ENGLAND.

Early deliveries of 1912 Bradbury machines.



Bradbury 3 1/2 H.P.

Exchanges Quoted. Distance no objection.

£8	deposit and 10/- weekly secures—	
	Magneto Triumph	£25 10
	5 1/2 h.p. Twin Rex de Luxe , mag.	£24 10
	Four-cylinder F.N. , magneto	£19 19
	7 1/2 h.p. Magneto Rex	£19 19
	Twin Moto-Reve	£19 19
	F.N. Magneto Lightweight	£19 19

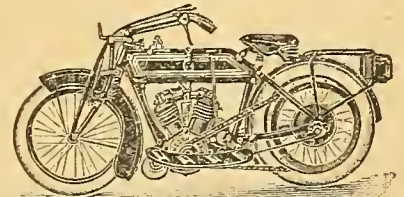
SECOND-HAND MACHINES.

CASH, EXCHANGE, OR EASY PAYMENTS.

1910 3 1/2 h.p. Magneto TRIUMPH , VERY HOT ..	£38 10
1910 7 h.p. Twin REX , M.O.V.	£37 10
5 1/2 h.p. N.S.U. , free engine and sidecar	£33 10
Magneto TRIUMPH , spring forks, very smart ..	£25 10
Twin REX DE LUXE , and Montgomery Sidecar ..	£25 0
REX , retro, 3 h.p., "hot stuff"	£29 19
5 1/2 h.p. Two-speed Twin REX DE LUXE	£27 10
5 h.p. 1910 Twin REX , special machine	£29 10
4 h.p. Four-cylinder F.N. , magneto	£19 19
2 1/2 h.p. KERRY , runs well, spring forks	£10 10
1 10 3 1/2 h.p. T.T. REX , very fast	£27 10
1910 Two-speed F.N. Lightweight, h.b. control ..	£27 10
3 h.p. HUMBER , chain drive	£7 10
4 h.p. ANTOINE , M.O.V.	£14 10
1908 3 1/2 h.p. Magneto REX , spring forks	£24 10
1907 3 1/2 h.p. Magneto REX , spring forks	£19 19
1 1/2 h.p. WOLF Lightweight, h.b. control	£10 10
3 1/2 h.p. Tourist REX , brand new	£29 10
1910 Twin REX DE LUXE , two speeds	£42 10
New Twin REX , cantilever seat	36 Gns.
Twin REX DE LUXE , and Sidecar	£27 10
MOTO-REVE , magneto, Druids	£19 19
MOTOSACOCH Lightweight	£14 10
3 1/2 h.p. MINERVA torpedo tank	£14 10
F.N. Lightweight magneto, spring forks	£19 19
REX Twin, 5 1/2 h.p., spring forks, fast	£19 10
REX , 4 h.p., spring forks, Dunlop non-skids ..	£15 10
1911 3 1/2 h.p. Tourist REX	£32 10
1911 Twin REX DE LUXE	£46 10
1911 Single-cylinder Two-speed REX , 300 miles ..	£32 10

A CALL WILL REPAY YOU.

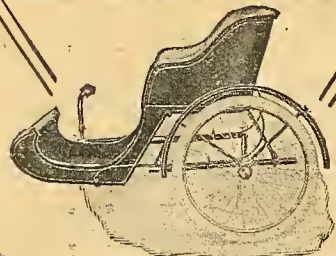
Brand New 1911 3 1/2 h.p. Tourist REX	43 Gns.
" " 1911 2 1/2 h.p. 2-speed REX Junior ..	50 Gns.
" " 1911 3 1/2 h.p. Free-engine REX	43 Gns.
" " 1911 3 1/2 h.p. REX DE LUXE	57 Gns.



Also 1911 New 2-speed **Twin REX DE LUXE** as per illustration 63 Gns.

Discount to Cash Buyers.

Exchanges entertained.



A TIMELY TALK to winter riders.

The weather is miserable, and if you appreciate real comfort awhile during the winter months, ensure it by the fitment of a P.M.C. Sidecar—with this Sidecar, you will be absolutely immune from side-slip, even upon greasy tram lines and sone sets—and the ease with which the machine can be manipulated in traffic without taking the feel off the foot rests gives added comfort and confidence of control. The ease of attachment, light weight, and scientific construction, make the P.M.C. the most practical and efficient Sidecar on the market.

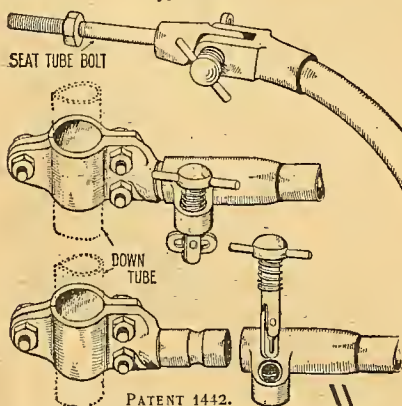
Price, Coachbuilt, £7 12 6

„ Wicker, £5 17 6

Our 1912 Catalogue, containing a complete range of Sidecars, will be of interest to you. Copy sent post free on application.

THE PREMIER MOTOR COMPANY, LTD.,
ASTON ROAD, BIRMINGHAM.

Telegrams—"Primus, Birmingham."
Telephone—Central 4310.



PATENT 1442.

With our Quickfit Couplings any sidecar can be attached in sixty seconds, and detached in forty seconds. SINGLE-HANDED. NO TOOLS REQUIRED. SAFER than ordinary fittings—no nuts to come off or bolts to "strip." The strain on frame tubes is greatly reduced. Price 30/- the set of three couplings, to fit any make. 5/- allowed on old fittings (any make).

SIDECARS AND FORECARS.

MIDDLETON'S—Wholesale, retail sidecar, manufacture, repairs, exchanges, second-hands.—Watson St., Newington Green, London, N. Phone Dalston 2126

SIDECARS—Montgomery 1912 models; finest stock in London; agents supplied; write for list.—Phelon and Moore, Ltd., 4, Percy St., Tottenham Court Rd., W.

MILLFORD Rigid Sidecar, 1911-12, latest quick detachable joints, torpedo wicker body, storm apron, new tyre; £9.—No 9,043, *The Motor Cycle* Offices, Coventry.

MILLS-FULFORD 1911 214/14 Cane Sidecar, in good condition, a lamp and spare steel studded non-skid tyre, beautiful condition; sacrifice 9 guineas the lot.—15, Ranelagh Gardens, Barnes.

TOTTENHAM—Sidecars, 1911, nicely upholstered fit any machine, £3/10/6; quick detachable, £3/17/6; Millford Herald, 46/6.—Stamford Hill Motor Co., 128, High Rd., Tottenham. Phone 1982 Tottenham.

SIDECAR COMBINATIONS.

£19/10.—5-6h.p. twin and sidecar, 1911 Amac, good condition; rare chance.—59, West Rd., Shoeby, Walsby.

BROWN, 3½h.p., with sidecar; £26; will exchange with cash for higher power.—Roberts, Gap Rd., Wimbeldon.

8h.p. Bat, 1911, in splendid condition, with Millford sidecar; cost £69/10, £55, or near offer.—Hitchings and Son, Evesham.

5½h.p. N.S.U. 2-speed, Montgomery castor wheel sidecar, perfect, all accessories; £35.—Collinson, 12, Wellington St., Chorley.

3½h.p. Humber, 1910, 2-speed, handle starting, with 321 handsome sidecar, all in splendid condition; £35 sacrifice.—128, High Rd., South Tottenham.

MATCHLESS-J.A.P., 6-7h.p., latest 1911, with free engine and sidecar, perfect combination, ridden 550 miles; sacrifice £32/10.—Bradbury, builder, 34, Cemetery Rd., Sheffield.

TRIUMPH, 1907, overhauled, adjustable pulley, tools, no extras, Montgomery spring wheel sidecar, cane body, 1910; £33/10, or sell separate.—Parke, 7, Liverpool Rd. South, Birkdale.

8h.p. Minerva, sidecar, Mabon, Whittle, Continentals, new accumulators, F.R.S. and Lucas lamps, plating, enamelling, unspratched, toolboards; any trial here; nearest £32.—Ingham, Oakfield, Newport, Mon.

BAT-J.A.P., 4h.p., 1911, with Brown sidecar, Chatter-Lea, quick detachable fittings, 2-speed gear, F.R.S. lamps, etc., practically new; owner bought car.—Box No. L5,231, *The Motor Cycle* Offices, 20, Tudor St., E.C.

PHELON-MOORE 1909, and Minerva spring wheel sidecar, 2-speed, luggage board, all spares, new chain, 2½ Palmer cord on back wheel, lately overhauled and enamelled; 40 guineas; seen by appointment.—James, Micklegate, Kewferry Rd., Northwood.

P. and M. late 1910, extra forks, valve, horn, Lucas King of Road lamp, back rest, Montgomery spring wheel sidecar, art cane body, all in splendid condition, not much used; best offer over £55 secured; sell separate.—Hudson, 34, Lawn Av., Burley-in-Warfedale.

SINGER, 3½h.p., 1911, practically identical with 1912, free engine clutch in hub, N.S.U. 2-speed gear, Millford rigid sidecar, torpedo front run about 1,500 miles, new last May, inn. belt, spare cover and tube, valve, etc., complete; cost over £70. £57/10.—9,042, *The Motor Cycle* Offices, Coventry.

1911 Indian Twin, 7h.p., with Mills-Fulford sidecar, 2 speeds, free engine, unexchanged set of accessories such as Rushmore searchlight, Klaxon horn, Jones speedometer, etc., full kit of tools and spares, new inner tubes for spares; accept £55 complete.—Brooke, 3, Lewisham Bridge, S.E. Tel.: 1061 Lee Green.

A PERFECT Combination, comprising 5-6h.p. 4-cyl. F.N. motor cycle, with 2-speed gear, extra strong back wheel, and Chatter-Lea art cane sidecar, with specially sprung detachable wheel, fitted with quickly detachable couplings to machine, fittings and accessories comprising spare valves (two of each) a set of new plugs, spare outer cover, and two butt-ended tubes, Lucas searchlight and generator, Cowey speedometer, triple hooter, vulcanite covers to sparking plugs, and several other items, all the latest, and in perfect condition; thorough examination allowed; cash price £60.—Apply, Norris, 1, Lambert Rd., N. Finchley, N.

QUADCARS.

SABELLA Ducan, new in July, engine 8h.p. J.A.P., 2 new Palmer cord tyres and tubes on back wheels, 2 F.R.S. headlights, 2 Lucas small car lamps, electric tail light, and generator, fine hill-climber, splendid condition.—Annexley Cooke, Millford, Surrey.

CARS FOR SALE.

10-12h.p. Leader, 2-seater, 4-cyl., shaft drive, good tyres and order; £40; motor cycle part.—Cornish, Crediton.

10-12h.p. Swift, side entrance, only run 6,000 miles, 5 C.A.V. electric lamps, drive anywhere; bargain, £150.—McDonald, 11, Dunn St., Paisley.

1908 15h.p. Humber, double landaulet, gate change, 2 ignitions, Stepney new tyres, screen, and extension; £100.—3a, Bridge St., Cambridge.

Start the New Year Well

by getting in touch with me and securing one of my "Perfect Second-hand Motor Cycles," or, if you require a new machine, no matter what make, delivered when you require it, I am your man. I keep adding names of satisfied clients to my weekly list. If you have any doubts as to our straightforward way of doing business, you ought to send to us for one of these, and get in touch with an uninterested adviser. Ask who we are, and how we conducted our business transactions with them. If you are near enough to us, give us a call. We won't press you to buy, but we think, after a personal inspection, that you will agree with us in saying, "We sell only guaranteed perfect motor cycles." Our Second-hand Motor cycles can be trusted to give you entire satisfaction. If they don't, send them back, and we will return your money. We cannot speak fairer than this. Our 1912 models are now arriving, and we shall be delighted to have your order. Please don't forget, if you have a motor cycle now and want to exchange, we are the best firm in the trade for you to get well served by. Expert assistance and advice gratis. Send me your enquiry now, and I shall have our best attention. Compliments of the season to you all, and good luck!

The following Machines actually in Stock for Sale or Exchange.

1912 MODELS.

	List Price
RUDGE , 3½ h.p., free engine model, pedal engine starter	£55 0
RUDGE , T.T. model, special	£18 15
SINGER , 4 h.p., 2-speed bracket gear	£15 0
BRADBURY , 3½ h.p., 2-speed	£55 0
NEW HUDSON , 3½ h.p., 3-speed gear	£19 17
PREMIER , 3½ h.p., 3-speed gear	£18 0
CLYNO , 5-6 h.p., the sidecar machine	£63 0
ENFIELD , 6 h.p., 2-speed, with sidecar	£84 0
DOUGLAS , 2½ h.p., the perfect lightweight, free engine, 2-speed, kick starter	£50 0

1911 MODELS, BRAND NEW.

Owing to late arrival we have the following New Machines left over. Same are not shop-soiled. Only just received from makers.

PREMIER, 3½ h.p., free engine model; list, £54 17s. 6d.

BRADBURY, 3½ h.p., fixed engine model; list, £48.

No Reasonable Offer Refused for Above.

HIGH-CLASS SECOND-HAND MOTOR CYCLES.

1911 6 h.p. ZENITH , free engine and Gradua gear, complete with lamp, horn, tools, spares, etc., guaranteed as new, and not run 800 miles; also Montgomery 1912 10s. sidecar, with storm apron. Price, complete	£60 0
CLYNO , 5-6 h.p., "the Sidecar Machine," 1911 model, and guaranteed as new in every detail; Palmer rubber-studded tyres, 2-speed gear and free engine kick starting device, enamelled grey, fitted with Millford radial castor, torpedo front, sidecar (the cost of the sidecar alone was £20), all tools, spares, etc.; very silent and powerful machine. Price	£65 0
1910 3½ h.p. TRIUMPH , perfect	£35 0
1911 3½ h.p. BRADBURY , T.T. model, a gift	£35 0
1910 3½ h.p. TRIUMPH , free engine model	£40 0
1911 3½ h.p. IVY-PRECISION , just as new	£33 0
1911 3½ h.p. RUDGE , splendid order	£36 0
1910 2½ h.p. SCOTT , new tyres, B.E. tubes, good order	£35 0
1909 VINCE SPECIAL , two speeds, magneto, complete with sidecar	£29 0
1909 3½ h.p. MINERVA , magneto	£17 0
1911 7 h.p. SPEED KING KEX , as new	£38 0
1910 2½ h.p. ROYAL ENFIELD	£26 0
MOTOSACOCHE , 1½ h.p., 1910 model, perfect	£18 0

All above machines can be inspected any day, at any time. Every machine sold by us is guaranteed in perfect order.—No rubbish sold from our establishment.

Every Motor Cyclist should have our Sid car List.

STANDARD, £4 10s. SPECIAL, £5 5s.

DE LUXE, £6 6s.

CANOELT, DUNKLEY, MILLFORD, etc., supplied to order promptly.

I am Sole District Agent for—

RUDGE, BRADBURY, CLYNO, MATCHLESS, ENFIELD, PREMIER, OVER, E.S.A., DOUGLAS, NEW HUDSON, and SINGER.

200 1912 MODELS FOR GUARANTEED DELIVERIES.

OUR SPECIALITY, "EXCHANGES."

Get my List before you decide. Buy from the firm with a Thirty Years' Untarnished Reputation. Call and see our Stock.

J. S. CORDINGLEY,
The Motor Cycle Mart,
HASLINGDEN, Lancs.

Wires: "Cordingley, Haslingden." Phone: 2V, Haslingden.

ACCESSORIES YOU MUST HAVE.

HELLESEN DRY BATTERIES.



The dry battery that costs practically half that of accumulators; no charging—always ready; clean and dry. There is no doubt as to its efficiency and reliability—allow us to deal with your particular requirements.

Prices from 6/6 each.

ARMoured LAMP CONNECTOR.

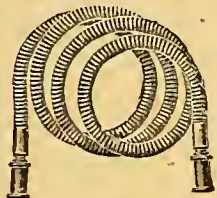


Fig. No. 380. For any type of gas lamp—renewable ends and proof against any possible damage. Non-rusting.

Price 1/- each.

OIL or GREASE INJECTOR.



Fig. 313. Special short type for chain or gear-driven motor cycles. A very handy accessory.

Price 1/6 each.



H.H. COILS.

Fig. No. 3. Specially designed for use with dry batteries; absolutely reliable, and guaranteed consumption only one-fifth of an ampere.

Price 13/6 each.

H.H. ALL-METAL SWITCH.



Fig. No. 432. A new type of handle-bar combined switch and cut out—extremely simple and never gives

trouble; suitable for magneto or coil ignition.

Price 2/6 each.

H.H. SPARKING PLUG COVER.

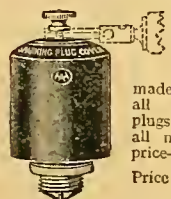


Fig. No. 245 and 246. This cover is absolutely fire-proof, damp proof, and unbreakable; made in two sizes to suit all types of sparking plugs—indispensable to all motorists. Note the price—

Price 61. each, either size.

Our New Supplementary List contains full particulars of these and other useful H.H. Accessories sent post free on request.

A. H. HUNT

115-117,
CANNON STREET
LONDON, E.C.

CARS FOR SALE.

PALMER.—Bedelia cars, 55, 66, 86, 96 guineas; trials free.

PALMER.—The home of the Bedelia; in stock; immediate delivery given by

PALMER.—Sole concessionaire of Bedelias for the British Empire.

PALMER.—Complete illustrated catalogue per return; motor cycles taken post payment Bedelias.

PALMER.—Write, 'phone, wire, or better call, see, and try the famous Bedelia.

PALMER.—£23 down and balance 12 monthly instalments 50/- secures useful car.

PALMER.—15hp. Ford, 2-seater, 4-cyl., live axle, dual, screen, lamps, hood; £55.

PALMER.—30hp. Napier Chassis, 6-cyl., long chassis, steel frame; £85.

PALMER.—6hp. Humber, 2-seater, live axle, single-cyl.; bargain, £35.

PALMER.—8-10hp. Humber, side entrance, 4-cyl., live axle; £65.

PALMER.—60hp. Napier, side entrance, 6-cyl., late model, live axle, splendid car; £275.

PALMER.—40hp. Napier limousine, 6-cyl., dual ignition, wheel control; bargain, £185.

PALMER.—24-30hp. motor 'bus, double deck, 4-cyl., dual, gate, live axle; £195.

PALMER.—10-12hp. Daimler, 2-seater, 4-cyl., magneto, live axle, low built; £65.

PALMER.—5-6hp. Tradesman's Carrier, water-cooled, wheel steering, 2-speed; cheap, £35.

PALMER.—8hp. Dnocar, J.A.P. engine, magneto, delivered new in September, very fast; offers wanted.

PALMER.—10-12hp. Unic, 2-seater, 2-cyl., magneto, live axle; cheap, £60.

PALMER.—3hp. Kerry-Abingdon tri-car, 2-speed, low built, h.b.c.; cheap, £16.

PALMER.—18-24hp. Prunel, side entrance, 4-cyl., runs beautifully; bargain, £45.

PALMER.—10-12hp. Harrod, long chassis, 2-cyl., live axle, requires tyres; cheap, £35.

PALMER.—40-50hp. Charron Touring Car, 4-cyl., dual, fast and powerful; £100.

PALMER.—10-12hp. Napier Van, 2-cyl., solid tyres, suit laundry; £50.

PALMER.—8-10hp. Airex, side entrance, live axle, magneto, hood, screen; £55.

PALMER.—20-24hp. Simms Landulet, 4-cyl., magneto, gate change, live axle; £65.

PALMER.—8-10hp. Barrage, torpedo, 2-seater, 1911 model, brand new, 2-cyl., magneto; £145.

PALMER.—25hp. Motobloc, side entrance, magneto, very roomy body; clearance £55.

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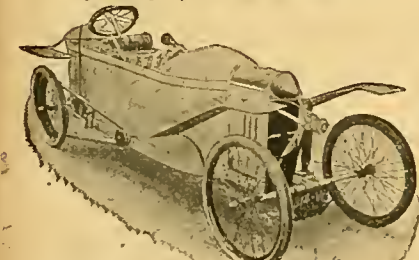
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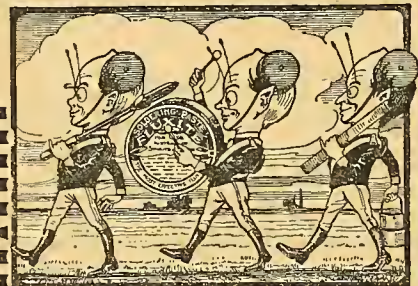
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BRADBURY, 1910, 3½ h.p., 2-speed gear	£35
BRADBURY, 1911, T.T. model, splendid condition	£35
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HANDLE-BARS.—Triumph and other patterns, new, 3 in. and rim, stem; 5/-.	

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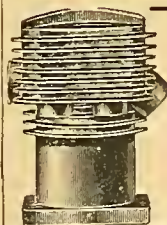


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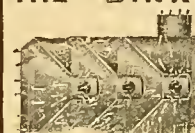
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THE Eagle Motor Manufacturing Co., Ltd., 1 Shepherd's Bush Rd., undertake the building of complete machines or any parts to customers' own designs and requirements; expert advice and quotations given free; repairs to motor cycles a speciality.

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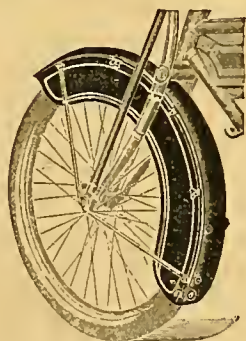
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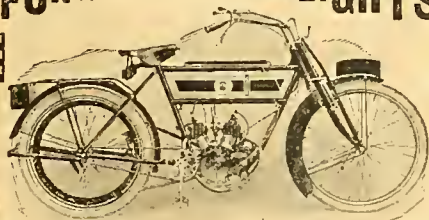
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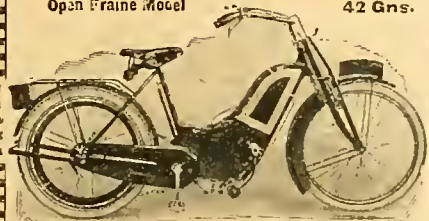
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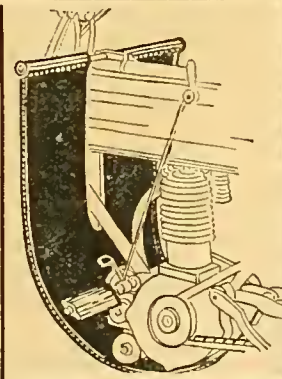
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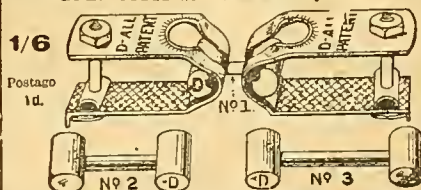
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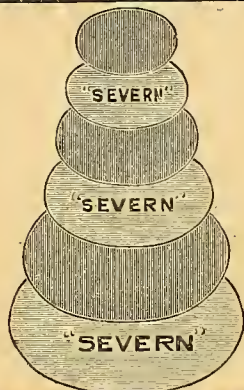
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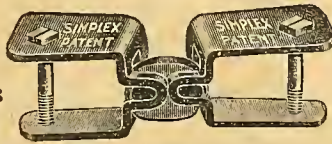
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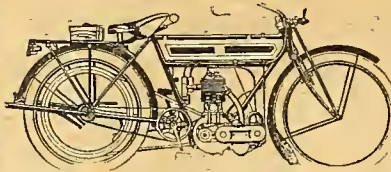


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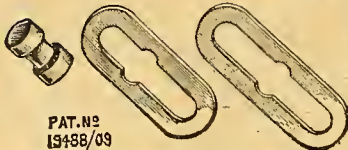
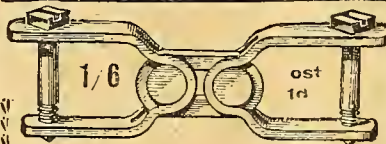
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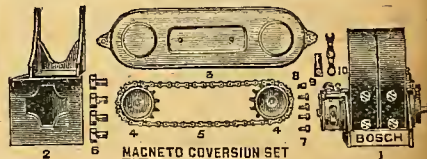
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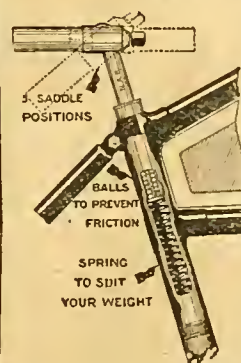
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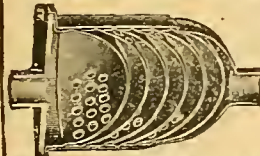
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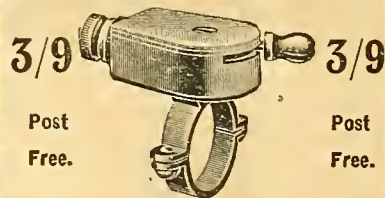
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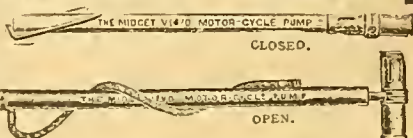
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 HANDY, RELIABLE, and COMPACT 1 in. diam.
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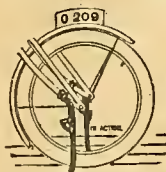
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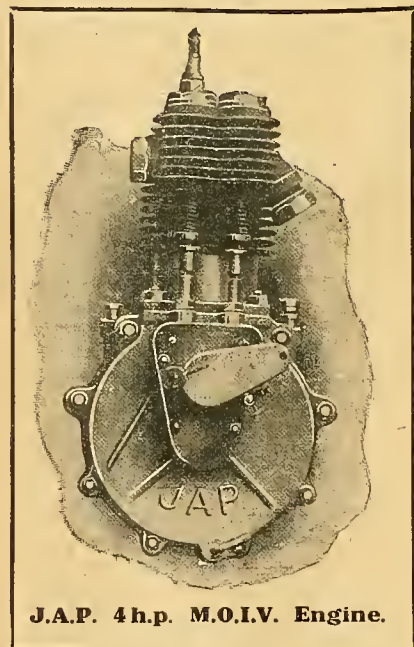
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Copy of unsolicited testimonial received from
Mr. A. S. BRIGHT.

Glazebrook, 52, Elfindale Road, Herne Hill, S.E.,

16/5/11.

Dear Sirs,—On Saturday last I was entered for the South Eastern Club's Hill Climb. On the Friday I was unfortunate enough to have an accident and to damage the engine. Unable to effect repairs in the time, I took my courage in both hands, and got Mr. Dixon, of the New Hudson Co., to wire you to afford me facilities. I arrived at 8.30 a.m., Saturday, and demanded an engine you had not in stock, but you kindly put a fitter on assembling what parts you had. At 9.25 I left in a taxi with an engine incompletely assembled and untimed, minus valve caps and some other oddments, and which had never smelt gas, let alone having been run on the testing bench. I had wired to Mr. Dixon to get the other parts to Herne Hill and I met him at the station. We erected the machine in the train and timed it on the railway platform. This machine, untested and untried, made fastest time in the lightweight class, and secured a silver medal in the single cylinder touring class. I think this is a very striking testimony to the magnificent work and accuracy of finish you must put in. That an engine which, five hours ago was pieces of iron, should beat in open competition carefully adjusted and timed machines, on one of the stiffest hills I have encountered, is an achievement of which you may well be proud.

Yours faithfully (Signed) **A. S. BRIGHT.**

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RELYABULL
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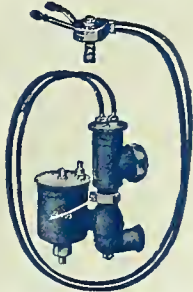
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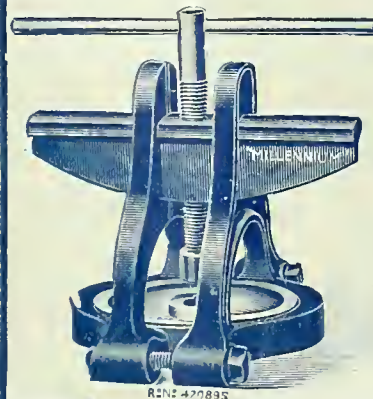


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